

AN ANALYTICAL STUDY ON FOOD LOGISTICS AND SUPPLY CHAIN MANAGEMENT IN THIRUVANMIYUR

Submitted in partial fulfillment of the requirements for the award of

MASTER OF BUSINESS ADMINISTRATION

BY

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**DEPARTMENT OF BUSINESS ADMINISTRATION
SCHOOL OF MANAGEMENT STUDIES**

SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

CATEGORY – 1 UNIVERSITY BY UGC

JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHENNAI - 600 119

DECEMBER 2023



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BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **HARIHARAN R (42410092)** who carried out the Project Training “**AN ANALYTICAL STUDY ON FOOD LOGISTICS AND SUPPLY CHAIN MANAGEMENT IN THIRUVANMIYUR**” under my supervision from September 2023 to November 2023.

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ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to the Board of Management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my sincere thanks to **Dr. G. Bhuvaneswari, MBA., Ph.D., Dean -School of Management Studies** and **Dr. A. Palani, M.Com., M.Phil., M.B.A., Ph.D., - Head - School of Management Studies** for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Project Guide **DR. DR.DHIVYA SATHISH** for her valuable guidance, suggestions and constant encouragement which paved the way for the successful completion of my project work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the **School of Management Studies** who were helpful in many ways for the completion of the Training.

HARIHARAN R

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ABSTRACT

The food logistics and supply chain industry plays a vital role in ensuring the efficient and reliable distribution of food products to consumers. This analytical study delves into the dynamics of food logistics and supply chain management within the Thiruvananthapuram region, shedding light on the processes, challenges, and potential improvements in this critical sector. The research methodology for this study includes in-depth interviews, surveys, and data analysis involving key stakeholders, including food suppliers, distributors, retailers, and consumers in Thiruvananthapuram. By examining various aspects of the local food supply chain, this study seeks to provide a comprehensive overview of the state of food logistics in the region. The study explores the challenges faced by the food logistics and supply chain in Thiruvananthapuram, including issues related to transportation, technology adoption, and the impact of external factors such as the COVID-19 pandemic. It also investigates the role of technology and innovation, including the use of digital platforms and emerging trends, in streamlining food logistics operations. Furthermore, this research delves into the collaboration and cooperation among different stakeholders in the food supply chain and their role in ensuring the timely and efficient delivery of food products. It also examines the measures in place to guarantee food safety and quality during transportation and distribution and the role of regulatory bodies in upholding these standards. The study concludes by offering recommendations and insights for improving food logistics and supply chain management in Thiruvananthapuram. By identifying challenges and areas for enhancement, this research aims to contribute to the advancement of the food supply chain in the region, ensuring the reliable and safe delivery of food products to the local community. Additionally, this study anticipates and highlights the emerging trends and innovations that can further enhance food logistics and supply chain management in Thiruvananthapuram.

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CHAPTER 1

INTRODUCTION

INTRODUCTION

Food logistics and supply chain management play a vital role in ensuring that food products reach our tables efficiently, safely, and in the best possible condition. The journey of food from the farm to the consumer's plate is a complex and highly interconnected process that involves multiple stakeholders, including farmers, manufacturers, distributors, retailers, and logistics providers. The effective management of this intricate web of activities is critical not only for the food industry but also for global food security, public health, and sustainability.

The importance of food logistics and supply chain management is underscored by the fact that it encompasses the entire spectrum of activities related to the planning, procurement, production, distribution, and consumption of food products. The challenges are multifaceted, ranging from optimizing transportation and warehousing to ensuring food safety, quality, and traceability. Moreover, the logistics and supply chain of food products are subject to various external factors, including climate change, regulatory requirements, consumer preferences, and global economic conditions. we will explore the multifaceted world of food logistics and supply chain management. Our objective is to delve into the intricate operations that make it possible for us to enjoy fresh produce, pantry staples, and delicacies from around the world. We will investigate the key components and challenges of the food supply chain, examine the role of technology and innovation, discuss sustainability and environmental considerations, and assess the impact of global events, such as the COVID-19 pandemic, on food logistics and supply chain resilience.

SOME CATEGORIES OF FOOD LOGISTICS

Food logistics encompasses a range of activities involved in the planning, procurement, production, distribution, and consumption of food products. These activities can be categorized into various components of food logistics. Here are the primary categories of food logistics:

- ❑ **Supply Chain Planning:** This involves the strategic and tactical planning of the entire food supply chain. It includes forecasting, demand planning, procurement strategies, and setting production schedules.
- ❑ **Procurement:** Procurement focuses on sourcing raw materials and ingredients required for food production. It involves supplier selection, negotiation, and ensuring the availability of quality ingredients.
- ❑ **Food Production and Manufacturing:** Food production includes processing, cooking, and packaging of food products. This category covers the manufacturing and quality control processes, as well as ensuring compliance with safety and regulatory standards.
- ❑ **Inventory Management:** Inventory management is crucial to balance supply and demand. It involves storage, stock level monitoring, and rotation to minimize waste and ensure timely deliveries.
- ❑ **Warehousing and Storage:** This category includes the storage of food products in warehouses and distribution centers. Proper warehousing is essential to maintain product quality and ensure efficient order fulfillment.
- ❑ **Transportation:** Transportation is a critical component of food logistics, involving the movement of food products from one location to another. It includes various modes like road, rail, sea, and air transport.
- ❑ **Distribution and Delivery:** This category focuses on the efficient delivery of food products to retailers, restaurants, and consumers. It involves route planning, scheduling, and ensuring on-time deliveries.

Supply Chain Planning



Sourcing and Procurement



Production



Distribution



Retail & Consumption



Reverse Logistics



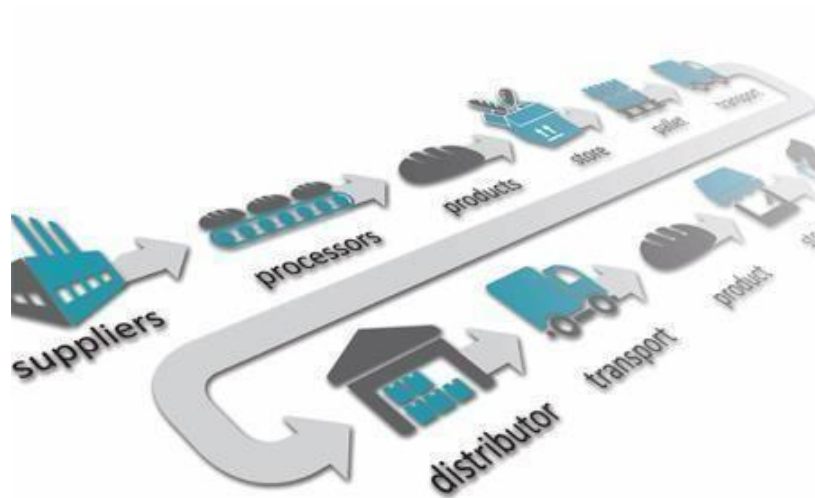
Monitoring & Optimization



Regulatory Compliance



- Temperature-Controlled Logistics: Temperature-controlled logistics is especially important for perishable and frozen food products. It involves maintaining specific temperature conditions throughout the supply chain to preserve product quality and safety.
- Quality Assurance and Food Safety: Ensuring the safety and quality of food products is paramount. This category includes quality control, inspections, adherence to regulations, and certification processes.
- Traceability and Tracking: Traceability systems help in tracking food products from the source to the end consumer. It includes using technologies like barcodes and RFID for product identification.
- Technology and Data Analytics: The integration of technology, such as the Internet of Things (IoT), data analytics, and supply chain management software, plays a crucial role in optimizing food logistics operations.
- Reverse Logistics: This category deals with the return of food products due to issues like product recalls, quality concerns, or damaged goods. Efficient reverse logistics ensures proper disposal or reprocessing of returned items.
- Sustainability and Environmental Considerations: Sustainable practices in food logistics encompass efforts to reduce the environmental footprint of the supply chain. This includes eco-friendly packaging, energy-efficient transportation, and waste reduction.
- Global Food Supply Chain: This category focuses on the complexities of international food logistics, including customs clearance, import/export regulations, and managing supply chains across borders.
- Regulatory Compliance: Compliance with local, national, and international regulations and standards is essential in food logistics to ensure food safety and quality.



□

FOOD LOGISTIC COMPANIES IN THIRUVANMIYUR

- Swiggy: Swiggy is a popular food delivery platform that offers a wide selection of restaurants and cuisine types in Chennai. They provide both restaurant and fast food delivery services.
- Zomato: Zomato is another leading food delivery platform that connects users with a variety of dining options, including restaurants and cloud kitchens in Chennai.
- Uber Eats (Now part of Zomato): Uber Eats was previously a standalone food delivery service but has since merged with Zomato. You can access a wide array of food options through the Zomato app.
- Foodpanda: Foodpanda is another food delivery platform that provides a range of restaurant and cuisine choices for delivery in Chennai.
- Scootsy: Scootsy offers food delivery services for a selection of premium and specialty restaurants in Chennai. They also provide delivery for gourmet groceries and other products.
- Dunzo: Dunzo is a delivery platform that offers not only food delivery but also grocery, medicine, and other on-demand services in Chennai.
- Faasos (Now Rebel Foods): Faasos specializes in quick and convenient food delivery and is known for its wraps and Indian fast food items.

- FreshMenu: FreshMenu is a cloud kitchen service that offers a variety of chef-curated dishes delivered to your doorstep in Chennai.
- Eat.fit (By Cure.fit): Eat.fit focuses on providing healthy meal options with a focus on balanced nutrition. They deliver fresh and healthy meals in Chennai.
- InnerChef: InnerChef offers a range of gourmet food options for delivery in Chennai. They provide a variety of global and regional cuisines.



LIMITATIONS OF FOOD LOGISTICS

Food logistics, like any other complex system, has its limitations and challenges. Here are some of the common limitations and challenges associated with food logistics:

- Temperature Sensitivity: Many food products are highly perishable and require specific temperature conditions for transport and storage. Maintaining the required temperature throughout the supply chain can be challenging and costly.
- Supply Chain Complexity: Food supply chains can be long and involve various stakeholders, from farmers and processors to distributors and retailers. Coordinating all these parties can be complex and challenging.
- Seasonal Variability: The availability of certain food products is highly seasonal. Food logistics must adapt to these seasonal variations in demand and supply.

- **Regulatory Compliance:** Food safety regulations are stringent, and non-compliance can lead to significant consequences. Meeting these regulations can be challenging for all participants in the supply chain.
- **Waste and Spoilage:** A considerable amount of food is lost or wasted in the supply chain due to spoilage, damage, or inefficiencies. Reducing food waste is a significant challenge in food logistics.
- **Distance and Transportation Costs:** Transporting food over long distances can be costly and energy-intensive, affecting the environmental footprint of food logistics.
- **Infrastructure:** Some regions, especially in developing countries, lack the necessary infrastructure for efficient food logistics, including transportation, storage, and cold chain facilities.
- **Last-Mile Delivery:** Delivering food to the end consumer, especially in urban areas, can be challenging due to issues like traffic congestion, limited parking, and access restrictions.
- **Security and Theft:** High-value food products can be targets for theft, and securing the supply chain is essential.
- **Supply Chain Disruptions:** Natural disasters, pandemics, political instability, and other unexpected events can disrupt the food supply chain, causing shortages and price fluctuations.
- **Packaging and Sustainability:** Food packaging is essential for preserving food quality, but it also generates waste. Balancing the need for packaging with sustainability goals is a challenge.
- **Consumer Expectations:** Consumers have high expectations for the quality and freshness of their food. Meeting these expectations while keeping costs under control is a challenge.
- **Technology Adoption:** Keeping up with technological advancements like IoT, blockchain, and automation is necessary for improving efficiency and traceability but can be challenging for some companies.
- **Globalization:** The globalization of food supply chains means that food products can travel across the world. This introduces complexities related to import/export regulations, cultural preferences, and international standards.
- **Labor and Workforce Issues:** Labor shortages, especially in agricultural and processing sectors, can impact the supply chain's efficiency.

- **Environmental Impact:** Food logistics can have a significant environmental impact, including emissions from transportation and resource usage. Balancing the need for efficient logistics with environmental concerns is a challenge.



Problems faced by delivery agents in food logistics

Delivery agents in food logistics face several challenges and problems as they work to ensure that food products are delivered efficiently and safely to their destinations. Some of the common problems faced by delivery agents in food logistics include:

1. **Traffic Congestion:** In urban areas, delivery agents often encounter heavy traffic, which can result in delays and impact delivery schedules.
2. **Parking Issues:** Finding suitable parking spots near delivery locations can be challenging, leading to time-consuming searches and potential fines for illegal parking.
3. **Weather Conditions:** Extreme weather, such as rain, snow, or extreme heat, can make deliveries more difficult and may impact the condition of food products.

4. High-Volume Periods: During peak demand times, like holidays or mealtime rushes, delivery agents may face increased workloads and time pressure.
5. Food Safety and Temperature Control: Maintaining the correct temperature for food products during transit is essential for food safety. Delivery agents must have the necessary equipment and training to handle temperature-sensitive items properly.
6. Security and Safety: There is a risk of theft or violence when handling high-value food deliveries, especially in some areas.
7. Irregular Work Hours: Many delivery agents work irregular hours, including evenings and weekends, which can impact work-life balance.
8. Physical Demands: The job can be physically demanding, involving lifting, carrying, and potentially long hours on the road.
9. Delivery Verification: Verifying the identity of the recipient and ensuring that the correct recipient receives the order is crucial, especially in the case of food deliveries to individual customers.
10. Technology Issues: Delivery agents rely on various technologies, such as GPS, smartphones, and apps, for navigation and order management. Technical issues can disrupt their work.
11. Route Optimization: Finding the most efficient delivery routes and schedules can be challenging, especially when delivering to multiple locations.
12. Communication: Effective communication with both customers and the central logistics team is essential to address any issues or changes in delivery plans.
13. Workload Pressure: Meeting tight delivery windows and handling a high number of deliveries can lead to stress and pressure for delivery agents.
14. Return Handling: Managing product returns and exchanges can be time-consuming and challenging, especially if products have specific storage requirements.
15. Lack of Facilities: In some cases, delivery agents may lack access to restroom facilities and rest areas during their routes.
16. Health and Safety: Ensuring safety protocols and guidelines are followed, such as hand hygiene and wearing masks, is important to protect against foodborne illnesses and diseases, especially in the context of food delivery during health crises.

SCOPE OF STUDY

Supply Chain Mapping:

- Map out the entire food supply chain in Thiruvannamiyur, starting from the source (farmers or manufacturers) to the end consumers.
- Identify and describe the various intermediaries involved in the supply chain (wholesalers, distributors, retailers, etc).

Technological Integration:

- Explore the use of technology in food logistics and supply chain management in Thiruvannamiyur, such as GPS tracking, inventory management systems, and other relevant technologies

PROBLEM STATEMENT:

Thiruvannamiyur, a prominent locality in Chennai, plays a crucial role in the food supply chain with its diverse range of food products and active participation of various stakeholders. However, the existing food logistics and supply chain management in Thiruvannamiyur face multifaceted challenges that hinder efficiency, sustainability, and overall effectiveness. These challenges encompass issues related to transportation, infrastructure, regulatory compliance, technological integration, and consumer dynamics. The need for a comprehensive understanding of these challenges and their impact on the local food supply chain is imperative to propose viable solutions and enhance the resilience of Thiruvannamiyur's food logistics system.

OBJECTIVE OF THE STUDY

- Primary objective focuses on study of food logistics and supply chain management in Thiruvananthapuram.
- To analyse the structure of the food supply chain in Thiruvananthapuram, identifying key stakeholders, nodes, and processes involved.
- To understand consumer preferences and behaviors regarding food purchasing in Thiruvananthapuram, analyzing factors influencing buying decisions.
- To identify and analyze challenges and bottlenecks faced by stakeholders in the food supply chain, such as transportation delays, inventory management issues, and regulatory compliance challenges.

NEEDS OF THE STUDY

- Thiruvananthapuram is a unique locality with specific demographic, economic, and geographic characteristics that influence the food supply chain. Understanding these local dynamics is essential for tailoring logistics and supply chain strategies to the specific needs of the area.
- Examining the level of technology integration is crucial for identifying opportunities for innovation. This includes the adoption of tracking systems, inventory management tools, and other technologies to enhance overall efficiency and decision-making in the supply chain.
- Assessing the adoption of sustainability practices is important for promoting environmentally friendly approaches in the food supply chain. This includes reducing food waste, optimizing transportation routes, and implementing eco-friendly packaging.
- Contributing to the existing knowledge base on food logistics and supply chain management enriches the broader understanding of industry practices. This research can serve as a reference for future studies and initiatives in Thiruvananthapuram or similar regions.

LIMITATIONS OF THE STUDY

- Limiting the study to Thiruvananthapuram may not capture the broader regional or national context, potentially limiting the generalizability of findings
- Limited availability of accurate and comprehensive data on various aspects of the food supply chain in Thiruvananthapuram could constrain the depth and reliability of the analysis.
- Time limitations may affect the depth of the study, particularly in capturing seasonal variations or long-term trends in the food logistics and supply chain.
- Technological advancements may outpace the study, making it challenging to capture the most current state of technology integration in Thiruvananthapuram's food logistics.

CHAPTER 2

REVIEW OF LITERATURE

2.1 REVIEW OF LITERATURE

Uncovering the impact of FSMA's sanitary food transportation rule on the food logistics industry- Abhay K. Grover(2022)

the paper appears to be a valuable resource for those in the food logistics industry, as it offers insights into the impact of this significant regulation and provides guidance on how stakeholders can adapt and comply with the new requirements. It also highlights the broader point that public policies, such as food safety regulations, can have a profound impact on various industries, influencing business practices and operations.

A Magnetic Induction Based Localization Scheme for Fresh Food Logistics- Amitangshu Pal, Krishna Kant(2022)

this research paper addresses a critical issue in the fresh food supply chain by proposing an IoT-based solution to monitor food quality and contamination. The use of NFM and magnetic induction for communication and localization can be particularly valuable in an industry where traditional RF communication may be inadequate due to the unique challenges posed by the properties of fresh food and its packaging. This research may offer insights into how technology can be applied to enhance food safety and reduce food wastage in the supply chain.

Impact of COVID-19 in food supply chain: Disruptions and recovery strategy- Abhijit Barman, Rubi Das, Pijus Kanti De(2021)

This paper recognizes the challenges posed by the COVID-19 pandemic in the context of the food industry and supply chain. It emphasizes the need to understand the seriousness of the situation and offers recommendations to address these challenges. While the text suggests that the risk of transmission through food is low, it underscores the broader impacts of the pandemic on various interconnected

aspects of the food system. This reflects the global disruption caused by the pandemic and the need for adaptive strategies within the food industry.

Identification of Potential Hazard and Halal Control Points for Perishable Food During Food Logistics- Siti Aimi Sarah Zainal Abidin, Nina Naquiah Ahmad Nizar, Aishah Bujang, S. Sarifah Radiah Shariff, Abdul Khabir Rahmat, Siti Ayu Jalil, Mohd Nasir Taib(2022)

the paper sheds light on the critical aspects of halal food logistics, emphasizing the importance of identifying and mitigating potential hazards to ensure the quality and compliance of halal food products as they traverse the logistics and supply chain. This information is likely to be of interest and relevance to those involved in the transportation and distribution of halal foods.

Sustainable Supply Chain in the Agri-Food Sector in South-Italy as an Eco-Sustainability Tool for Innovation and Territorial Development- Giuseppe Colella, Maria Teresa Paola Caputi Jambrenghi(2020)

The agri-food logistics chains face guarantee the greatest extending of sustainability practices in the management of the entire supply chain. The use of management and marketing tools and of innovative legal and economic institutes, also in the agri-food sector, is fundamental to guaranteeing an increasingly “cleaner” agriculture, in order to introduce more and more organic and eco-sustainable food products and safe for the health and well-being of living beings on the market. However, the joint use of these tools does not yet seem to be fully exploited, particularly in South-Italy. In this sense, the territories limit of potential eco-sustainable development tools deriving from the agri-food logistics chains, also in terms of territorial and tourism development of entire areas. Drawing upon the experiences of innovative projects oriented to eco-sustainability that have implemented mechanisms of continuous improvement in the agri-food sector, through the achievement of high levels of technological, methodological and organizational innovation, some implications for how to implement territorial development policies guided by sustainability can be found. In this paper, the changes that the agri-food sector has undergone will be discussed and possible scenarios of territorial and tourism development supported by the agri-food logistics chains will be suggested, two macro areas covered by the three pillars of sustainability, environmental, economic and social.

THE RELATIONSHIP BETWEEN CUSTOMER SATISFACTION AND SUSTAINABLE SERVICE PERFORMANCE ON E-COMMERCE FOODS LOGISTICS IN MALAYSIA- MUSTAKIM MELAN, MOHAMAD GHOZALI HASSAN, MD. ABDUL KAFI, LIEW JEN CHUN, LIM KO SANG, LOKE YEE CHENG(2023)

this research assesses the performance of the food industry and e-commerce in food logistics during the COVID-19 pandemic. It highlights the importance of various service dimensions and their influence on customer satisfaction. The findings can guide future developments and improvements in food logistics services, especially in the context of pandemics or similar disruptive events.

Digitalization and Work Organization in New Urban Food Delivery Systems- Matthias Klumpp, Caroline Ruiner(2018)

the research suggests that the ongoing digitalization of food distribution, coupled with innovative logistics solutions, is transforming how food reaches customers in urban areas. This transformation may have implications not only for the logistics and technology aspects but also for the workforce and how they are organized and managed within the food distribution industry. The insights from the case studies are likely to be relevant for businesses and policymakers seeking to understand and adapt to these changing dynamics in food distribution.

Transformation Trends in Food Logistics for Short Food Supply Chains- Martin COLLISON, Tom COLLISON, Irina MYRONIUK, Nadiya BOYKO, Giustina PELLEGRINI(2019)

the research highlights the evolving landscape of food logistics, with a focus on reducing GHG emissions and improving sustainability. It underscores the role of digitalization and the emergence of SFCs in changing how consumers access food and engage with food producers. These changes have the potential to address key challenges in the supply chains of fresh products and improve the overall sustainability of food distribution.

Food and beverage industry competitiveness and halal logistics: perspective from small and medium enterprises in Malaysia- Maizaitulaidawati Md Husin, Suzilawati Kamarudin, Adriana Mohd Rizal(2021)

this research paper offers valuable insights into the F&B industry in Malaysia, particularly within the context of halal logistics, and is intended to benefit SMEs and other stakeholders in the industry by shedding light on strengths, weaknesses, opportunities, and threats while addressing specific challenges and offering strategies for resolution.

**A Framework for Food Supply Chain Digitalisation: Lessons from Thailand-
Pichawadee Kittipanya-ngam, Kim Hua Tan(2019)**

the research emphasizes the transformative potential of digitalization in the food supply chain, driven by consumer demands for transparency, traceability, and sustainability. It acknowledges the challenges associated with digitalization, particularly in regions with complex and traditional supply chains. The use of case studies from Thailand's food industry offers practical insights and helps bridge the research gap in this area, ultimately contributing to the development of effective digital strategies for food supply chains.

**Using Blockchain for Provenance and Traceability in IoT-Integrated Food
Logistics- Amitangshu Pal, Krishna Kant(2019)**

the research underscores the critical need for transparency, traceability, and provenance in food logistics, especially for fresh food. It highlights the significant health and economic consequences of foodborne illnesses and inefficiencies in the supply chain. The proposed solution involves IoT-based monitoring and standardized labeling to improve the accuracy, efficiency, and responsiveness of food logistics.

**Applied Practice on Fresh Food Cold Chain System with Blockchain Solution-
Eun Choul Jang, Janghwan Kim, R. Young Chul Kim(2021)**

the objective of the study identifies the slow adoption of informatization in food-related industries and the resulting challenges for consumers in accessing product information. It proposes a fresh food logistics solution that integrates the PoN consensus algorithm and IoT technology to address these issues and improve trust in the platform by ensuring the integrity of real-time information.

**Study on the Model of Home Delivery of Fresh Food under New Retail- Zhuo
Chen a, Mengya Zhang b, Zijia Du c, Yong Cheng d(2018)**

this research paper delves into the delivery of fresh food within chain supermarkets, emphasizing the optimization of the final stage of delivery, the implementation of a cold chain logistics information system, and the ability to adapt to shifts in trade forms in the context of "new retail."

Applying the Theory of the Planned Behavior on Halal Logistics Services Adoption among Food & Beverages Small and Medium Enterprises- Norlila Mahidin, Mastora Mustafar, Ezanee Mohamed Elias, Siti Zakiah Abu Bakar(2019)

The research paper discusses the implications, limitations, and suggestions for future studies in this area. It sheds light on the factors influencing the adoption of HFL services among SMEs, offering valuable insights for businesses operating in the halal food industry in Malaysia.

Topical Issues Surrounding Supply Chain Management in Developing Food Industry: Kazakhstan Case Study- Sholpan I. Karkinbayeva, Kasiya A. Kirdasinova, Elmira M. Adiyetova, Ainur Zh. Kanatova, Bibinur B. Korgan(2019)

this research emphasizes the critical role of supply chain management in the development of the food industry in Kazakhstan. It reviews relevant literature, conducts an economic assessment, and utilizes various theoretical approaches to provide a comprehensive understanding of the food industry and its management in the country. The focus is on achieving sustainability in the food supply chain, drawing on stakeholder theory and other theoretical perspectives.

Analysis of Rice Food Logistic Readiness in West Java to Support Wars- Dian Kusumah, Jupriyanto, Susilo Adi Purwantoro(2022)

this research emphasizes the importance of food logistics, especially rice, in the context of war preparedness in West Java, Indonesia. It provides data on population and rice production, discusses nutritional adequacy rates, and assesses the logistics readiness of the region to support the food needs of the population during times of war.

A review on role of artificial intelligence in food processing and manufacturing industry- Edwin Ramirez-Asis, Juan Vilchez-Carcamo, Chetan M. Thakar, Khongdet Phasinam, Thanwamas Kassanuk , Mohd Naved(2021)

this research highlights the transformative role of AI and machine learning in the food industry. These technologies are used to optimize various aspects of the industry, including supply chains, crop selection, logistics, food delivery, and maintenance forecasting. The integration of AI and machine learning is essential for addressing the challenges and demands of the modern food sector.

The movement of food between the United Kingdom and the EU and how Brexit has affected it- Tuomas Takala(2022)

this research discusses the repercussions of the Brexit decision on food logistics and trade between the UK and the EU. It focuses on the accuracy of predictions made regarding the consequences of Brexit, and the results confirm that Brexit has led to logistical challenges and reduced food trade between the two entities.

Barriers to circular food supply chains in China- Muhammad Farooque, Abraham Zhang, Yanping Liu (2019)

the study investigates barriers to establishing circular food supply chains in China, offering valuable insights into these challenges and their causal relationships. It contributes to the broader understanding of circular economy principles and their application in the food supply chain context.

Using Blockchain for Provenance and Traceability in Internet of ThingsIntegrated Food Logistics- Amitangshu Pal, Krishna Kant(2019)

the study underscores the importance of provenance and traceability in food logistics and introduces the use of blockchain technology as a means to improve traceability and ensure the integrity and safety of food products throughout the supply chain. Blockchain, combined with IoT, offers a promising solution for addressing key challenges in the food distribution and transportation network.

The study on site selection of fresh food logistics distribution center of large supermarket chains- Jiawei Liao(2022)

the study highlights the importance of site selection for fresh food logistics centers and discusses the methods used to address the challenges of ensuring both delivery speed and product freshness. The application of the fuzzy comprehensive evaluation method and a mixed integer planning model with a freshness index is presented as a solution to optimize the site selection process for Company Y's fresh food logistics center.

Evaluation of fresh food logistics service quality using online customer reviews- Chen, S., Wang, Y., Han, Lim, M. K(2021)

the study introduces an innovative approach to evaluating logistics service quality for fresh food e-commerce companies, using customer reviews and data analysis to identify areas for improvement in service delivery. This approach offers a more data-driven and customer-centric way of assessing logistics services in the context of fresh food e-commerce.

Renewable, Sustainable and Natural Materials on Food Packaging: Primary Data for Robotically Detect Packaging Shape in Logistics- Thanapong Chaichana(2020)

the study highlights the historical role of plastic packaging in food logistics, its advantages, and the environmental concerns associated with it. It also emphasizes the shift towards more sustainable and environmentally friendly packaging materials and intelligent packaging solutions that align with sustainable development goals.

Recent advances and opportunities in sustainable food supply chain: a model-oriented review- Zhanguo Zhu, Feng Chu, Alexandre Dolgui, Chengbin Chu, Wei Zhou, Selwyn PIRAMUTHU(2021)

the study highlights the increasing use of OR techniques in the food industry to address sustainability challenges in food supply chains. It emphasizes the need to consider economic, environmental, and social dimensions of sustainability and provides a structured review of related scientific publications. This research aims to contribute to the understanding and improvement of sustainable food supply chains.

Towards the Sustainability of Logistics in the Agri-Food Supply Chains- Karol Wajszczuk, Magdalena Kozera-Kowalska(2019)

the study highlights the pressing need to achieve sustainability in agri-food supply chains, particularly in addressing the environmental impact of logistics processes. It underscores the importance of integrating research findings and practical experience to drive positive changes in the logistics and sustainability of AFSCs.

IoT Solutions for Food Supply Chains- Rohith K. P., Muhammed Irfan A. C., Muhammed Rivadar, AmarjithAjayababu T K., Prof. Ambili M P(2022)

the study underscores the importance of leveraging IoT technology and content networking to enhance food safety and the security of the food supply chain. It emphasizes the role of technology in improving information identification and tracking throughout the supply chain.

Optimizing the transportation route of fresh food in cold chain logistics by improved genetic algorithms- Jing Peng(2019)

the study highlights the importance of optimizing cold chain transportation routes for fresh food logistics in China and introduces an improved genetic algorithm as a solution. The algorithm aims to reduce costs, enhance efficiency, and improve the economic performance of logistics operations in this sector.

Intelligent Spatial Logistics DSS for tracking and tracing in horticultural food security- Rindra Yusianto, Marimin, Suprihatin, Hartrisari Hardjomidjojo(2019)

the study emphasizes the importance of addressing food security challenges related to horticultural products by implementing advanced logistics systems that incorporate traceability, spatial data, and business intelligence. These technologies and approaches aim to ensure the quality and safety of horticultural products and enhance overall customer satisfaction.

The Forecasting Accuracy in the UK Food Logistics-Two System Drivers to Meet the 2050 Net-zero Goal- Yiru Lang(2023)

the study underscores the importance of accurate forecasting in designing a transportation logistics system that aligns with the UK's net-zero emissions goal for 2050. It particularly emphasizes the role of forecasting in the food industry and the need for innovative forecasting tools to address uncertainties and contribute to a more sustainable transportation logistics system.

Optimal design for the Halal food logistics network- Sung Il Kwag, Young Dae Ko(2019)

this study addresses the optimization of the Halal food logistics network, taking into account the specific requirements and regulations associated with Halal food production and distribution. It emphasizes the importance of adhering to these regulations and considers the chain effect from non-compliant (Haram) facilities, especially as distances between facilities are extended. The proposed mathematical model and solution procedures aim to achieve an optimal and compliant Halal food logistics network.

A decision support model simulating quality data in fresh food supply chains- Magdalena Leithner, Christian Fikar(2018)

the increasing demand for organic fresh food is driven by changing consumer preferences. To meet this demand, supply chain management in food logistics faces challenges associated with a growing world population, urbanization, and the need to supply fresh and healthy food products to consumers. These challenges require effective supply chain strategies to ensure the availability and sustainability of organic fresh food products.

Food Logistics 4.0: Opportunities and Challenges- Sandeep Jagtap, Farah Bader, Guillermo Garcia-Garcia, Hana Trollman, Tobi Fadiji, Konstantinos Salonitis(2020)

This article focus on Food Logistics 4.0 represents an exciting and transformative approach to the management of food supply chains. It offers the promise of greater efficiency, reduced waste, and improved quality control. However, implementing these advanced technologies and integrating them into existing systems can present significant challenges, including financial investment and workforce training.

Nevertheless, it holds the potential to drive substantial positive change in the food logistics industry.

LoRaWAN ESL for food retail and logistics- Alfredo Arnaud, Martin Marioni, Mario Ortiz, Gisselle Vogel, Matías Miguez(2021)

the integration of ESLs, particularly IoT-enabled ESLs, into the food logistics and retail sectors is expected to bring efficiency, cost savings, and improved customer experiences. These digital price tags are evolving to offer dynamic pricing and information display, benefiting both retailers and consumers, and can play a significant role in minimizing food waste.

THE CONSUMERS' CONVENIENCE DIMENSIONS IN PERFORMING FOOD ONLINE PURCHASE AND ITS LOGISTICS LEVEL OF SERVICE- NOOR HASLYANA BINTI DAMERIN (2019)

this study highlights the importance of food condition and timely delivery in online food delivery services. It provides insights for both consumers and service providers to enhance the quality of food logistics in the context of online food delivery.

Value of information in agro-food logistics management- Quoc Viet Nguyen(2019)

this study sets the stage for a thesis that focuses on the integration of information flows in agro-food supply chains to enhance logistics management. It underlines the role of information as a critical resource in optimizing logistics processes.

Short food supply chains: The link between participation and farmers' competencies- Chrysanthi Charatsari, Fotis Kitsios, Evangelos D. Lioutas(2020)

the research findings highlight the central role of farmers' competencies in shaping their willingness to join SFSCs and their success within these alternative food distribution networks. The results emphasize the importance of creating opportunities and spaces that facilitate the development and utilization of new competencies for farmers participating in SFSCs. This knowledge can be valuable for promoting and supporting SFSCs, which offer benefits to both farmers and consumers.

Food logistics of dairy products in the food market of Uzbekistan- U R Sangirova, S S Asomkhodjaeva, M A Raimjanova, S B Yunusova, N K Shoislomova(2020)

this study highlights the significance of the dairy industry in Uzbekistan, emphasizes the importance of maintaining product quality, and discusses the role of transportation in the import and export of dairy products. Additionally, it suggests improvements to further develop the dairy sector in the country.

Measuring the Economic, Environmental, and Social Sustainability of Short Food Supply Chains- Agata Malak-Rawlikowska, Edward Majewski, Adam W, Svein Ole Borgen, Peter Csillag, Michele Donati, Richard Freeman, Viet Hoàng, Jean-Loup Lecoeur, Maria Cecilia Mancini, An Nguyen, Monia Saïdi, Barbara Tocco, Áron Török, Mario Veneziani, Gunnar Vitters, Pierre Wavresky(2019)

the study explores the sustainability of short and long food supply chains across several countries, using a multi-dimensional assessment approach. It finds that SFSCs offer economic advantages to producers but reveals varying impacts on the environmental and social dimensions, with some surprising findings regarding longer supply chains and environmental impacts.

Optimization of Green Fresh Food Logistics with Heterogeneous Fleet Vehicle Route Problem by Improved Genetic Algorithm- Danlian Li, Qian Cao, Min Zuo, Fei Xu(2020)

this study addresses the challenge of reducing distribution costs in fresh food logistics while promoting green distribution. It introduces the GFLHF-VRP model and an improved genetic algorithm, GAASAM, to achieve these goals. The algorithm's effectiveness in solving real-life distribution problems with heterogeneous fleets is demonstrated through experimental results.

Fields of Action for Designing Measures to Avoid Food Losses in Logistics Networks- Julia Kleineidam(2020)

this research systematically analyzes the objectives behind food loss prevention measures. It identifies 13 fields of action and underscores the importance of network cooperation and transparency in tackling the issue of food loss. This analysis

provides valuable insights for both the scientific community and practitioners involved in food loss reduction efforts.

Adoption of ICTs in Agri-Food Logistics: Potential and Limitations for Supply Chain Sustainability- Cédric Vernier, Denis Loeillet, Rallou Thomopoulos, Catherine Macombe(2021)

this research offers a comprehensive analysis of the role of ICTs in agrofood supply chains, with a specific focus on fresh fruits and vegetables. It highlights the potential benefits of adopting these technologies to address food loss challenges and promote responsible consumption and production.

Theoretical Basis and System Establishment of China Food Safety Intelligent Supervision in the Perspective of Internet of Things- HUILING FAN(2019)

this research suggests that utilizing the Internet of Things in food logistics and supply chain management can significantly contribute to food safety and address concerns related to the entire food supply chain, offering benefits for the government, citizens, and society as a whole.

STRUCTURAL FACTORS FOR A THIRD-GENERATION PORT: PLANNING INTERVENTIONS FOR AGRI-FOOD LOGISTICS IN GIOIA TAURO- GIUSEPPE MUSOLINO, MARIA ROSARIA TRECOZZI(2021)

this research explores the potential for Gioia Tauro Port to become a hub for agri- food logistics, offering solutions to various challenges faced by the agri-food sector in Calabria. The proposed interventions aim to create an environment conducive to agri-food production, supply chain integration, and regional economic growth.

Regional Food Hubs For Distribution of Regional Food Logistics (Case Study on the Establishment of a Food Distribution Center in Banten Province, Indonesia)- H Winarno, T Perdana, Y Handayati, D Purnomo(2023)

this research emphasizes the pivotal role of agriculture and food hubs in creating a resilient food system, ensuring food security, and efficiently distributing agricultural products. Effective distribution and management, as well as the involvement of farmers, traders, and supporting institutions, are key elements in achieving these goals.

Biometric Blockchain: A Better Solution for the Security and Trust of Food Logistics- Bing Xu, Tobechukwu Agbele, Richard Jiang(2019)

this research suggests that while traditional blockchain provides security, it lacks explicit identification of data creators and users. The Biometric Blockchain (BBC) protocol is presented as a solution to this issue, particularly in the context of securing food logistics. By incorporating biometric data, BBC aims to improve the security and accountability of data management in blockchain systems, making it useful in scenarios where clear identification of stakeholders is essential for safety and security, as in the case of food logistics.

Research on Food Safety and Security of Cold Chain Logistics- Zexia Yu, Yinkai Liu, Qinghui Wang, Lei Sun, Shuangyan Sun(2020)

this research emphasizes the importance of fresh fruits and vegetables in China and the challenges in ensuring their safe and efficient distribution. It highlights the need for improved food safety measures to address issues such as transportation-related losses, pollution, and deterioration, ultimately ensuring the quality and safety of food products in the cold chain logistics system.

GIS-Based Analysis of Integrated Food Distribution Network in Local Food Supply Chain- Techane Bosona, Ingrid Nordmark, Girma Gebresenbet, David Ljungberg(2020)

this research in Sweden evaluates the performance of an Integrated Food Distribution Network and demonstrates the significant benefits of integration in terms of reducing transportation-related emissions, improving logistics efficiency, and ensuring the quality of food and services. This integrated approach aims to enhance the sustainability of the local food supply chain.

A Framework for Food Supply Chain Digitalisation: Lessons from Thailand- Pichawadee Kittipanya-ngam, Kim Hua Tan(2021)

this research underscores the significance of digitalization in addressing changing consumer demands and key concerns in the food supply chain. It recognizes the challenges, especially in developing countries, and highlights the need for further research into the practical aspects of digitalization. The case studies in Thailand

offer real-world insights into these challenges and opportunities, while the proposed framework serves as a guide for future research and practice in this area.

Improving the Food Supply Chain in Military Units- Marta Wincewicz-Bosy, Małgorzata Dymyt(2020)

this research seeks to enhance the efficiency of food supply chain logistics within the military system during peacetime by embracing innovative solutions, traceability, and adaptation to EU standards. It underscores the distinctive challenges and requirements of military supply chains and promotes the need for scientific and practical advancements in this area.

Simulation modelling for food supply chain redesign; Integrated decision making on product quality, sustainability and logistics- Jack G.A.J. van Der Vorst, Seth Tromp, Durk-Jouke van Der Zee(2020)

this research highlights the unique challenges of food supply chains, where food quality is a critical factor that both influences and is influenced by the chain design. It introduces a novel approach that integrates logistics, sustainability, and food quality analysis, along with the ALADINTM simulation environment. This integrated approach aims to provide more comprehensive insights and solutions for food supply chain redesign in response to consumer demands.

The impact of food regulation on the food supply chain- Okezie I. Aruoma(2022)

this research underscores the multifaceted nature of food regulation, which aims to protect consumers, promote economic interests, ensure well-being, and facilitate fair trade in a globalized food supply chain. It also highlights the importance of various safety management systems, international agreements, and, ultimately, the role of consumers in maintaining food safety.

The Design of the Internet of Things Solution for Food Supply Chain- Zhao Xiaorong, Fan Honghui, Zhu Hongjin, Fu Zhongjun, Fu Hanyu(2021)

this research emphasizes the pressing need to address food safety concerns and the pivotal role of IoT in enhancing the security of the food supply chain. By introducing a novel IoT architecture for tracking and tracing food products, the aim isto improve information identification and traceability, which is essential for safeguarding food safety and reassuring the public.

CHAPTER 3

RESEARCH METHODOLOGY

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. Conducting an analytical study on food logistics and supply chain management in Thiruvananthapuram involves a systematic approach to gather, analyze, and interpret data. Choose a research design (e.g., cross-sectional, longitudinal) based on the nature of the study. Select the sampling method (random, stratified) and determine the sample size. Conducting a comprehensive analytical study on food logistics and supply chain management in Thiruvananthapuram. Adjust the methodology based on the specific nuances of your study and the local context.

RESEARCH DESIGN:

Qualitative Research Design

Qualitative research involves gathering and examining non-numerical data, which includes observational data, focus group transcripts, and interview transcripts. These types of data are frequently utilized to investigate detailed subjects or gain perspective on the experiences of individuals or groups.

SAMPLING TECHNIQUE:

Probability sampling

Every person in the population has an equal chance of getting chosen when using probability sampling. Since it yields the most representative samples, this kind of sampling is frequently employed in research investigations. Cluster sampling is selected under probability sampling.

Cluster sampling is a method, in which the participant groups are chosen from the population.

SOURCES OF DATA:

A place where data is generated or stored is called a data source. There are two categories of data sources, primary and secondary data. A combination of primary and secondary data is used for research purposes.

- **Primary data sources**

Primary data are those from which fresh information is initially gathered. A variety of methods, including surveys, interviews, focus groups, experiments, and observations, can be used to gather primary data. A questionnaire is being used to collect primary data for the research purposes.

- **Secondary data sources**

Secondary data are those that include information that has previously been gathered by another party. A range of sources, including government data, industry reports, scholarly publications, news articles, and online articles, can be used to gather secondary data.

STRUCTURE OF QUESTIONNAIRE:

Questionnaire was divided into two sections. First part was designed to know the general information about the analytical study on food logistics and supply chain management in Thiruvanniyur and the second part contained the respondent's opinions about various food logistics and supply chain management.

- Basic Introduction
- Personal Details
- Research related Questions
- Perception Questions
- Likert Scaling Questions
- Suggestion Question

SAMPLE SIZE:

The sample size for this research project is 123

SAMPLE DESIGN:

The process of choosing a subset of a population to represent the entire population is known as sample design. It is an essential stage in any research project since it can greatly affect the validity and dependability of the findings. Probability sampling and non-probability sampling are the two categories of sample design. Cluster sampling under probability sampling is being utilized in the study.

SAMPLING

- Sampling Design : Probability Sampling
- Sampling Techniques : Cluster Sampling
- Sample Unit : Employees
- Sample Size : 123 Respondents

PERIOD OF STUDY:

The period of the study is to determine the research process is carried out for 3 months(August 2023 to November 2023).

AREA OF THE STUDY:

The targeted people are the food delivery agents in Thiruvananthapuram.

HYPOTHESIS:

HYPOTHESIS 1

H0: The proportion of individuals who feel they have a healthy work-life balance is the same for both "Yes" and "No" responses.

H1: There is a significant difference in the proportion of individuals who feel they have a healthy work-life balance between "Yes" and "No" responses.

HYPOTHESIS 2

H0: The distribution of responses indicating the rating of communication and support is the same across all categories.

H1: There is a significant difference in the distribution of responses indicating the rating of communication and support among at least two categories.

TOOLS FOR ANALYSIS:

A questionnaire was created to get the response from the sample required to achieve the research objective. Following are the tools used for data analysis.

PERCENTAGE ANALYSIS:

Analyzing data by representing it as a percentage of a total is known as percentage analysis. It is an effective tool for comparing many data points and discovering similarities. When it is essential to know how many of the participants gave a specific answer, percentage analysis is appropriate.

ANALYTICAL TOOLS:

SPSS tool is used to test hypothesis

CORRELATION

Correlation is a statistical technique that shows how strongly two variables are related to each other or the degree of association between the two. For example, if we have the weight and height data of taller and shorter people, with the correlation between them, we can find out how these two variables are related.

CHI-SQUARE

The chi-square test is a statistical analysis tool used to determine whether there is a significant relationship between two categorical variables. It is a non-parametric test, meaning it does not make any assumptions about the underlying distribution of the data. The chi-square test is based on the comparison of observed frequencies to expected frequencies. The observed frequencies are the actual counts of the data, while the expected frequencies are the counts we would expect to see if there were no relationship between the two variables.

CHAPTER 4

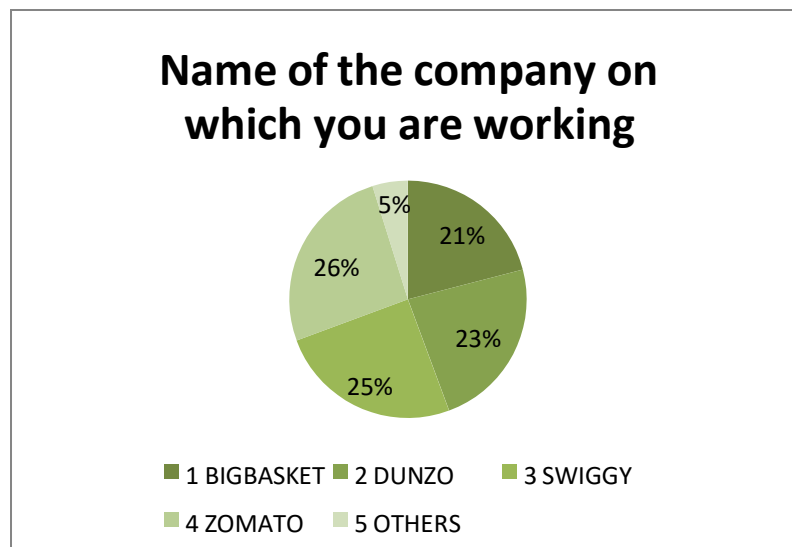
DATA ANALYSIS AND INTERPRETATION

PERCENTAGE ANALYSIS

4.1.1.Name of the company on which you are working

S.NO	Name of the company on which you are working	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	BIGBASKET	26	21%
2	DUNZO	29	23%
3	SWIGGY	31	25%
4	ZOMATO	32	26%
5	OTHERS	6	5%

4.1.1.CHART



INTERPRETATION

The respondents., 26% of employees are work under zomato, 25% of employees are work under swiggy, 23% of employees are work under dunzo, 21% of employees are work under big basket, 5% of employees are work under others

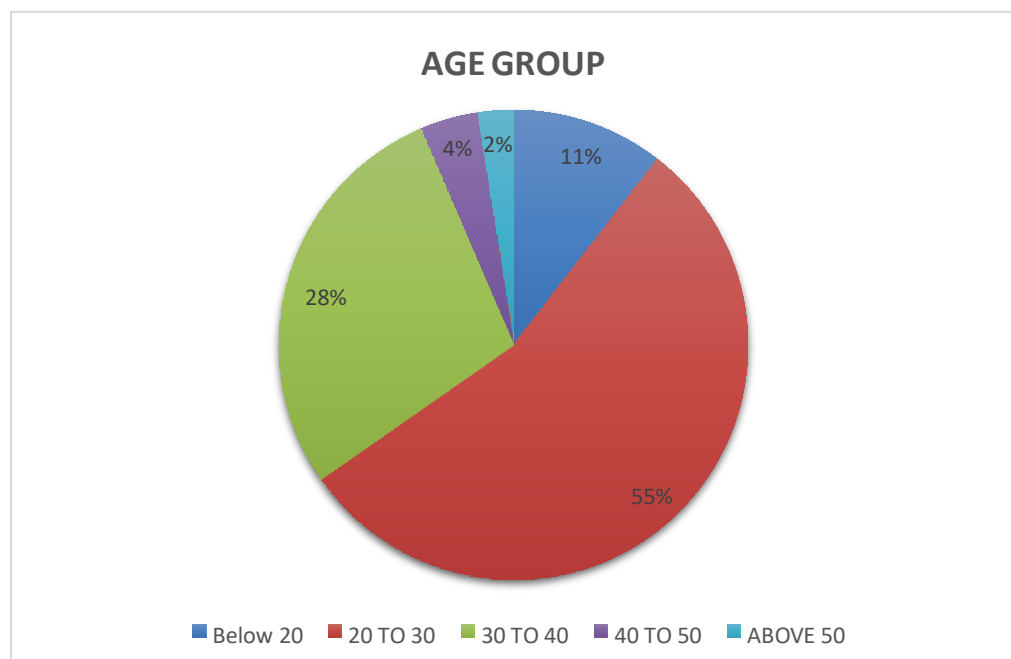
INFERENCE

Most responses, i.e., 26%, were given by employees in the zomato company.

4.1.2. AGE GROUP

S.NO	AGE GROUP	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	Below 20	13	11%
2	20 TO 30	68	55%
3	30 TO 40	35	28%
4	40 TO 50	5	4%
5	ABOVE 50	3	2%

4.1.2.CHART



INTERPRETATION

The respondents., 11% of employees were between the age group of Below 20, 55% of the employees were between the age group of 20 to 30, 28% of the employees were between the age group of 30 to 40, 4% of the employees were above 40 to 50, 2% of the employees were above 50

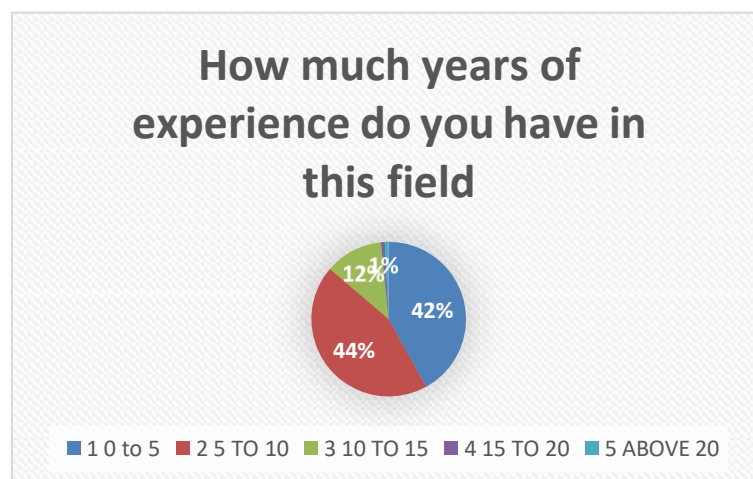
INFERENCE

Most responses, i.e., 55%, were given by employees in the age group of 20 to 30

4.1.3.How much years of experience do you have in this field

S.NO	How much years of experience do you have in this field	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	0 to 5	52	42%
2	5 TO 10	55	44%
3	10 TO 15	15	12%
4	15 TO 20	1	1%
5	ABOVE 20	1	1%

4.1.3. CHART



INTERPRETATION

According to the respondents, 42% of employees have 1 to 5 years experience, 44% have 5 to 10 years experience, 12% have 10 to 15 years experience, and 1% have 15 to 20 years experience. 1% have above 20 years experience

INFERENCE

Most responses, or 44%, were given by employees with 5 to 10 year's experience.

4.1.4. On a scale of 1 to 10, how satisfied are you with your job

S.NO	On a scale of 1 to 10, how satisfied are you with your job	NO.OF.RESPONDE NTS	PERCENTAGE ANALYSIS
1	1	0	0%
2	2	1	0.80%
3	3	19	15.40%
4	4	10	8.10%
5	5	16	13%
6	6	20	16.30%
7	7	25	20.30%
8	8	19	15.40%
9	9	10	8.10%
10	10	4	2.40%

4.1.4.CHART



INTERPRETATION

The employee's response indicates On a scale of 1 to 10, 0% of respondents stands on scale 1, 0.80% of respondents hold on scale 2, 15.40% of respondents hold on scale 3, 8.10% of respondents hold on scale 4, 13% of respondents hold on scale 5, 16.30% of respondents hold on scale 6, 20.30% of respondents hold on scale 7, 15.40% of respondents hold on scale 8, 8.10% of respondents hold on scale 9, 2.40% of respondents hold on scale 10,

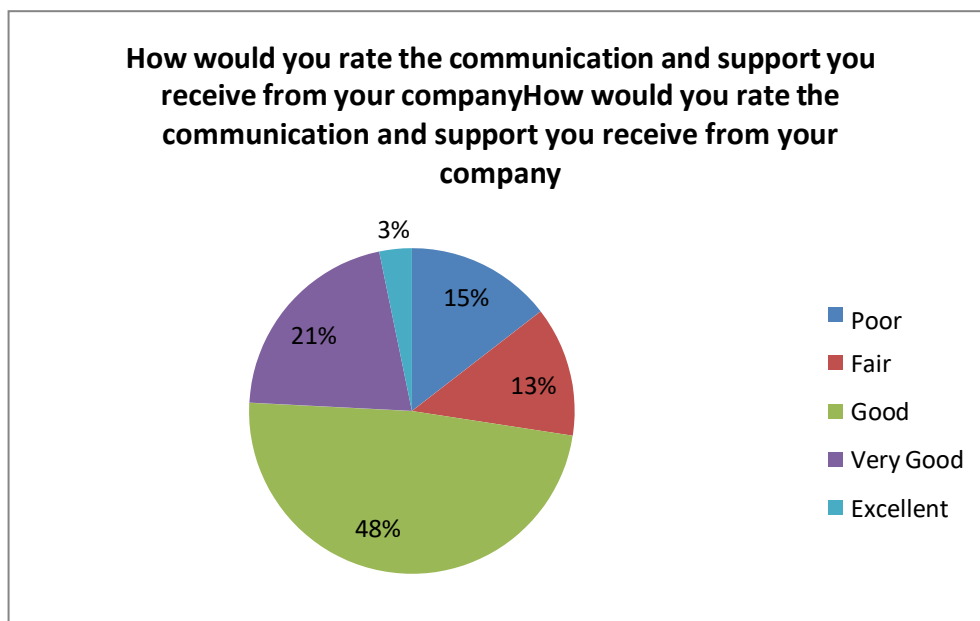
INFERENCE

The majority, 20.30% of respondents agree on scale 7

4.1.5.How would you rate the communication and support you receive from your company

S.N O	How would you rate the communication and support you receive from your company	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	Poor	18	14.60%
2	Fair	16	13%
3	Good	60	48.8
4	Very Good	26	20.40%
5	Excellent	4	3.30%

4.1.5.CHART



INTERPRETATION

According to the employee's response, 14.60% response as poor, 13% response as fair, 48.8% response as good, 20.40% response as very good, 3.30% response as excellent,

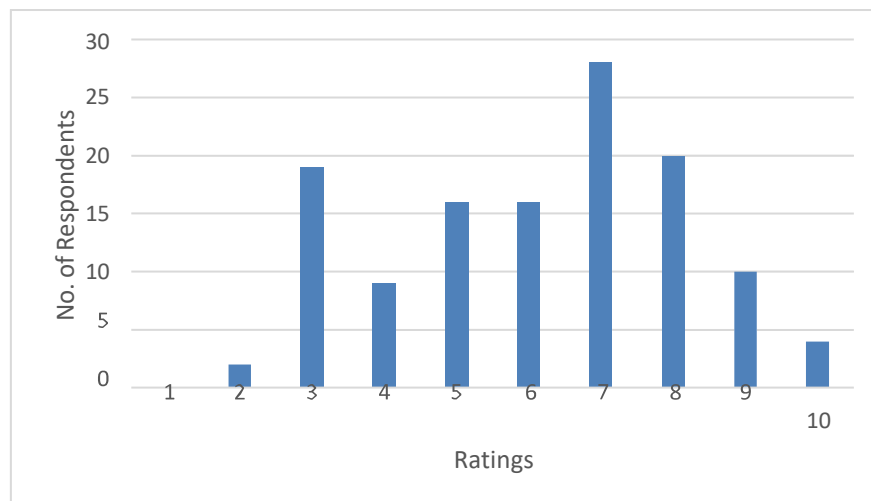
INFERENCE

The majority, i.e., 48.8% of respondents as good

4.1.6. How would you rate the condition and maintenance of the delivery vehicles provided to you by the company

S.NO	How would you rate the condition and maintenance of the delivery vehicles provided to you by the company	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	1	0	0%
2	2	2	1.60%
3	3	19	15.40%
4	4	9	7.30%
5	5	16	13%
6	6	16	13%
7	7	28	22.80%
8	8	20	16.30%
9	9	10	8.10%
10	10	4	2.40%

4.1.6.CHART



INTERPRETATION

The employee's response indicates On a scale of 1 to 10, 0% of respondents stands on scale 1, 1.60% of respondents hold on scale 2, 15.40% of respondents hold on scale 3, 7.30% of respondents hold on scale 4, 13% of respondents hold on scale 5, 13% of respondents hold on scale 6, 22.80% of respondents hold on scale 7, 16.30% of respondents hold on scale 8, 8.10% of respondents hold on scale 9, 2.40% of respondents hold on scale 10,

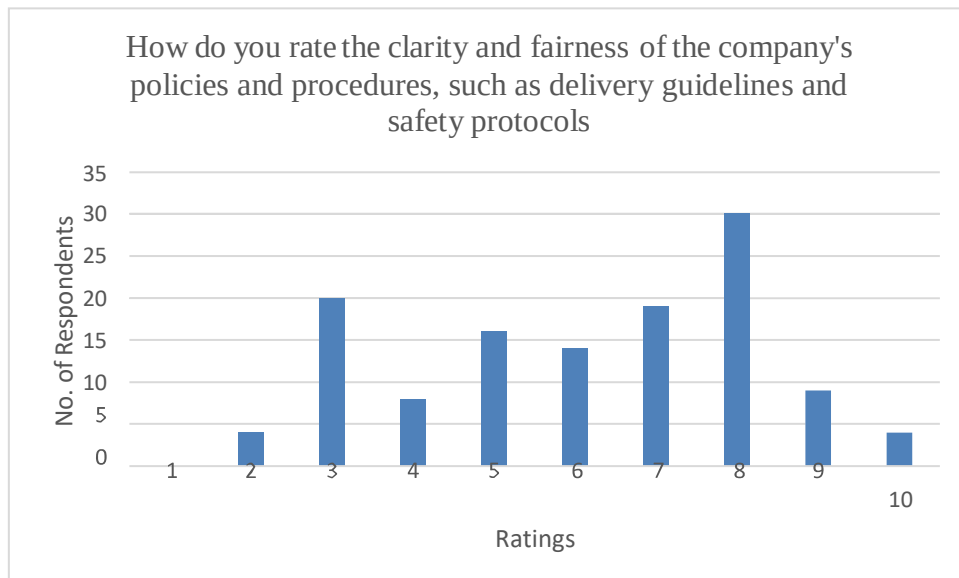
INFERENCE

The majority, 22.80% of respondents agree on scale 7

4.1.7.How do you rate the clarity and fairness of the company's policiesand procedures, such as delivery guidelines and safety protocols

S.NO	How do you rate the clarity and fairness of the company's policies and procedures, such as delivery guidelines and safety protocols	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	1	0	0%
2	2	4	3.30%
3	3	20	16.30%
4	4	8	6.50%
5	5	16	13%
6	6	14	11.40%
7	7	19	15.40%
8	8	30	24.40%
9	9	9	7.30%
10	10	4	2.40%

4.1.7.CHART



INTERPRETATION

The employee's response indicates On a scale of 1 to 10, 0% of respondents stands on scale 1, 3.30% of respondents hold on scale 2, 16.30% of respondents hold on scale 3, 6.50% of respondents hold on scale 4, 13% of respondents hold on scale 5, 11.40% of respondents hold on scale 6, 15.40% of respondents hold on scale 7, 24.50% of respondents hold on scale 8, 7.30% of respondents hold on scale 9, 2.40% of respondents hold on scale 10,

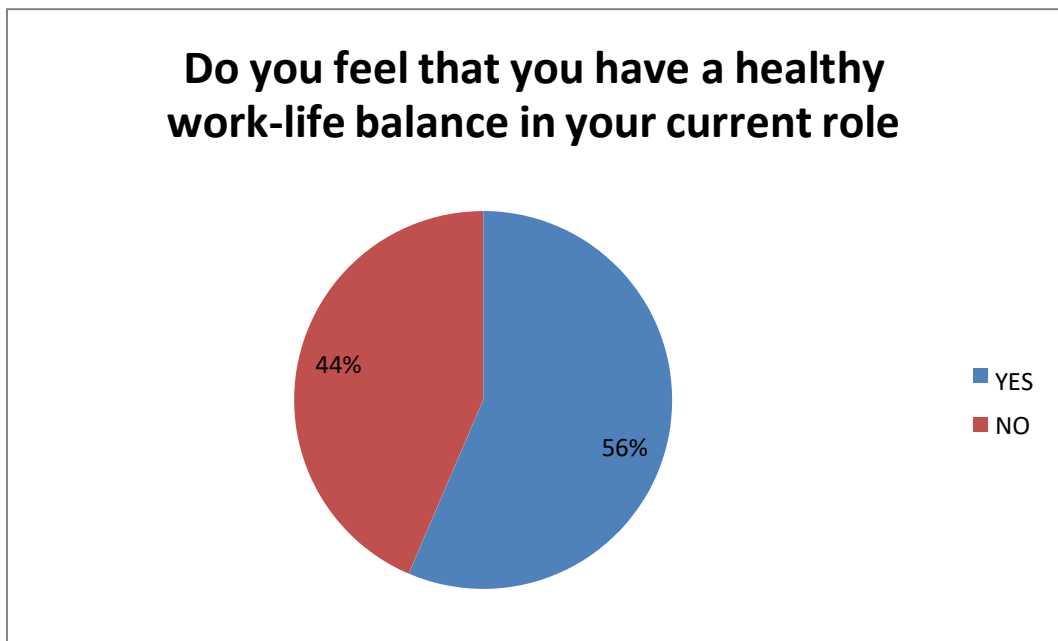
INFERENCE

The majority, 24.50% of respondents agree on scale 8

4.1.8.Do you feel that you have a healthy work-life balance in yourcurrent role

S.NO	Do you feel that you have a healthy work-life balance in your current role	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	YES	70	56.10%
2	NO	54	43.90%

4.1.8.CHART



INTERPRETATION

According to the employee's response on healthy work-life balance in your current role, 56% said yes, 44% said no

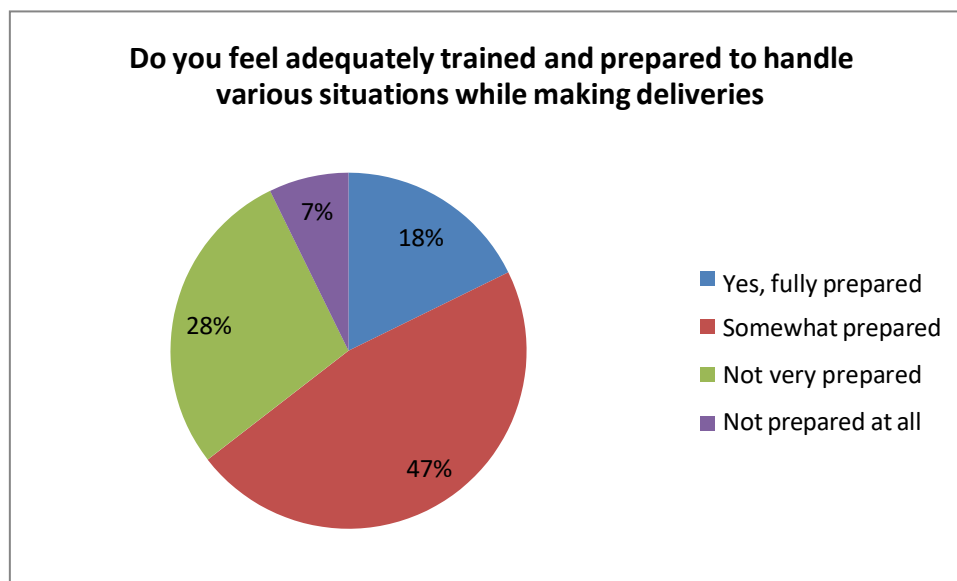
INFERENCE

The majority, i.e.,56% of respondents as yes

4.1.9.Do you feel adequately trained and prepared to handle various situations while making deliveries

S.NO	Do you feel adequately trained and prepared to handle various situations while making deliveries	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	Yes, fully prepared	22	17.90%
2	Somewhat prepared	58	46.30%
3	Not very prepared	35	28.50%
4	Not prepared at all	9	7.30%

4.1.9.CHART



INTERPRETATION

According to the employee's response on adequately trained and prepared to handle various situations while making deliveries, 17.90% said Yes, fully prepared, 46.30% said Somewhat prepared, 28.50% said Not very prepared, 7.30% said Not prepared at all

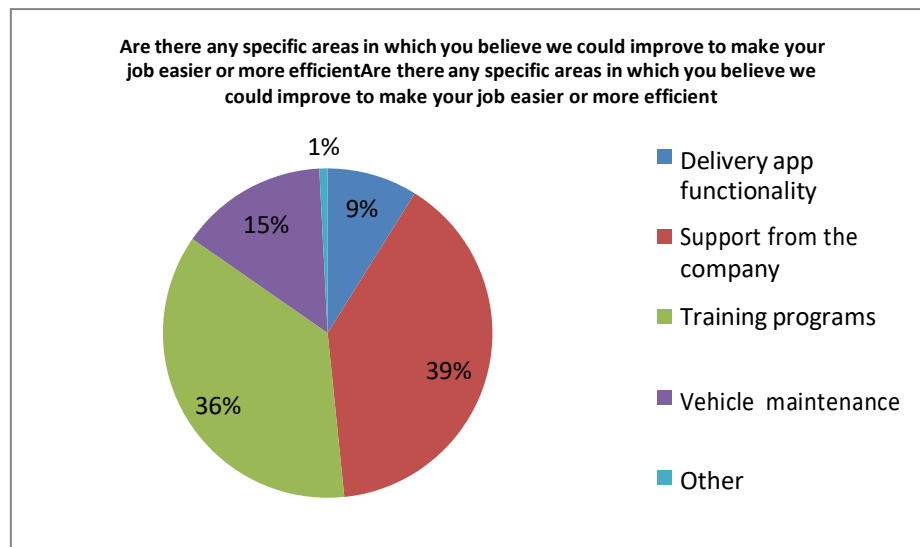
INFERENCE

The majority, i.e., 46.30% of respondents as Somewhat prepared

4.1.10. Are there any specific areas in which you believe we could improve to make your job easier or more efficient

S.NO	Are there any specific areas in which you believe we could improve to make your job easier or more efficient	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	Delivery app functionality	11	8.90%
2	Support from the company	49	39.80%
3	Training programs	45	36.60%
4	Vehicle maintenance	18	13.80%
5	Other	1	0.80%

4.1.10.CHART



INTERPRETATION

According to the employee's response on Are there any specific areas in which you believe we could improve to make your job easier or more efficient, 8.90% said Delivery app functionality, 39.80% said Support from the company, 36.60% said Training programs, 13.80% said Vehicle maintenance, 0.80% said others

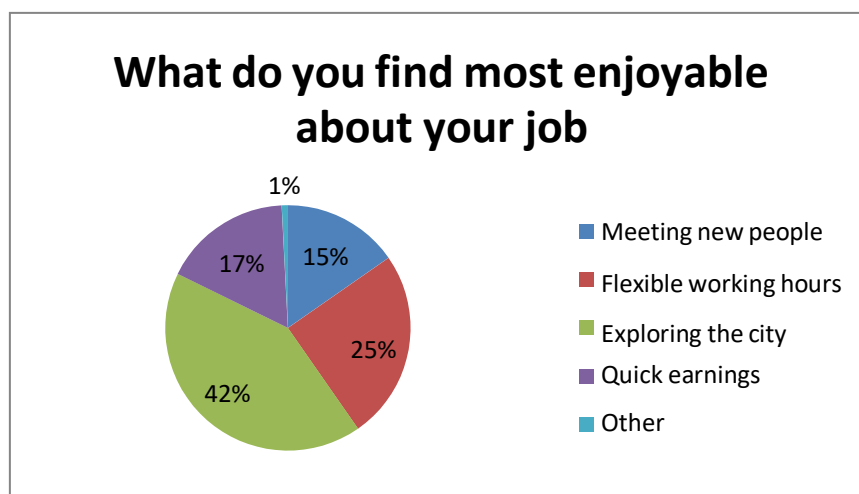
INFERENCE

The majority, i.e., 39.80% of respondents as Support from the company

4.1.11.What do you find most enjoyable about your job

S.NO	What do you find most enjoyable about your job	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	Meeting new people	19	14.60%
2	Flexible working hours	31	25.20%
3	Exploring the city	52	42.30%
4	Quick earnings	21	17.10%
5	Other	1	0.80%

4.1.11.CHART



INTERPRETATION

According to the employee's response on Are there any specific areas in which you believe we could improve to make your job easier or more efficient, 8.90% said Delivery app functionality, 39.80% said Support from the company, 36.60% said Training programs, 13.80% said Vehicle maintenance, 0.80% said others

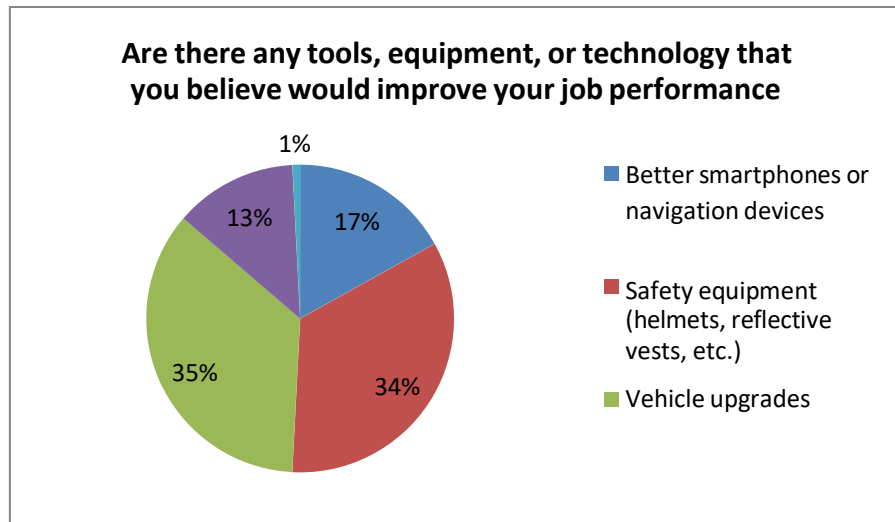
INFERENCE

The majority, i.e., 39.80% of respondents as Support from the company

4.1.12. Are there any tools, equipment, or technology that you believe would improve your job performance

S.NO	Are there any tools, equipment, or technology that you believe would improve your job performance	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	Better smartphones or navigation devices	21	16.30%
2	Safety equipment (helmets, reflective vests, etc.)	42	34.10%
3	Vehicle upgrades	44	35.80%
4	None, I'm satisfied with the current tools	16	13%
5	Other	1	0.80%

4.1.12.CHART



INTERPRETATION

According to the employee's response on Are there any specific areas in which you believe we could improve to make your job easier or more efficient, 16.30% said Better smartphones or navigation devices, 34.10% said Safety equipment (helmets, reflective vests, etc.), 35.80% said Vehicle upgrades, 13.80% said Vehicle maintenance, 13% said None, I'm satisfied with the current tools, 0.80% said others

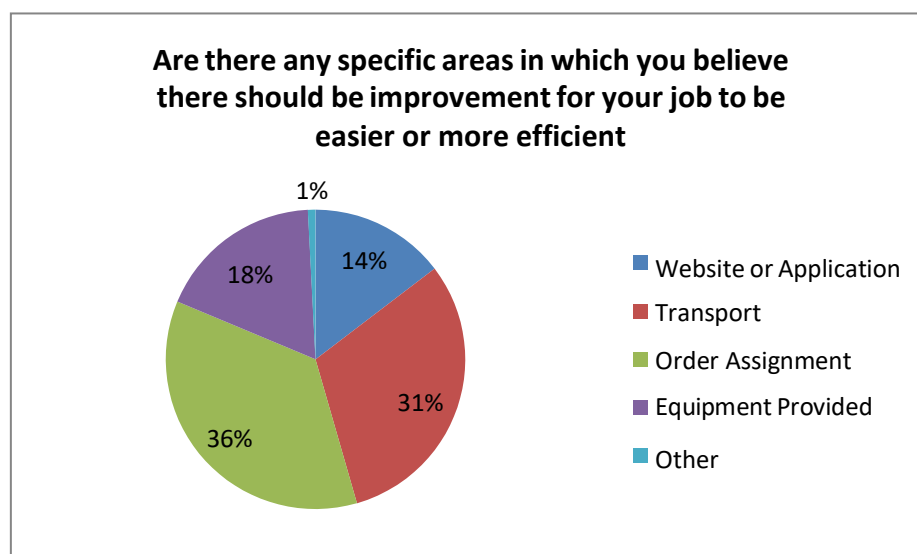
INFERENCE

The majority, i.e.,35.80% of respondents said Vehicle upgrades

4.1.13. Are there any specific areas in which you believe there should be improvement for your job to be easier or more efficient

S. NO	Are there any specific areas in which you believe there should be improvement for your job to be easier or more efficient	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	Website or Application	18	14.60%
2	Transport	38	30.90%
3	Order Assignment	44	35%
4	Equipment Provided	22	18.70%
5	Other	1	0.80%

4.1.13.CHART



INTERPRETATION

According to the employee's response on Are there any specific areas in which you believe there should be improvement for your job to be easier or more efficient,

14.60% said Website or Application, 30.90% said Transport, 35% said Order Assignment, 18.70% said Equipment Provided, 0% said Other

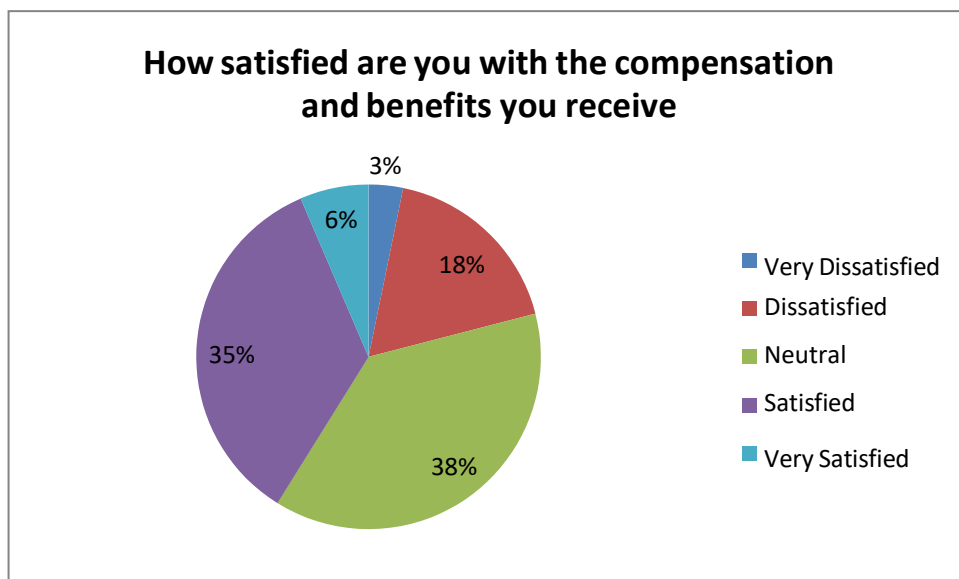
INFERENCE

The majority, i.e.,35% of respondents said Order Assignment

4.1.14.How satisfied are you with the compensation and benefits you receive

S.NO	How satisfied are you with the compensation and benefits you receive	NO.OF.RESPONDENTS	PERCENTAGE ANALYSIS
1	Very Dissatisfied	4	3.30%
2	Dissatisfied	22	17.90%
3	Neutral	47	38.20%
4	Satisfied	43	35%
5	Very Satisfied	8	5.70%

4.1.14.CHART



INTERPRETATION

According to the employee's response on How satisfied are you with the compensation and benefits you receive, 3.30% said Very Dissatisfied, 17.90% said Dissatisfied, 38.20% said Neutral, 35% said Satisfied, 5.70% said Very Satisfied

INFERENCE

The majority, i.e.,38% of respondents said Neutral

HYPOTHESIS

- H0: The proportion of individuals who feel they have a healthy work-life balance is the same for both "Yes" and "No" responses.
- H1: There is a significant difference in the proportion of individuals who feel they have a healthy work-life balance between "Yes" and "No" responses.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
How much years of experience do you have in this field * Do you feel that you have a healthy work-life balance in your current role	124	100.0%	0	0.0%	124	100.0%

How much years of experience do you have in this field * Do you feel that you have a healthy work-life balance in your current role Crosstabulation

			Do you feel that you have a healthy work-life balance in your current role		Total
			NO	YES	
How much years of experience do you have in this field	0 to 5	Count	26	26	52
		Expected Count	22.6	29.4	52.0
	10 TO 15	Count	2	13	15
		Expected Count	6.5	8.5	15.0
	15 TO 20	Count	0	1	1
		Expected Count	.4	.6	1.0
	5 TO 10	Count	26	29	55
		Expected Count	24.0	31.0	55.0
	ABOVE 20	Count	0	1	1
		Expected Count	.4	.6	1.0
	Total	Count	54	70	124
		Expected Count	54.0	70.0	124.0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.304 ^a	4	.081
Likelihood Ratio	9.880	4	.042
N of Valid Cases	124		

- a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .44.

INTERPRETATION

The p value is 0.081 which is greater than the significance value (0.05) hence null hypothesis H0 is accepted. And H1 is rejected

INFERENCE

The proportion of individuals who feel they have a healthy work-life balance is the same for both "Yes" and "No" responses.

HYPOTHESIS

- ☐ H0: The distribution of responses indicating the rating of communication and support is the same across all categories.
- ☐ H1: There is a significant difference in the distribution of responses indicating the rating of communication and support among at least two categories.

Correlations

	How would you rate the communication and support you receive from your company	Do you feel adequately trained and prepared to handle various situations while making deliveries
How would you rate the communication and support you receive from your company	Pearson Correlation	1
		-.079

support you receive	Sig. (2-tailed)		.385
from your company	N	124	124
Do you feel adequately	Pearson		
trained and prepared to	Correlation	-.079	1
handle various	Sig. (2-tailed)	.385	
situations while making	N	124	124
deliveries			

INTERPRETATION

The p value is -0.079 which is less than the significance value (+1 to -1) hence alternative hypothesis H0 is accepted. There is a significant difference in the distribution of responses indicating the rating of communication and support among at least two categories.

CHAPTER 5

FINDINGS, SUGGESTIONS AND CONCLUSIONS.

FINDINGS

- ☐ Most responses, i.e., 26%, were given by employees in the zomato company.
- ☐ Most responses, i.e., 55%, were given by employees in the age group of 20 to 30.
- ☐ Most responses, or 44%, were given by employees with 5 to 10 year's experience.
- ☐ The majority, 20.30% of respondents agree on scale 7.
- ☐ The majority, i.e., 48.85% of respondents as good.
- ☐ The majority, 22.80% of respondents agree on scale 7.
- ☐ The majority, 24.50% of respondents agree on scale 8.
- ☐ The majority, i.e., 56% of respondents as yes.
- ☐ The majority, i.e., 46.30% of respondents as Somewhat prepared.
- ☐ The majority, i.e., 39.80% of respondents as Support from the company.
- ☐ The majority, i.e., 39.80% of respondents as Support from the company.
- ☐ The majority, i.e., 35.80% of respondents said Vehicle upgrades.
- ☐ The majority, i.e., 35% of respondents said Order Assignment.
- ☐ The majority, i.e., 38% of respondents said Neutral.
- ☐ By using chi square to find the relation between work-life balance and experience. The p value is 0.081 which is greater than the significance value (0.05) hence null hypothesis H₀ is accepted. And H₁ is rejected. The proportion of individuals who feel they have a healthy work-life balance is the same for both "Yes" and "No" responses.
- ☐ By using correlation for finding the relation between the communication and support you receive from your company and adequately trained and prepared to handle. The p value is -0.079 which is less than the significance value (0.05) hence alternative hypothesis H₁ is accepted

SUGGESTION

- Investigate the current state of food logistics and supply chain management in Thiruvannamiyur with the aim of identifying opportunities for optimization, enhancing efficiency, and addressing challenges within the local food supply chain.
- Evaluate the extent of technology adoption in the food supply chain, including the use of tracking systems, inventory management tools, and route optimization software. Assess the impact of technology on operational efficiency.
- Utilize a combination of surveys, interviews, and data analysis to gather insights from key stakeholders, including logistics providers, suppliers, retailers, and consumers. Employ quantitative and qualitative methods to ensure a comprehensive understanding of the supply chain dynamics.
- Provide actionable recommendations based on the study findings, addressing identified challenges and capitalizing on opportunities for improvement. Highlight potential areas for innovation, efficiency gains, and sustainable practices.

CONCLUSIONS

So after conducting an analytical study on food logistics and supply chain management, we can draw some interesting conclusions.

- It's clear that efficient logistics and supply chain management play a crucial role in ensuring the smooth flow of food from producers to consumers.
- By implementing advanced technologies, like IoT and data analytics, we can optimize transportation, reduce wastage, and improve overall efficiency.
- Additionally, collaboration among stakeholders and effective communication are key factors in enhancing the food supply chain.

Overall, this study highlights the importance of continuous improvement and innovation in food logistics and supply chain management. Pretty fascinating stuff, right.

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ANNEXURE I -QUESTIONNAIRE

An analytical study on food logistics and supply chain management in Thiruvananthapuram

1) Name of the candidate

2) Name of the company on which you are working

- SWIGGY
- ZOMATO
- DUNZO
- BIGBASKET
- Others :

3) Age group you belong to

- Below 20
- 20 TO 30
- 30 TO 40
- 40 TO 50
- ABOVE 50

4) How much years of experience do you have in this field

- 0 TO 5
- 5 TO 10
- 10 TO 15
- 15 TO 20
- ABOVE 20

- 5) On a scale of 1 to 10, how satisfied are you with your job
- VERY DISSATISFIED TO VERY SATISFIED
- 6) How would you rate the communication and support you receive from your company
- Poor
 - Fair
 - Good
 - Very good
 - Excellent
- 7) How would you rate the condition and maintenance of the delivery vehicles provided to you by the company
- Poor to Excellent
- 8) How do you rate the clarity and fairness of the company's policies and procedures, such as delivery guidelines and safety protocols
- Poor to Excellent
- 9) Do you feel that you have a healthy work-life balance in your current role
- Yes
 - No
- 10) Do you feel adequately trained and prepared to handle various situations while making deliveries
- Yes, fully prepared
 - Somewhat prepared
 - Not very prepared
 - Not prepared at all
- 11) Are there any specific areas in which you believe we could improve to make your job easier or more efficient
- Delivery app functionality
 - Support from the company
 - Training programs

- Vehicle maintenance
- Other:

12) What do you find most enjoyable about your job

- Meeting new people
- Flexible working hours
- Exploring the city
- Quick earnings
- Other:

13) Are there any tools, equipment, or technology that you believe would improve your job performance

- Better smartphones or navigation devices
- Safety equipment (helmets, reflective vests, etc.)
- Vehicle upgrades
- None, I'm satisfied with the current tools
- Other:

14) Are there any specific areas in which you believe there should be improvement for your job to be easier or more efficient

- Website or Application
- Transport
- Order Assignment
- Equipment Provided
- Other

15) How satisfied are you with the compensation and benefits you receive

- Very Dissatisfied
- Dissatisfied
- Neutral
- Satisfied
- Very Satisfied

ANNEXURE II – RESEARCH ARTICLE

AN ANALYTICAL STUDY ON FOOD LOGISTICS AND SUPPLY CHAIN MANAGEMENT IN THIRUVANMIYUR

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ABSTRACT

The food logistics and supply chain industry plays a vital role in ensuring the efficient and reliable distribution of food products to consumers. This analytical study delves into the dynamics of food logistics and supply chain management within the Thiruvananthapuram region, shedding light on the processes, challenges, and potential improvements in this critical sector. The research methodology for this study includes in-depth interviews, surveys, and data analysis involving key stakeholders, including food suppliers, distributors, retailers, and consumers in Thiruvananthapuram. By examining various aspects of the local food supply chain, this study seeks to provide a comprehensive overview of the state of food logistics in the region. The study explores the challenges faced by the food logistics and supply chain in Thiruvananthapuram, including issues related to transportation, technology adoption, and the impact of external factors such as the COVID-19 pandemic. It also investigates the role of technology and innovation, including the use of digital platforms and emerging trends, in streamlining food logistics operations. Furthermore, this research delves into the collaboration and cooperation among different stakeholders in the food supply chain and their role in ensuring the timely and efficient delivery of food products. It also examines the measures in place to guarantee food safety and quality during transportation and distribution and the role of regulatory bodies in upholding these standards. The study concludes by offering recommendations and insights for improving food logistics and supply chain management in Thiruvananthapuram. By identifying challenges and areas for enhancement, this research aims to contribute to the advancement of the food supply chain in the region, ensuring the reliable and safe delivery of food products to the local community. Additionally, this study anticipates and highlights the emerging trends and innovations that can further enhance food logistics and supply chain management in Thiruvananthapuram.

INTRODUCTION

Food logistics and supply chain management play a vital role in ensuring that food products reach our tables efficiently, safely, and in the best possible condition. The journey of food from the farm to the consumer's plate is a complex and highly interconnected process that involves

multiple stakeholders, including farmers, manufacturers, distributors, retailers, and logistics providers. The effective management of this intricate web of activities is critical not only for the food industry but also for global food security, public health, and sustainability.

The importance of food logistics and supply chain management is underscored by the fact that it encompasses the entire spectrum of activities related to the planning, procurement, production, distribution, and consumption of food products. The challenges are multifaceted, ranging from optimizing transportation and warehousing to ensuring food safety, quality, and traceability. Moreover, the logistics and supply chain of food products are subject to various external factors, including climate change, regulatory requirements, consumer preferences, and global economic conditions. We will explore the multifaceted world of food logistics and supply chain management. Our objective is to delve into the intricate operations that make it possible for us to enjoy fresh produce, pantry staples, and delicacies from around the world. We will investigate the key components and challenges of the food supply chain, examine the role of technology and innovation, discuss sustainability and environmental considerations, and assess the impact of global events, such as the COVID-19 pandemic, on food logistics and supply chain resilience.

SCOPE OF STUDY

Supply Chain Mapping:

Map out the entire food supply chain in Thiruvananthapuram, starting from the source (farmers or manufacturers) to the end consumers.

Identify and describe the various intermediaries involved in the supply chain (wholesalers, distributors, retailers, etc).

Technological Integration:

Explore the use of technology in food logistics and supply chain management in Thiruvananthapuram, such as GPS tracking, inventory management systems, and other relevant technologies

OBJECTIVE OF THE STUDY

- Primary objective focuses on study of food logistics and supply chain management in Thiruvananthapuram.
- To analyse the structure of the food supply chain in Thiruvananthapuram, identifying key stakeholders, nodes, and processes involved.
- To understand consumer preferences and behaviors regarding food purchasing in Thiruvananthapuram, analyzing factors influencing buying decisions.
- To identify and analyze challenges and bottlenecks faced by stakeholders in the food supply chain, such as transportation delays, inventory management issues, and regulatory compliance challenges.

NEEDS OF THE STUDY

- Thiruvananthapuram is a unique locality with specific demographic, economic, and geographic characteristics that influence the food supply chain. Understanding these local dynamics is essential for tailoring logistics and supply chain strategies to the specific needs of the area.
- Examining the level of technology integration is crucial for identifying opportunities for innovation. This includes the adoption of tracking systems, inventory management tools, and other technologies to enhance overall efficiency and decision-making in the supply chain.
- Assessing the adoption of sustainability practices is important for promoting environmentally friendly approaches in the food supply chain. This includes reducing food waste, optimizing transportation routes, and implementing eco-friendly packaging.
- Contributing to the existing knowledge base on food logistics and supply chain management enriches the broader understanding of industry practices. This research can serve as a reference for future studies and initiatives in Thiruvananthapuram or similar regions.

REVIEW OF LITERATURE

Uncovering the impact of FSMA's sanitary food transportation rule on the food logistics industry- Abhay K. Grover(2022)

the paper appears to be a valuable resource for those in the food logistics industry, as it offers insights into the impact of this significant regulation and provides guidance on how stakeholders can adapt and comply with the new requirements. It also highlights the broader point that public policies, such as food safety regulations, can have a profound impact on various industries, influencing business practices and operations.

A Magnetic Induction Based Localization Scheme for Fresh Food Logistics-Amitangshu Pal, Krishna Kant(2022)

this research paper addresses a critical issue in the fresh food supply chain by proposing an IoT-based solution to monitor food quality and contamination. The use of NFMI and magnetic induction for communication and localization can be particularly valuable in an industry where traditional RF communication may be inadequate due to the unique challenges posed by the properties of fresh food and its packaging. This research may offer insights into how technology can be applied to enhance food safety and reduce food wastage in the supply chain.

Impact of COVID-19 in food supply chain: Disruptions and recovery strategy-Abhijit Barman, Rubi Das, Pijus Kanti De(2021)

This paper recognizes the challenges posed by the COVID-19 pandemic in the context of the food industry and supply chain. It emphasizes the need to understand the seriousness of the situation and offers recommendations to address these challenges. While the text suggests that

the risk of transmission through food is low, it underscores the broader impacts of the pandemic on various interconnected aspects of the food system. This reflects the global disruption caused by the pandemic and the need for adaptive strategies within the food industry.

Identification of Potential Hazard and Halal Control Points for Perishable Food During Food Logistics- Siti Aimi Sarah Zainal Abidin, Nina Naquiah Ahmad Nizar, Aishah Bujang, S. Sarifah Radiah Shariff, Abdul Khabir Rahmat, Siti Ayu Jalil, Mohd Nasir Taib(2022)

the paper sheds light on the critical aspects of halal food logistics, emphasizing the importance of identifying and mitigating potential hazards to ensure the quality and compliance of halal food products as they traverse the logistics and supply chain. This information is likely to be of interest and relevance to those involved in the transportation and distribution of halal foods.

Sustainable Supply Chain in the Agri-Food Sector in South-Italy as an Eco-Sustainability Tool for Innovation and Territorial Development- Giuseppe Colella, Maria Teresa Paola Caputi Jambrenghi(2020)

The agri-food logistics chains face guarantee the greatest extending of sustainability practices in the management of the entire supply chain. The use of management and marketing tools and of innovative legal and economic institutes, also in the agri-food sector, is fundamental to guaranteeing an increasingly “cleaner” agriculture, in order to introduce more and more organic and eco-sustainable food products and safe for the health and well-being of living beings on the market. However, the joint use of these tools does not yet seem to be fully exploited, particularly in South-Italy. In this sense, the territories limit of potential eco-sustainable development tools deriving from the agri-food logistics chains, also in terms of territorial and tourism development of entire areas. Drawing upon the experiences of innovative projects oriented to eco-sustainability that have implemented mechanisms of continuous improvement in the agri-food sector, through the achievement of high levels of technological, methodological and organizational innovation, some implications for how to implement territorial development policies guided by sustainability can be found. In this paper, the changes that the agri-food sector has undergone will be discussed and possible scenarios of territorial and tourism development supported by the agri-food logistics chains will be suggested, two macro areas covered by the three pillars of sustainability, environmental, economic and social.

The relationship between customer satisfaction and sustainable service performance on e-commerce foods logistics in Malaysia- Mustakim Melan, Mohamad Ghazali Hassan, Md. Abdul Kafi, Liew Jen Chun, Lim Ko Sang, Loke Yee Cheng(2023)

this research assesses the performance of the food industry and e-commerce in food logistics during the COVID-19 pandemic. It highlights the importance of various service dimensions and

their influence on customer satisfaction. The findings can guide future developments and improvements in food logistics services, especially in the context of pandemics or similar disruptive events.

RESEARCH DESIGN

Qualitative Research Design

Qualitative research involves gathering and examining non-numerical data, which includes observational data, focus group transcripts, and interview transcripts. These types of data are frequently utilized to investigate detailed subjects or gain perspective on the experiences of individuals or groups.

HYPOTHESIS 1

H0: The proportion of individuals who feel they have a healthy work-life balance is the same for both "Yes" and "No" responses.

H1: There is a significant difference in the proportion of individuals who feel they have a healthy work-life balance between "Yes" and "No" responses.

HYPOTHESIS 2

H0: The distribution of responses indicating the rating of communication and support is the same across all categories.

H1: There is a significant difference in the distribution of responses indicating the rating of communication and support among at least two categories.

CHI-SQUARE

	Value	df	Asymptotic Significance (2- sided)
Pearson Chi-Square	8.304 ^a	4	.081
Likelihood Ratio	9.880	4	.042
N of Valid Cases	124		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .44.

INTERPRETATION

The p value is 0.081 which is greater than the significance value (0.05) hence null hypothesis H0 is accepted. And H1 is rejected

INFERENCE

The proportion of individuals who feel they have a healthy work-life balance is the same for both "Yes" and "No" responses.

CORRELATIONS

		How would you rate the communication and support you receive from your company	Do you feel adequately trained and prepared to handle various situations while making deliveries
How would you rate the communication and support you receive from your company	Pearson Correlation Sig. (2-tailed) N	1 135	-.079 .385 135
Do you feel adequately trained and prepared to handle various situations while making deliveries	Pearson Correlation Sig. (2-tailed) N	-.079 .385 135	1 135

INTERPRETATION

The p value is -0.079 which is less than the significance value (+1 to -1) hence alternative hypothesis H0 is accepted. There is a significant difference in the distribution of responses indicating the rating of communication and support among at least two categories.

FINDINGS

- ☐ Most responses, i.e., 26%, were given by employees in the zomato company.
- ☐ Most responses, i.e., 55%, were given by employees in the age group of 20 to 30.
- ☐ Most responses, or 44%, were given by employees with 5 to 10 year's experience.
- ☐ The majority, 20.30% of respondents agree on scale 7.
- ☐ The majority, i.e., 48.85% of respondents as good.
- ☐ The majority, 22.80% of respondents agree on scale 7.
- ☐ The majority, 24.50% of respondents agree on scale 8.
- ☐ The majority, i.e., 56% of respondents as yes.
- ☐ The majority, i.e., 46.30% of respondents as Somewhat prepared.
- ☐ The majority, i.e., 39.80% of respondents as Support from the company.
- ☐ The majority, i.e., 39.80% of respondents as Support from the company.
- ☐ The majority, i.e., 35.80% of respondents said Vehicle upgrades.
- ☐ The majority, i.e., 35% of respondents said Order Assignment.
- ☐ The majority, i.e., 38% of respondents said Neutral.
- ☐ By using chi square to find the relation between work-life balance and expirience. The p value is 0.081 which is greater than the significance value (0.05) hence null hypothesis H0 is accepted. And H1 is rejected. The proportion of individuals who feel they have a healthy work-life balance is the same for both "Yes" and "No" responses.
- ☐ By using correlation for finding the relation between the communication and support you receive from your company and adequately trained and prepared to handle. The p value is -0.079 which is less than the significance value (0.05) hence alternative hypothesis H1 is accepted

SUGGESTION

- Investigate the current state of food logistics and supply chain management in Thiruvannamiyur with the aim of identifying opportunities for optimization, enhancing efficiency, and addressing challenges within the local food supply chain.
- Evaluate the extent of technology adoption in the food supply chain, including the use of tracking systems, inventory management tools, and route optimization software. Assess the impact of technology on operational efficiency.
- Utilize a combination of surveys, interviews, and data analysis to gather insights from key stakeholders, including logistics providers, suppliers, retailers, and consumers. Employ quantitative and qualitative methods to ensure a comprehensive understanding of the supply chain dynamics.
- Provide actionable recommendations based on the study findings, addressing identified challenges and capitalizing on opportunities for improvement. Highlight potential areas for innovation, efficiency gains, and sustainable practices.

CONCLUSIONS

So after conducting an analytical study on food logistics and supply chain management, we can draw some interesting conclusions.

- It's clear that efficient logistics and supply chain management play a crucial role in ensuring the smooth flow of food from producers to consumers.
- By implementing advanced technologies, like IoT and data analytics, we can optimize transportation, reduce wastage, and improve overall efficiency.
- Additionally, collaboration among stakeholders and effective communication are key factors in enhancing the food supply chain.

Overall, this study highlights the importance of continuous improvement and innovation in food logistics and supply chain management. Pretty fascinating stuff, right

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