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A Study on Workers Perception Towards Health Wellbeing and Safety

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ABSTRACT

This research explores the perceptions of workers towards health, wellbeing, and safety practices at PreBo Automotive Pvt. Ltd., analyzing how these perceptions impact their workplace environment and satisfaction. Using a Descriptive Research Design and Convenience Sampling, 260 employees were surveyed, interviewed, and subject to documentation review. Both quantitative and qualitative methods were employed, along with non-parametric statistical tools such as Mann-Whitney U-Test, Kruskal-Wallis Test, Spearman's Rank Correlation, and Weighted Average, to address the non-normal data distribution. Results indicated significant perception differences based on age, experience, and educational background, with notable preferences for health and safety measures varying between demographic groups. The study recommends that PreBo Automotive tailor its health and safety initiatives to meet diverse workforce needs, particularly by enhancing training for new entrants and strengthening emergency preparedness. Expanding mental health support and improving work-life balance are also suggested to boost employee satisfaction and engagement. The findings underline the necessity for PreBo Automotive to refine its policies to better accommodate demographic differences and enhance the effectiveness of its health and safety measures.

CHAPTER - I INTRODUCTION

1.1 Introduction

The modern workplace is increasingly recognizing the importance of prioritizing the health, wellness, and safety of its workforce. In line with this understanding, PreBo Automotive Private Limited has embarked on a comprehensive study to gauge the perception of its workers regarding these crucial aspects. As a leading player in the automotive industry, PreBo Automotive recognizes the fundamental role its workforce plays in the company's success and aims to ensure their well-being as an integral part of its organizational culture.

This study seeks to delve into the perceptions, attitudes, and experiences of workers at PreBo Automotive regarding health, wellness, and safety practices within the workplace. By understanding the viewpoints of employees, the company aims to identify strengths, areas for improvement, and potential challenges in its existing policies and procedures related to health, wellness, and safety.

The importance of such a study cannot be overstated. Employees' perceptions profoundly influence their behavior, productivity, and overall satisfaction within the workplace. Moreover, a workplace environment that prioritizes health, wellness, and safety not only fosters employee well-being but also contributes to organizational success by reducing absenteeism, enhancing morale, and improving overall productivity.

Through this study, PreBo Automotive Private Limited aims to gather valuable insights that will inform the development of strategies and initiatives aimed at further enhancing the health, wellness, and safety of

its workforce. By fostering a culture of care and prioritizing the well-being of its employees, PreBo Automotive seeks to not only uphold its commitment to corporate social responsibility but also to maintain its position as an employer of choice within the automotive industry.In contemporary workplaces, prioritizing the health, wellbeing, and safety of employees is both a moral imperative and a strategic necessity for fostering a positive work environment and sustaining high levels of productivity. PreBo Automotive Pvt. Ltd., a leading entity in the automotive industry, recognizes the pivotal role that employee welfare plays in maintaining operational excellence and is committed to continuously refining its policies and initiatives to better cater to the diverse needs of its workforce.

This study embarks on a comprehensive exploration of the perceptions of workers regarding health, wellbeing, and safety practices at PreBo Automotive Pvt. Ltd. The necessity for this investigation arises from a multifaceted analysis of the organizational landscape. Understanding worker perceptions is fundamental for fostering a workplace culture that places a premium on employee welfare and satisfaction. By gaining insights into how employees perceive health, wellbeing, and safety practices, PreBo Automotive Pvt. Ltd. can identify areas for enhancement and implement measures that resonate with the workforce.

Moreover, the study aims to evaluate the effectiveness of current health-related initiatives and programs within the organization. Through assessments of accessibility, relevance, and impact, the company can tailor its offerings to better align with the needs of employees, thereby enhancing overall satisfaction and engagement. Additionally, the research seeks to ensure compliance with safety regulations and standards, minimizing risks to employee safety and organizational reputation. By scrutinizing workers' perceptions of the adequacy, enforcement, and effectiveness of safety measures, PreBo Automotive Pvt. Ltd. can identify gaps in existing protocols and recommend enhancements for improved risk mitigation.

Furthermore, the study delves into the efficacy of training and awareness programs conducted by PreBo Automotive Pvt. Ltd. in educating workers about health and safety measures. By measuring the impact of these programs on employee knowledge, behavior, and adherence to safety protocols, the company can refine its training initiatives to ensure maximum efficacy.

The scope of this study encompasses a comprehensive evaluation of health, wellbeing, and safety practices at PreBo Automotive Pvt. Ltd. Through surveys, interviews, and documentation review, the study will analyze existing practices, assess worker attitudes towards welfare measures, and identify areas for improvement. Recommendations and strategies will be developed to enhance health, wellbeing, and safety practices, fostering a culture of transparency, accountability, and employee engagement within the organization.

Ultimately, this study underscores PreBo Automotive Pvt. Ltd.'s commitment to prioritizing employee wellbeing and satisfaction through proactive measures and continuous improvement initiatives. By addressing worker perceptions and refining its approach to health, wellbeing, and safety, the company aims to create a workplace environment that not only safeguards employee welfare but also drives organizational success and resilience in the face of challenges.

1.2 INDUSTRY PROFILE

The automotive industry encompasses companies involved in the design, development, manufacturing, marketing, and selling of motor vehicles. It includes a wide range of products such as cars, trucks, buses, motorcycles, and electric vehicles. The industry is driven by innovation in technology, safety standards, environmental concerns, and consumer preferences. Key components include vehicle manufacturers, parts

suppliers, dealerships, and service centers. Major trends shaping the automotive industry include the shift towards electric and autonomous vehicles, advancements in connectivity and mobility services, and the increasing focus on sustainability and environmental regulations. The automotive sector plays a significant role in global economies, influencing employment, trade, and infrastructure development.

Segments of the Automotive Industry:

- Manufacturing: This segment involves the production of vehicles, including cars, trucks, buses, motorcycles, and other modes of transportation.
- Supply Chain: The automotive supply chain includes manufacturers of components and parts, as well as logistics and distribution networks.
- Retail and Dealerships: This sector involves the sale of vehicles to consumers through dealerships, online platforms, and other retail channels.
- Aftermarket Services: Aftermarket services encompass vehicle maintenance, repair, and the sale of spare parts and accessories.
- Research and Development: R&D activities focus on innovation, design, and engineering to enhance vehicle performance, safety, and efficiency.

Key Players and Stakeholders:

- Automobile Manufacturers: Companies like Toyota, Volkswagen, General Motors, and Ford are among the largest automobile manufacturers globally.
- Parts Suppliers: Suppliers provide components such as engines, transmissions, chassis, electronics, and interior systems to vehicle manufacturers.
- Technology Providers: Companies specializing in automotive technology, including electric and autonomous vehicle systems, connectivity, and infotainment.
- Dealerships and Retailers: Local dealerships and retail outlets play a crucial role in vehicle sales and customer service.
- Government and Regulatory Bodies: Governments establish regulations related to vehicle safety, emissions standards, and industry practices.

Trends and Innovations:

- Electric Vehicles (EVs): The automotive industry is experiencing a shift towards electric propulsion systems to reduce emissions and dependence on fossil fuels.
- Autonomous Vehicles (AVs): Advances in AI, sensors, and connectivity are paving the way for self-driving cars and mobility solutions.
- Connectivity and Mobility Services: Vehicles are increasingly connected to the internet, enabling features like navigation, remote diagnostics, and entertainment.
- Sustainability and Environmental Concerns: Automakers are investing in eco-friendly technologies, including hybrid engines, fuel cells, and sustainable materials.
- Shared Mobility and Ride-Hailing: The rise of ride-sharing platforms and car-sharing services is changing consumer attitudes towards vehicle ownership and usage patterns.

GLOBAL CONTEXT:

The automotive industry's origins trace back to the late 19th century with pioneers like Karl Benz, Gottlieb Daimler, and Henry Ford. They developed the first automobiles and revolutionized transportation.

Transformation:

The automotive industry has witnessed significant transformations over the years, including technological advancements such as the introduction of assembly line production by Henry Ford, the rise of electric and autonomous vehicles, and the integration of digital technologies in vehicles.

Current Scenario:

The global automotive industry is highly competitive and dynamic. It's experiencing a shift towards electric vehicles (EVs), automation, connectivity, and shared mobility. Traditional automakers are adapting to these changes while new players, including tech companies, are entering the market.

Major Players:

Toyota, Volkswagen Group, General Motors, Ford, BMW, and others. Additionally, emerging electric vehicle manufacturers like Tesla have gained prominence.

Share in Global GDP:

The automotive industry plays a pivotal role in the global economy, contributing approximately 3% to 4% of the global GDP. This sector not only encompasses vehicle manufacturing but also includes ancillary services like parts production, vehicle repairs, and sales, highlighting its extensive economic impact. It's a significant employer, stimulating related industries such as steel, aluminium, plastics, rubber, and advanced electronics. The contribution of the automotive industry to GDP can vary significantly across different regions; in major car-producing countries like Germany, Japan, and the USA, it may account for upwards of 5% of the national GDP. The industry is currently facing transformative challenges, including the shift towards electric vehicles and autonomous driving technologies, which are reshaping market dynamics and could influence its future economic contributions. As a critical economic indicator, the automotive industry's health often reflects broader economic conditions, making it a sector to watch for signs of consumer confidence and economic trends.

INDIAN CONTEXT:

Founders:

India's automotive industry has roots dating back to the early 20th century, with companies like Tata Motors and Mahindra & Mahindra playing key roles in its development.

Transformation:

India's automotive sector has undergone significant transformations, from producing mainly small vehicl-

es to now embracing a diverse range of offerings, including passenger cars, commercial vehicles, two-wheelers, and electric vehicles.

Current Scenario:

The Indian automotive industry is one of the largest in the world, contributing significantly to the country's manufacturing sector. It's experiencing shifts towards cleaner and greener technologies, including electric and hybrid vehicles.

Major Players:

Major players in the Indian automotive industry include Maruti Suzuki, Tata Motors, Mahindra & Mahindra, Hyundai, Honda, and others. These companies cater to both domestic and international markets.

Share in Indian GDP:

In India, the automotive industry is a crucial component of the national economy, contributing about 7.1% to the GDP and approximately 49% to the manufacturing GDP. It encompasses a wide range of vehicle production including passenger cars, commercial vehicles, two-wheelers, and three-wheelers, and is one of the country's largest employment sectors. The industry benefits from robust domestic demand and a strong export segment. Supported by government initiatives such as the Automotive Mission Plan and policies promoting electric vehicles, the sector is poised for further growth. This strategic focus not only aims to enhance production and attract investments but also to bolster the industry's significant role in India's economic development.

1.3 COMPANY PROFILE

PreBo Automotive Private Limited is a joint venture company established in March 2019 between **Prettl Mechatronics & Actuators GmbH (PMA)** and **Bosch Ltd.**, combining the technical expertise of both leading companies in the domain of electromechanical subassemblies. PreBo Automotive is a relatively young company, but it has already established itself as a leading supplier of electromechanical subassemblies in the Indian market. The company is committed to sustainability and has implemented several green initiatives at its manufacturing facilities. PreBo Automotive is a growing company with a bright future. They are constantly expanding their product portfolio and customer base.

Products and Services:

PreBo Automotive offers a wide range of electromechanical and mechanical subassemblies for the automotive industry, including:

- Brush cards
- Hand primers
- Armatures
- Magnetic coils
- Fuel pumps
- Wiper systems
- And more
- They cater to various segments within the automotive industry, including:
- Passenger cars
- Commercial vehicles
- Two-wheelers
- Off-highway vehicles
- Power tools

Vision and Mission:

PreBo Automotive's vision is to be a leading supplier of electromechanical subassemblies in India and the global market.

It's mission is to "exceed all applicable requirements every time with quality products, timely delivery, and competitive pricing through continual improvement in process, product, involvement of people, and investment in the latest equipment and technology."

Values: PreBo Automotive operates based on four core values

- **Sustainability:** They are committed to environmentally friendly practices and long-term thinking.
- **Entrepreneurship:** They encourage innovation and risk-taking.
- **Excellence:** They strive for continuous improvement in all areas.
- **Partnership:** They value strong relationships with their customers, suppliers, and employees.

Locations: PreBo Automotive has two manufacturing facilities in India

Bengaluru, Karnataka: This is the company's headquarters and houses its first manufacturing plant.

Chennai, Tamil Nadu: This is PreBo Automotive's second manufacturing plant, which was established in 2021.

1.4 PRODUCT AND SERVICE PROFILE

PreBo Automotive Pvt. Ltd is a company based in India that specializes in manufacturing automotive components.

Automotive Components:

PreBo Automotive Limited likely produces a wide range of automotive components used in vehicles. These components may include:

- Engine components: Parts like cylinder heads, pistons, valves, and camshafts.
- Transmission components: Gears, shafts, clutches, and transmission housings.
- Suspension and steering components: Control arms, ball joints, tie rods, and steering gears.
- Brake components: Brake pads, rotors, calipers, and brake lines.

- Electrical components: Wiring harnesses, sensors, switches, and connectors.

Precision Engineering:

The company may specialize in precision engineering, ensuring that its components meet strict quality and performance standards required by automotive manufacturers.

Customization and Design Services:

PreBo Automotive Limited may offer customization and design services to tailor components according to the specific requirements of its clients or automotive OEMs (Original Equipment Manufacturers).

Quality Assurance:

Given the critical nature of automotive components, PreBo Automotive Limited likely emphasizes quality assurance processes throughout its manufacturing operations. This may include adherence to industry standards and certifications to ensure reliability and safety.

Research and Development:

The company may invest in research and development efforts to innovate and develop new automotive components that meet evolving industry standards and consumer demands.

Supply Chain Management:

PreBo Automotive Limited likely manages an efficient supply chain to source raw materials, manufacture components, and deliver products to its customers in a timely manner.

CHAPTER - II DEVELOPMENT OF MAIN THEME

2.1 NEED FOR THE STUDY

This study helps in understanding the perceptions of workers regarding health, wellbeing, and safety practices at PreBo Automotive Limited, fostering a positive work environment that promotes employee wellbeing and maintains high levels of productivity. It identifies areas for improvement, enhances the effectiveness of health-related initiatives, and refines existing policies while implementing new measures tailored to employee needs. The research ensures that welfare programs contribute positively to employee satisfaction and wellbeing, identifies potential gaps and areas of concern, and ensures compliance with safety regulations and standards, thereby minimizing risks. It also measures the effectiveness of training and awareness programs, pinpointing areas for enhancement and ensuring employees are well-informed and skilled in maintaining a safe working environment. By addressing workers' perceptions, the study promotes a culture of transparency, accountability, and engagement at PreBo Automotive Pvt. Ltd, demonstrating the company’s commitment to prioritizing employee wellbeing and satisfaction.

2.2 OBJECTIVES OF THE STUDY

Primary Objective:

- To study the worker's perception towards Health, Wellbeing and safety practices followed at PreBo Automotive Pvt. Ltd.

Secondary Objectives:

- To evaluate workers' perceptions on current health practices at PreBo Automotive Pvt. Ltd.
- To examine workers' attitudes towards the accessibility, relevance, and impact of welfare measures at PreBo Automotive Pvt. Ltd.
- To assess workers' perceptions on the adequacy, enforcement, and effectiveness of safety measures at PreBo Automotive Pvt. Ltd.

- To measure the effectiveness of training and awareness programs conducted by PreBo Automotive Pvt. Ltd in educating workers about health and safety measures

2.3 SCOPE OF THE STUDY

This project aims to evaluate existing health practices at PreBo Automotive Pvt. Ltd through surveys, interviews, and documentation reviews, analyzing the effectiveness, accessibility, and relevance of health initiatives and programs within the organization. It examines workers' attitudes towards these measures, gathering insights into their perceptions of welfare programs and satisfaction levels. Additionally, the study assesses workers' views on the adequacy, enforcement, and effectiveness of safety measures, identifying potential gaps in safety protocols and recommending improvements for better compliance and risk mitigation. It measures the impact of training and awareness programs on employee knowledge, behavior, and adherence to safety protocols, and identifies areas for improvement in health, wellbeing, and safety practices based on workers' perceptions. Finally, the project develops recommendations and strategies to enhance these practices at PreBo Automotive Pvt. Ltd, addressing worker perceptions to foster a culture of transparency, accountability, and engagement, and demonstrating the company's commitment to prioritizing employee wellbeing and satisfaction through proactive measures and improvements.

2.4 LIMITATIONS OF THE STUDY

- Limited participation due to employees' busy schedules lead to lower response rates and potential bias.
- Response bias occurred, as employees provided answers they believe management wants to hear.
- Sampling bias arised when certain groups of employees were systematically excluded from participating in the survey.
- Language and cultural barriers affected the understanding and interpretation of survey questions among employees from diverse backgrounds.
- Survey hase a limited scope and have not captured the full complexity of employee experiences and concerns.
- Survey fatigue occured when employees were frequently asked to participate in surveys, resulting in less thoughtful responses.
- Employees may have concerns about data privacy and confidentiality, impacting their willingness to provide honest feedback.
- Interpretation biases arose when there were discrepancies between employees' perceptions and management's interpretation of survey results.

2.5 REVIEW OF LITERATURE

Angela Batson, Sharon Newnam, Sjaan Koppel (2022), Health, safety and wellbeing interventions in the workplace and how they may assist ageing heavy vehicle drivers: A Meta review, in their study stated about the challenges faced by heavy vehicle drivers in maintaining their health, safety, and wellbeing within the transportation industry. Despite the complex system involving various stakeholders like government, regulators, and transportation companies, the primary responsibility for creating a safe workplace falls on the drivers themselves. A study reviewed existing interventions aimed at improving the health and safety of workers, particularly heavy vehicle drivers. However, it found that most interventions targeted the drivers directly, with little involvement or support from other levels of the

transportation system. This approach overlooks the shared responsibility for creating a safer workplace among all stakeholders.

Anna Thangam, Subramania Bala Jeshurun, Joe Patrick Gnanaraj (2022), Industrial hazards and safety measures : An empirical study in their study stated about the occupational hazards and safety measures undertaken in Minerals and metals limited companies. Many governments realize that poor safety and health performance result in loss to the state. Safety measures work as a morale booster for the employees working in the plant. Industrial Safety has been one of the major issues of Indian industries. As a secondary effect health and safety also protect employers, customers, suppliers, and members of the public who may experience an impact from the workplace environment. The research is descriptive. Open-ended questions are being prepared and are interviewed among the employee to collect accurate data and results. The process of secondary data collection and analysis is collected for earlier research work. Thus, officious use of secondary data can save both money and time and the sample size is 423 employees and it constitutes managers, staff, supervisors, and workers and the sampling technique is of convenience in nature. The collected data is being carefully analyzed by using the Percentage, Correlation, and chi-square analysis.

Constanța RinjeaO. ChivuD. DarabontA. FeierC. BordaMarilena GheorgheD. Nițoi (2022), Influence of the thermal environment on occupational health, safety in Automotive industry, in their study stated to evaluate the thermal comfort of 33 workers in an automotive industry company. It involved collecting data on the thermal environment in various workplaces, calculating the Predicted Mean Vote (PMV) and Predicted Percentage of Dissatisfied (PPD) indices according to ISO 7730:2005 standards, and comparing the results with workers' subjective perceptions through questionnaires. The findings provide valuable insights for implementing preventive measures and improving workplace conditions. The study's approach and tools can be applied to similar workplaces and larger groups of workers in various industries. Additionally, the mathematical model and software used here can be utilized in future studies for assessing thermal comfort.

Thinh-Van Vu, Tan-Voh Tanh, Duy Van Nguyen (2022), The COVID 19 pandemic: Workplace safety management practices , job insecurities and employee's organizational citizenship behaviour , in their study investigated how organizations and employees respond to the COVID-19 pandemic, focusing on whether workplace safety management practices (WSPs) can maintain employees' organizational citizenship behavior (OCB) during this global health crisis. It also explores whether employees' perceptions of COVID-19 risk and job insecurity mediate the relationship between WSPs and OCB. Drawing on social exchange and protection motivation theories, the study surveyed 501 Vietnamese employees using SmartPLS software. The findings indicate that WSPs positively impact OCB and decrease perceived job insecurity. Additionally, employees' perception of COVID-19 risk positively influences both perceived job insecurity and OCB. Surprisingly, in Vietnam, WSPs can increase employees' perception of COVID-19 risk instead of reducing their fear, which differs from expectations due to the collectivist culture. However, perceptions of job insecurity are not significantly related to OCB. Furthermore, the study identifies a partial mediating role of perceived COVID-19 risk in the WSPs–OCB relationship. Overall, the research emphasizes the importance of WSPs and strategies to reassure employees psychologically during pandemics.

Shilki Bhatia, Arshia Arora (2021), A study on effect of job and ergonomics on employee performance in Indian Automotive sector, in their study stated the growing competition and the increasing need for adaptability often require organizations to switch and convert themselves according to

the demand of circumstances. In this process of reformation, employee performance gets affected by many aspects. Aiming at connecting two broad occupational concepts this article analyses and tests the effect of Job Design and Ergonomics on Employee Performance and the relatedness of Job Design and Ergonomics. The research was conducted in 32 organizations, having managers and supervisors at about 64 categories of designations handling teams of workers in the manufacturing units, of the automotive sector of India. This quantitative study, based on a sample collected through 5 points Likert scale questionnaires, was analysed using Confirmatory Factor Analysis (CFA), correlation, and multivariate regression analysis. The results manifested that CFA model and regression analysis described a significant impact of Job Design and Ergonomics on Employee Performance. The correlation outcomes revealed that Job Design and Ergonomics were well connected having p-value of .00, $p < .005$. The findings suggested, while focusing on improving the employee upshot, it becomes necessary for organizations to include Ergonomics in Job Design as a Design for Safety.

Teresa Galanti, Teresa Di Fiori, Michela Cortini (2021),The role of Organizational support in non-technical dimensions of safety : A case study in Automotive sector, in their study stated about a shift in safety management from solely focusing on controlling human error to considering the influence of economic and technological changes, which bring unpredictability. The research aimed to explore safety within organizations from both individual and organizational perspectives. It conducted a study among workers in the automotive sector, finding that organizational mindfulness and organizational citizenship behavior for safety play crucial roles in safety management. Organizational mindfulness partially mediates the relationship between organizational support and affective commitment, while organizational citizenship behavior fully mediates the link between organizational support and safety ownership. This study underscores the importance of recognizing both individual and organizational contributions to safety management, highlighting how safety promotion relates to employee motivation and personal involvement**.**

Vishal Patel, Austin Chesmore, Santhosh Pandey (2021), Trends in Workplace Wearable technologies and connected – worker solutions for Next – Generation occupational Safety, health and productivity in their study stated that the workplace profoundly impacts workers' safety, health, and productivity. Recently, smart hardware and software tools have emerged to address occupational hazards. Wearable devices allow continuous monitoring of workers and the environment, while connected worker solutions offer contextual information and decision support. This review explores current trends in commercial workplace technologies aimed at monitoring and managing occupational risks, injuries, accidents, and diseases. It discusses safety wearables for safe lifting, ergonomics, hazard identification, sleep monitoring, fatigue management, and temperature regulation. It also covers productivity wearables for asset tracking, augmented reality, motion control, brain wave sensing, and stress management. Additionally, health wearables target musculoskeletal disorders, respiratory hazards, cardiovascular health, sun exposure, and glucose monitoring. Connected worker platforms are examined, including their architecture, modules, operations, and industry applications. Predictive analytics offer insights into safety risks, resource allocation, equipment failure, and maintenance. Overall, these technologies enhance real-time visibility into frontline workers, the work environment, assets, workforce efficiency, and safety compliance.

Wondosen Hailu M, Getahyn Ahmed, Mohammed N (2020), Assessment of back pain and disability status among automotive industry workers, in Ethiopia in their study stated to understand the prevalence of back pain and disability among workers in the automotive industry in Bishoftu, Ethiopia.

They surveyed 412 workers using standard tools between February and May 2018. They found that 51.7% experienced work-related back pain in the past year, and 25% reported it in the past week, with 87% experiencing related disability. Factors contributing to back pain included work experience (11-15 years), tasks involving bending and twisting, and lifting heavy loads. The study emphasizes the need for greater attention to promote the health and safety of automotive industry workers, especially those prone to back pain due to work-related factors.

Camila Bruning (2020), Work context in the Automotive Industry and damage to workers health in her study stated the relationship between worker's perception about their working context and the physical, social and psychological damage that they perceive having from working in this context. Data were collected in the production line of three factories of an automotive company situated in the metropolitan region of Curitiba/Brazil. The theoretical basis for the analysis is the Psychodynamics of Work (DEJOURS, 1993), through which the dynamics of suffering and illness of workers inserted in this context is analyzed. They conducted a descriptive case study with primary data collection by applying the Inventory of Work and Illness Risk – ITRA (MENDES, 2007). The relationship between physical and psychosocial damage and the perception of workers in relation to their work environment were evaluated by a Tobit regression model. The results suggest that: a worsening in the workers rating of the working conditions leads to a higher incidence of illnesses. The results also suggest that variables such as "freedom of expression", "experiences of pleasure", "experiences of suffering" and "perception of recognition" are important to explain incidence of disease symptoms.

Mona El Kouatly Kambris, Sarah Khan, Shatha Nabil Al Falasi (2019), Perceptions of Health and Safety among Workers in the Automotive Repair Industry in Dubai (United Arab Emirates): A Cross-sectional Exploratory Study in their study stated about the need for better occupational health and safety measures, especially concerning expatriate workers in Dubai, where unintentional injuries rank as the second leading cause of death. The study focuses on safety practices and health perceptions of automotive repair workers, using the Health Belief Model. Out of 35 workers surveyed, only 10% received proper safety training from their employers. While many workers acknowledge exposure to hazards like carbon monoxide fumes, they underestimate the severity. Married workers tend to perceive more hazards at the workplace. Though most workers recognize the importance of protective equipment, only about half actually use it. The findings stress the importance of targeted occupational health training and enforcement of safety regulations to protect workers in the automotive repair industry.

S Gellatly (2019), Exploring the Mental Health and Wellbeing Needs of Workers in the UK Automotive Industry in his study stated to understand the mental health needs of automotive sector employees and identify effective initiatives to promote their wellbeing. Using qualitative interviews, the study found common issues like mental health presenteeism and leaveism. Employees had varying views on wellbeing due to conflicting terms. While the company excelled in health and safety, employees were unhappy with working hours, work-life balance, and pay. The research suggests that simple initiatives focusing on mental health acknowledgment and discussion, rather than complex programs, are preferred to reduce stigma. It also raises the question of who should support employee wellbeing. While managers are important, they often have poor wellbeing themselves, making them less effective in this role. Bridging this gap requires further consideration in the future.

Saeed Givehchi, Sharam Vosoughi, ghasem Bahrami (2019), Workforce safety culture, job stress and job satisfaction in an automotive industry in their study explored the relationship between organizational safety culture, job stress, and job satisfaction among automotive industry workers. Using

three questionnaires, researchers surveyed 210 workers from 13 production halls. They found significant connections between safety culture and training, job stress and education level, and job satisfaction and education level. Employees in trained groups had higher safety culture scores. The study revealed that a workplace with a strong safety culture tends to have lower job stress and higher job satisfaction. Safety and health education also play a crucial role in improving safety culture, job satisfaction, and reducing job stress. Overall, enhancing safety culture can lead to better employee satisfaction and reduced stress levels.

Muhammad Shaffique, Xiaowei Luo (2019), Nanotechnology in Transportation Vehicles: An Overview of Its Applications, Environmental, Health and Safety Concerns in their study stated that Nanotechnology has rein their stated that in increasing attention and is being applied in the transportation vehicle field. With their unique physical and chemical characteristics, nanomaterials can significantly enhance the safety and durability of transportation vehicles. This paper reviews the state-of-the-art of nanotechnology and how this technology can be applied in improving the comfort, safety, and speed of transportation vehicles. Moreover, this paper systematically examines the recent developments and applications of nanotechnology in the transportation vehicle industry, including nano-coatings, nano filters, carbon black for tires, nanoparticles for engine performance enchantment and fuel consumption reduction. Also, it introduces the main challenges for broader applications, such as environmental, health and safety concerns. Since several nanomaterials have shown tremendous performance and have been theoretically researched, they can be potential candidates for applications in future environmental friendly transportation vehicles. This paper will contribute to further sustainable research and greater potential applications of environmentally friendly nanomaterials in healthier transportation vehicles to improve the transportation industry around the globe.

Ramya Chari, Steven L Slauter, Anita L Schill (2019), Expanding the Paradigm of Occupational Safety and Health A New Framework for Worker Well-Being in their study stated that the National Institute for Occupational Safety and Health's (NIOSH) development of a conceptual framework for worker well-being. While well-being research is growing, there is a need to translate theoretical concepts into practical models for measurement and action.Multidisciplinary literature reviews informed development of the worker well-being framework and major domains and subdomains. An expert panel helped prioritize constructs for measurement.The framework includes five domains and 20 subdomains and conceptualizes worker well-being as a subjective and objective phenomenon inclusive of experiences both within and beyond work contexts. Well-being is a positive and unifying concept that captures multiple factors that contribute to workers' health and quality of life. This work lays the foundation for larger well-being measurement efforts and will provide tools for NIOSH partners to help workers flourish.

Muhammad Omair, Misbah Ullah, Sahar Noor (2019), A Quantitative Analysis of Worker's stress due to working Environment in Production system of Automobile part Manufacturing industry in their study stated the importance of managing production processes based on customer demand while considering the role of humans in the production system. It highlights how working conditions, such as workload and job timings, significantly impact both workers and product quality. While minimizing production costs is crucial in today's economy, the hidden costs of poor working conditions, like increased stress among employees, can affect efficiency and product quality. The research aims to link the economic benefits of firms with improving workers' social conditions. It uses a numerical example to demonstrate how stress among workers impacts production systems, and employs optimization techniques to plan production effectively. The study emphasizes the importance of considering human factors, such as ergonomics and safety culture, for efficient production. It concludes that understanding and addressing

working conditions are vital for successful production management, offering managerial insights based on the results and sensitivity analysis.

CHAPTER - III
DATA ANALYSIS AND INTERPRETATION
3.1 RESEARCH METHODOLOGY
Research design:

The research design employed for this study was **Descriptive Research Design**. This aims to accurately describe the characteristics of a particular population. It involves collecting and analyzing data to answer questions such as who, what, where, when, and how. This approach is particularly used to gain a deep understanding of this topic, identify patterns or trends, or generate hypotheses for further exploration. Descriptive research designs utilize various data collection methods, including surveys, interviews, observations, and archival research, to gather both quantitative and qualitative data.

Sampling technique:

In any research study, the ability to draw conclusions about a population based on a subset of individuals or observations known as a sample is crucial. Sampling methods are employed to ensure that the selected sample is representative of the population, thereby allowing the results of the study to be generalized to a broader group. The choice of sampling technique is fundamental to the research design and can significantly influence the validity and reliability of the research findings.

There are 2 types of sampling techniques:

- Probability Sampling
- Non- Probability Sampling

Probability Sampling Methods:

Probability sampling involves selecting participants such that each member of the population has a known, non-zero chance of being included in the sample.

Simple Random Sampling: Every member of the population has an equal chance of being selected. This method is straightforward but requires access to the entire population list.

Systematic Sampling: Members are chosen from a list at regular intervals, starting from a random point. This method ensures even coverage but risks periodicity bias if there are underlying patterns in the list.

Stratified Sampling: The population is divided into subgroups (strata) that are mutually exclusive but collectively exhaustive. Samples are then drawn from each stratum. This method is beneficial when certain subgroups within the population are to be focused on.

Cluster Sampling: Instead of sampling individuals directly, clusters of individuals (e.g., geographical areas or institutions) are selected. This method reduces costs and is useful when it is challenging to obtain a complete list of the population.

Non-probability Sampling Methods:

Non-probability sampling does not provide all the individuals in the population an equal chance of being included. This can lead to biases, making the sample less representative of the population. Key methods include:

Convenience Sampling: This method involves selecting individuals who are easiest to access. It is the least costly and least time-consuming of all sampling methods, but it carries a significant risk of bias.

Judgmental or Purposive Sampling: Researchers select participants based on their judgment about who would be most useful or representative for the study's needs.

Quota Sampling: Researchers divide the population into groups and arbitrarily choose participants from each group until a predetermined quota is met. This method ensures representation from each group but does not randomize selection.

Snowball Sampling: Existing study subjects recruit future subjects from their acquaintances. This method is particularly useful for reaching populations that are difficult for researchers to access directly.

Sampling Technique used:

Convenient sampling was used in this study. This was employed to select participants for this study due to its practicality and ease of access to the target population. This method provides practically and convenience in obtaining the required sample size for the research. The population under investigation is known. Participants were selected based on their availability and willingness to participate in the study. While convenience sampling may introduce some bias into the sample, it was deemed appropriate given the constraints of time and resources

The measures used to overcome the bias when using convenient sampling:

Stratification of the Sample: While using convenience sampling, efforts were made to stratify the sample across different departments and roles within Maveric Systems Limited. This approach aimed to ensure a diverse cross-section of employee perspectives, thus mitigating the skew towards any single group or opinion.

Inclusion of a Broad Range of Participants: The sample included both new hires and seasoned employees to capture a wide range of experiences and perceptions related to the onboarding process. This inclusion helps balance the views between those newly exposed to the onboarding process and those with long-term insights into its evolution and effectiveness.

Careful Questionnaire Design: Ensuring that the survey questions are neutral and non-leading is crucial to minimize response bias. Questions were crafted to be clear, unbiased, and structured in a way that allows for objective feedback. This method helps in gathering data that accurately reflects the employees' true perceptions without being swayed by the wording of the questions.

Extended Sampling Period: To reduce the impact of any particular temporal or situational influences, the sampling was conducted over an extended period. This approach helps in capturing a broader range of experiences and ensures that the results are not biased by specific time-bound factors or events that could influence employee perceptions during a shorter sampling window.

Sample size:

The sample size for this study was determined using the Morgan Chart, which provides guidelines for determining sample sizes based on the desired level of precision and confidence interval. By consulting the Morgan Chart and considering the population size [**800**], a sample size of [**260**] was determined to be sufficient to achieve the study objectives.

Data Collection:

Primary Data:

The primary data was collected by distributing questionnaire to the selected respondents. The questionnaire includes items that utilize the Likert Scale, Dichotomous, Open-Ended question etc., to measure the respondent’s perception and attitudes related to Health, Welfare, Safety, effectiveness of Training.

Secondary Data:

In this research, secondary data was gathered from academic journals and books to complement the primary data collected via questionnaires. This approach provided a broader context, supporting and

validating the findings related to Health, Welfare, Safety, and Training Effectiveness. This methodological choice enhanced the depth and reliability of the study.

Test of Normality

H0: The data follows Normal Distribution

H1: The data significantly deviates from Normal Distribution

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Health	.333	260	.000	.735	260	.000
Welfare	.259	260	.000	.813	260	.000
Safety	.343	260	.000	.801	260	.000
Training	.252	260	.000	.757	260	.000
a. Lilliefors Significance Correction						

Interpretation:

From the results of Kolmogorov - Smirnov test, Since **P (Sig) value < 0.05**, we reject Null Hypothesis. It infers that the data is significantly deviated from Normal Distribution. Hence, Non-Parametric tools are applied for the study.

TOOLS USED:

In order to analyze the datas collected from the questionnaires, Non-Parametric Statistical tools such as Mann-Whitney U-Test, Kruskal-Wallis Test, Spearman's Rank Correlation and Weighted Average are used.

Mann-Whitney U-Test:

This test can be used to compare two independent groups on a continuous variable. It is an alternative to the independent samples t-test when the assumptions of normality and equal variances are violated. The test ranks all observations from both groups, then compares the distributions of ranks to assess whether one group tends to have higher values than the other. It's used when dealing with ordinal or non-normally distributed data.

Formula

$$U_1 = n_1 n_2 + \frac{n_1(n_1+1)}{2} - R_1$$

$$U_2 = n_1 n_2 + \frac{n_2(n_2+1)}{2} - R_2$$

Kruskal-Wallis Test:

This test is used to determine whether there are statistically significant differences between three or more independent groups. It extends the logic of the Mann-Whitney U-Test to multiple groups. Instead of comparing only two groups, the Kruskal-Wallis Test ranks all observations across all groups and compares the distributions of ranks to assess whether there are differences in central tendencies. It's appropriate when the assumptions of normality and equal variances are violated, or when dealing with ordinal or non-normally distributed data.

Formula:

$$H = \frac{12}{n \cdot (n+1)} \sum_{j=1}^{k} \frac{R_j^2}{n_j} - 3 \cdot (n+1)$$

Spearman's Rank Correlation:

Spearman's Rank Correlation is a non-parametric measure of correlation used to assess the strength and direction of the relationship between two variables. It is based on the ranks of the observations rather than their actual values, making it suitable for ordinal or non-normally distributed data. Spearman's correlation coefficient, denoted by ρ (rho), ranges from -1 to 1, where positive values indicate a positive correlation, negative values indicate a negative correlation, and values close to zero suggest little to no correlation. It's often used when the assumptions of normality and linearity are violated or when dealing with data that can only be ranked.

Formula:

$$\rho = 1 - \frac{6\Sigma\, d_i^2}{n(n^2 - 1)}$$

Chi-Square:

The Chi-Square test is a statistical method used to determine whether there's a significant association between categorical variables. It is commonly applied in research to test hypotheses about the relationship between variables in contingency tables. There are two primary types of Chi-Square tests: the test for independence, which assesses whether two categorical variables are independent of each other across different populations, and the goodness-of-fit test, which checks how well an observed distribution matches an expected distribution. The results of the Chi-Square test provide a p-value that indicates the probability of observing the given data if the null hypothesis (typically stating no association or no difference) is true, helping researchers make informed decisions about the statistical significance of their findings.

Formula:

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Percentage Analysis:

Percentage analysis is a straightforward statistical method used to describe data by converting numbers into percentages, facilitating easier comparison across different groups or categories. This method is particularly useful in analyzing survey data, financial reports, or any quantitative data where understanding proportions is crucial. By expressing data as a percentage of a total, it helps standardize results, allowing for clear comparisons even when the absolute figures vary significantly. This method provides a simple yet powerful way to visualize disparities or trends within the data, making it an essential tool in fields like

market research, business analysis, and social sciences to convey insights effectively and make informed decisions based on proportional relationships.

Formula:

Percent = $\frac{Value}{Total\ Value} \times 100$

Weighted Average:

Weighted average is a statistical measure that takes into account the relative importance or weight of each value in a dataset when calculating the average. It assigns a weight to each value based on its significance or contribution to the overall average. This method is useful when some values are more important or carry more weight than others. The weighted average is calculated by multiplying each value by its weight, summing the products, and dividing by the total weight. It's commonly used when different factors have varying degrees of importance.

Formula:

Weighted Average = $\frac{Sum\ of\ Weighted\ terms}{Total\ number\ of\ terms}$

Interval Estimation:

Interval estimation is a statistical technique used to estimate a parameter, such as a population mean or proportion, by calculating an interval believed to contain the true value of that parameter. This method provides a range of plausible values for the parameter, rather than a single point estimate, giving a clearer picture of the parameter's possible values and their associated uncertainty. The interval is constructed around the sample estimate and is defined by a lower and upper bound, known as the confidence interval. The confidence level, typically set at 95% or 99%, indicates the probability that the interval includes the true parameter value if the experiment were repeated multiple times under the same conditions. Interval estimation is a cornerstone in inferential statistics, offering more informational and practical significance than point estimates, especially in decision-making processes and hypothesis testing.

Formula:

$p \pm Z\propto/2\sqrt{pq}/n$

3.2 ANALYSIS AND INTERPRETATION

TABLE 3.2.1: Table showing the Gender of the Respondents

S. No	Gender	No. of Respondents	Percentage
a)	Male	113	43
b)	Female	147	57
	Total	260	100

Findings:

From the above table it is observed that 43% respondents are Men and 57% respondents are Women.

Inference:

It is inferred that majority of the respondents are Women (57%).

CHART 3.2.1: Chart showing the Gender of the Respondents

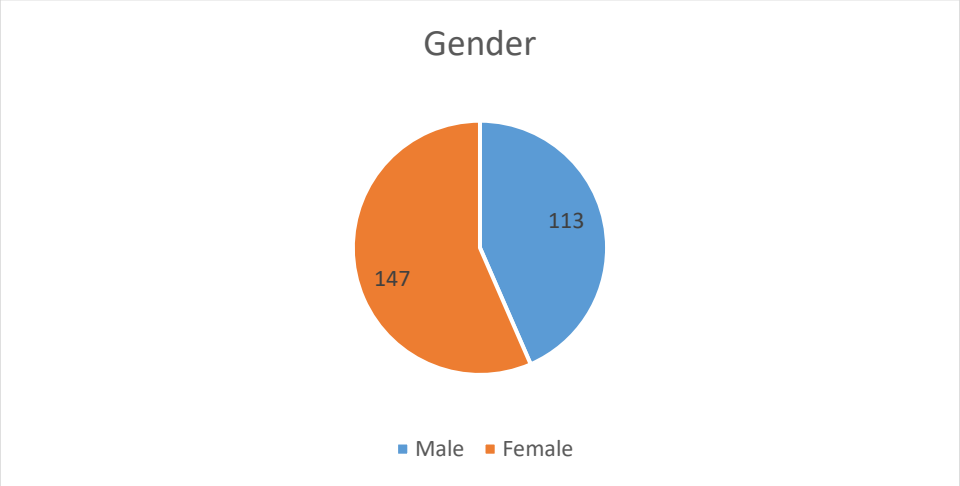


TABLE 3.2.2: Table showing the Age of the Respondents

S. No	Age	No. of Respondents	Percentage
a)	Below 25	28	11
b)	26 - 30	176	68
c)	31 - 40	35	13
d)	Above 40	21	8
	Total	260	100

Findings:

From the above table it is observed that 68% of the respondents are between 26-30 years, 13% of the respondents are 31-40 years, 11% of the respondents are 68% below 25 years, and 8% of the respondents are above 40

Inference:

It is inferred that majority of the respondents are in the age group of 26 – 30 (68%).

CHART 3.2.2: Chart showing the Age of the Respondents

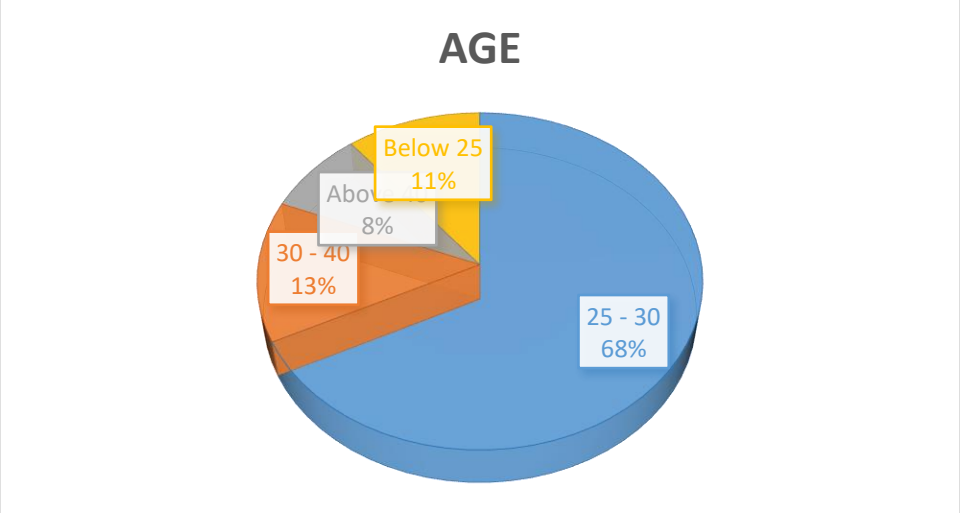


TABLE 3.2.3: Table showing the Education of the Respondents

S. No	Education	No. of Respondents	Percentage
a)	High School	8	3
b)	Diploma	49	19
c)	UG	112	43
d)	PG	63	24
e)	Vocational	28	11
	Total	260	100

Findings:

From the above table it is observed that 43% respondents are with undergraduate degree, 24% of the respondents are with Postgraduate degree, 19% of the respondents are diploma holders, 11% of the respondents took up vocational and the smallest group consists of high school graduates at 3%.

Inference:

It is inferred that the data reflects a high level of educational attainment among the most of the survey participants, with 43% having an undergraduate degree.

CHART 3.2.3: Chart showing the Education of the Respondents

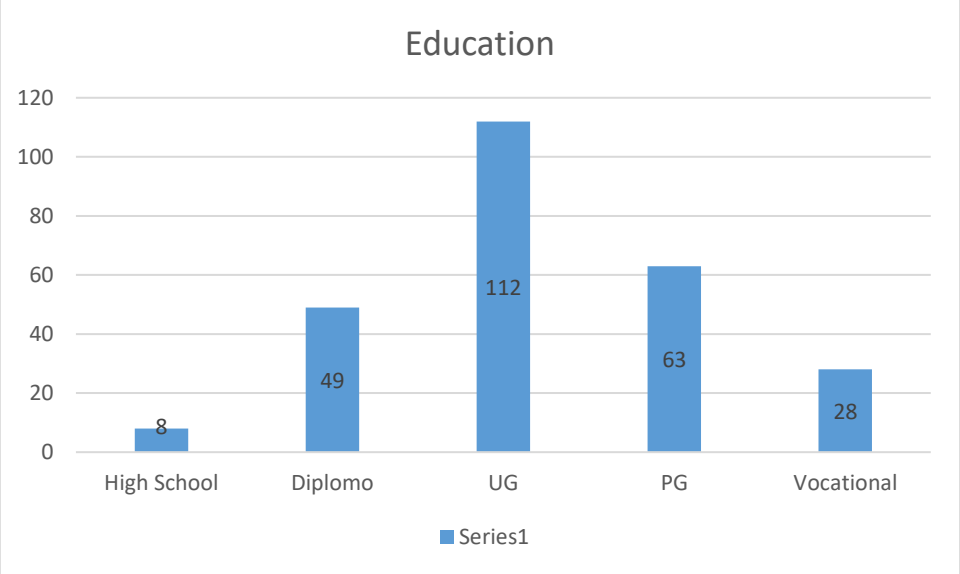


TABLE 3.2.4: Table showing the respondents Experience with the company

S. No	Experience	No. of Respondents	Percentage
a)	0 – 2 years	49	19
b)	3 – 5 years	126	48
c)	6 – 10 years	57	22
d)	Above 10 years	28	11

	Total	260	100

Findings:

From the above table it is observed that 48% respondents have 3-5 years of experience, those with 6-10 years of experience comprise 22%, while newcomers with 0-2 years account for 19%, the least represented are those with over 10 years of experience, making up 11% of the total.

Inference:

It is inferred that the data indicates a workforce primarily in the early to mid-stages of their careers, particularly those within the 3-5 year experience range (48%).

CHART 3.2.4: Chart showing the respondents Experience with the company

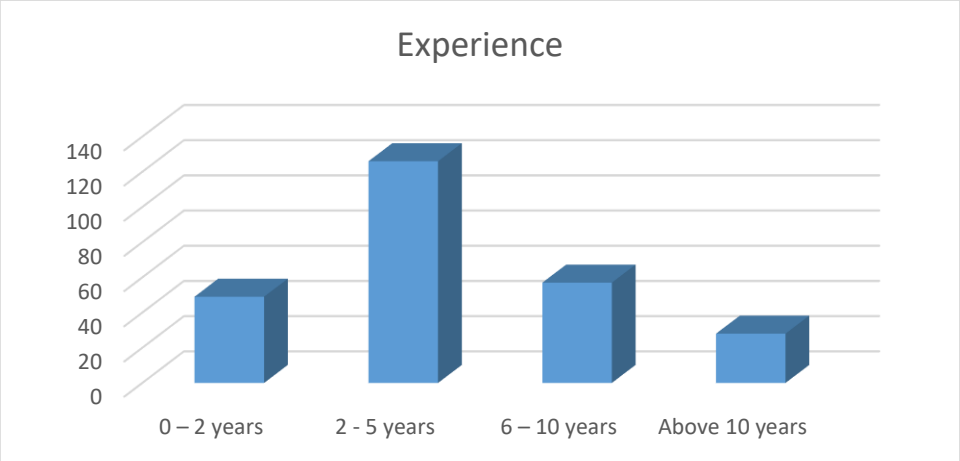


TABLE 3.2.5: Table showing the Marital status of the Respondents

S. No	Marital Status	No. of Respondents	Percentage
a)	Married	189	73
b)	Unmarried	71	27
	Total	260	100

Findings:

From the above table it is observed that, a significant majority, 73% respondents are married, while 27% respondents are unmarried.

Inference:

It is inferred that, the high proportion of married respondents (73%) in the survey could indicate that the survey appeals more to or is more accessible to married individuals.

CHART 3.2.5: Chart showing the Marital status of the Respondents

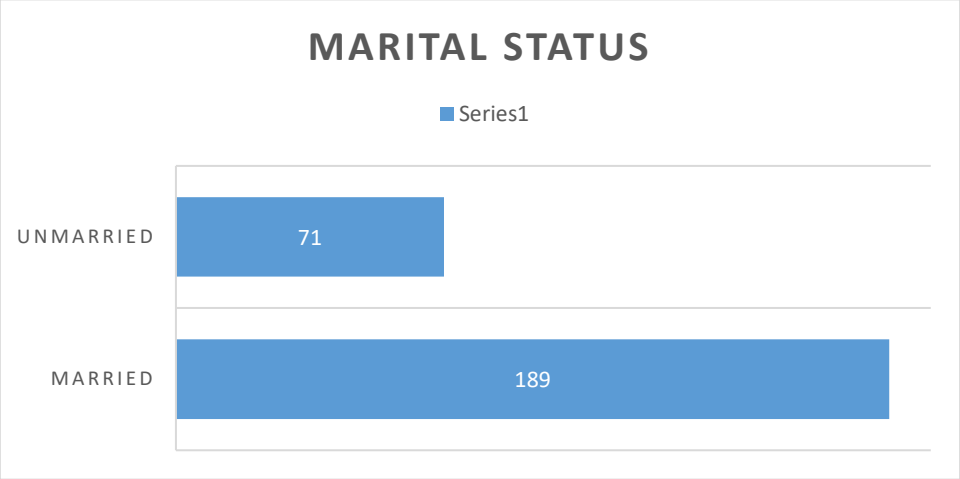


TABLE 3.2.6: Table showing the Adequacy of Resources provided to the Respondents

S. No	Adequacy of Resources	No. of Respondents	Percentage
a)	Yes	231	89
b)	No	29	11
	Total	260	100

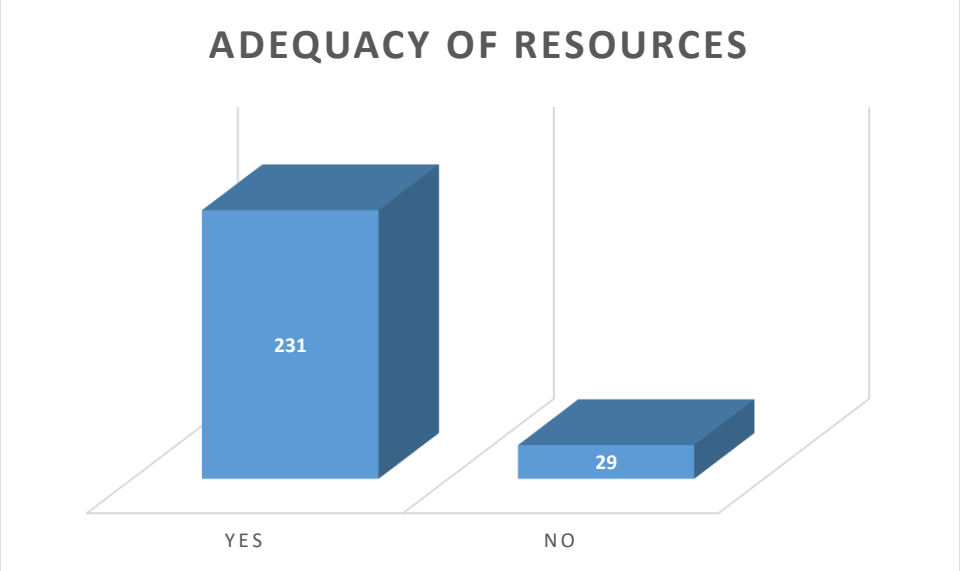
Findings:

From the above table it is observed that, 89% respondents feel that resources are adequate and 11% respondents believe that resources are not sufficient.

Inference:

It is inferred that, the respondents perceiving resources as adequate (89%) suggests general satisfaction with the available support or materials in their context, possibly indicating effective resource management or allocation within the environment surveyed.

CHART 3.2.6: Chart showing the Adequacy of Resources provided to the Respondents



Interval Estimation:

$$p \pm Z\propto/2\sqrt{pq}/n$$

When n = 260,

p = $\frac{x}{n} = \frac{231}{280}$ = 0.82,

q = 1-p = 0.18,

Z∝/2 = 1.96

At 95%, the Confidence Interval for p is,

$p \pm Z\propto/2\sqrt{pq}/n$

= $0.82 \pm 1.96\sqrt{0.82(0.18)}/260$

= 0.82 ± 0

= p (0.82, 0.82)

Inference:

At a 95% confidence interval, the proportion of respondents who find the adequacy of resources provided to be satisfactory is estimated as 82%.

TABLE 3.2.7: Table showing the level of agreement on how PreBo prioritizes the health & wellbeing of its workers

S. No	Factors	R1	R2	R3	R4	R5	R6	R7	R8	Weights	Rank
		8	7	6	5	4	3	2	1		
a)	Safety Measures	154	84	8	14	0	0	0	0	**54**	**R1**
b)	Health Benefits	49	154	28	7	8	0	0	14	**48**	**R2**
c)	Work-Life Balance	0	0	21	22	14	7	84	112	**16**	**R8**
d)	Mental Health Support	0	0	0	21	21	35	119	64	**16**	**R7**
e)	Ergonomic Work Environment	0	0	0	0	35	203	14	8	**23**	**R6**
f)	Employee Assistance Program	14	0	0	0	182	0	42	22	**26**	**R5**
g)	Health & Safety Training	42	22	182	14	0	0	0	0	**46**	**R3**
h)	Food & Accomodation	0	0	21	196	0	0	0	43	**32**	**R4**

Weighted Average:

Weighted Average = $\frac{Sum\ of\ Weighted\ terms}{Total\ number\ of\ terms}$

$WA_1 = \frac{(154*8)+(84*7)+(8*6)+(14*5)+(0*4)+(0*3)+(0*2)+(0*1)}{36} = 54$

$WA_2 = \frac{(49*8)+(154*7)+(28*6)+(7*5)+(8*4)+(0*3)+(0*2)+(14*1)}{36} = 48$

/

$WA_3 = \frac{(0*8)+(0*7)+(21*6)+(22*5)+(14*4)+(7*3)+(84*2)+(112*1)}{36} = 16$

$WA_4 = \frac{(0*8)+(0*7)+(0*6)+(21*5)+(21*4)+(35*3)+(119*2)+(64*1)}{36} = 16$

$WA_5 = \frac{(7*8)+(0*7)+(0*6)+(0*5)+(35*4)+(203*3)+(14*2)+(8*1)}{36} = 23$

$WA_6 = \frac{(14*8)+(0*7)+(0*6)+(0*5)+(182*4)+(3*0)+(42*2)+(22*1)}{36} = 26$

$WA_7 = \frac{(42*8)+(22*7)+(182*6)+(14*5)+(0*4)+(0*3)+(0*2)+(0*1)}{36} = 46$

$WA_8 = \frac{(0*8)+(0*7)+(21*6)+(196*5)+(0*4)+(0*3)+(0*2)+(43*1)}{36} = 32$

Findings:

From the above table it is found that, Safety Measures is Ranked 1st, Health Benefits is ranked 2nd, health & safety training is ranked 3rd, food & accommodation is ranked 4th, Employee assistance program is ranked 5th, Ergonomic work environment is ranked 6th, Mental health support is ranked 7th and work-life balance is ranked 8th.

Inference:

It is inferred that the employees perceive Safety Measures as the most prioritized aspect of their health and well-being at PreBo, followed by Health Benefits and Health & Safety Training. Lower priorities include Food & Accommodation, Employee Assistance Programs, and Ergonomic Work Environments. Mental Health Support and Work-Life Balance are viewed as the least prioritized areas.

TABLE 3.2.8: Table showing the satisfaction of the Respondents on Communication of health and safety policies

S. No	Communication on Health & Safety		H.	S	N	D..	H.	T
a)	Clarity	Frequency	0	0	29	196	35	260
		Percentage	0	0	12	75	13	100
b)	Accessibility	Frequency	0	0	36	224	0	260
		Percentage	0	0	14	86	0	100
c)	Training Programs	Frequency	0	0	50	196	14	260
		Percentage	0	0	19	75	5	100

d)	Regular Updates	Frequency	0	0	42	210	8	260
		Percentage	0	0	16	81	3	100
e)	Feedback Mechanisms	Frequency	0	0	36	224	0	260
		Percentage	0	0	14	86	0	100
f)	Integration with daily operation	Frequency	0	0	231	29	0	260
		Percentage	0	0	89	11	0	100
g)	Employee Engagement	Frequency	0	0	56	196	7	260
		Percentage	0	0	21	75	2	100
h)	Enforcement & Accountability	Frequency	0	0	42	210	8	260
		Percentage	0	0	16	81	3	100

Findings:

From the above table it is found that Clarity, Accessibility, and Feedback Mechanisms each show a majority of respondents being dissatisfied (75%, 86%, and 86%, respectively). Training Programs and Employee Engagement also reflect considerable dissatisfaction at 75%. Regular Updates and Enforcement & Accountability are both predominantly rated as dissatisfactory by about 81% of respondents. The Integration with Daily Operations has a neutral response rate of 89%.

Inference:

It is inferred that there is dissatisfaction among respondents, with major concerns centered around the clarity, accessibility, and feedback mechanisms of communication. While there is a notable exception in the integration with daily operations, which shows a higher rate of neutral responses, overall, the data underscores a critical need for the organization to improve its communication strategies and enhance engagement and accountability measures to address employee concerns effectively.

CHART 3.2.8: Chart showing the satisfaction of the Respondents on Communication of health and safety policies

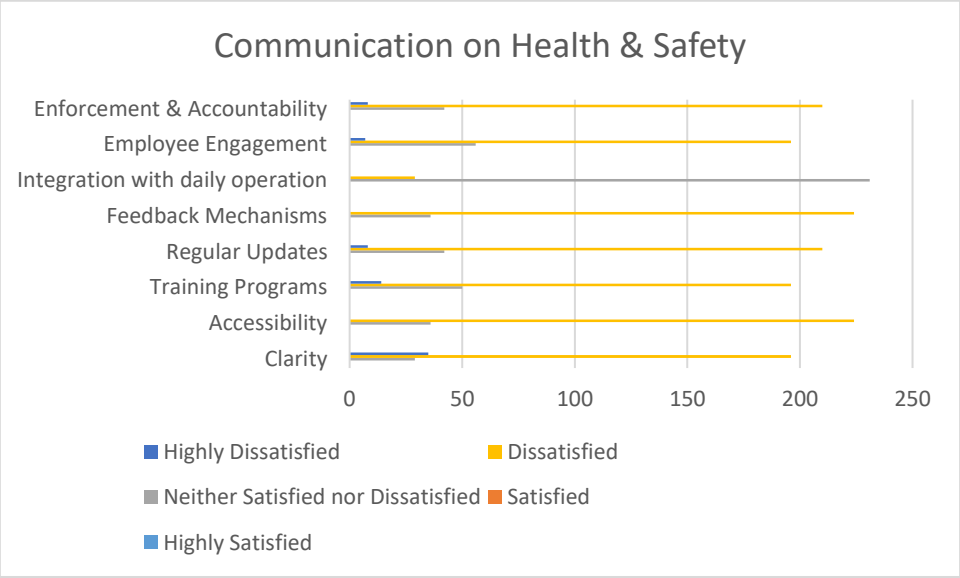


TABLE 3.2.9: Table showing the Health & Safety practices addressing specific needs and concerns of the Respondents

S. No	Addressing needs & concerns	No. of Respondents	Percentage
a)	Not at all	0	0
b)	Slightly	0	0
c)	Moderately	57	22
d)	Very Well	203	78
e)	Extremely Well	0	0
	Total	260	100

Findings:

From the above table it is observed that, 78% respondents feel their needs and concerns are addressed very well, while 22% respondents feel they are addressed moderatelyThere are no respondents who feel their needs and concerns are addressed either not at all, slightly, or extremely well.

Inference:

It is inferred that, a high level of satisfaction (78%) among the majority of respondents regarding how their needs and concerns are addressed, with most feeling that they are managed very well.

CHART 3.2.9: Chart showing the Health & Safety practices addressing specific needs and concerns of the Respondents

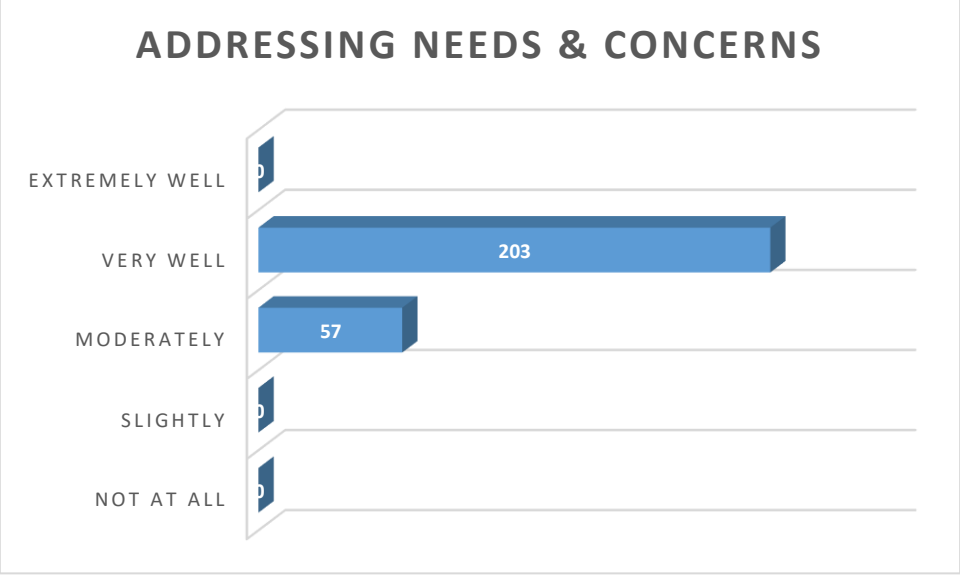


TABLE 3.2.10: Table showing the satisfaction with the accessibility of Welfare measures provided to the respondents

S. No	Satisfaction with Welfare measures	No. of Respondents	Percentage
a)	Yes	232	89
b)	No	28	11
	Total	260	100

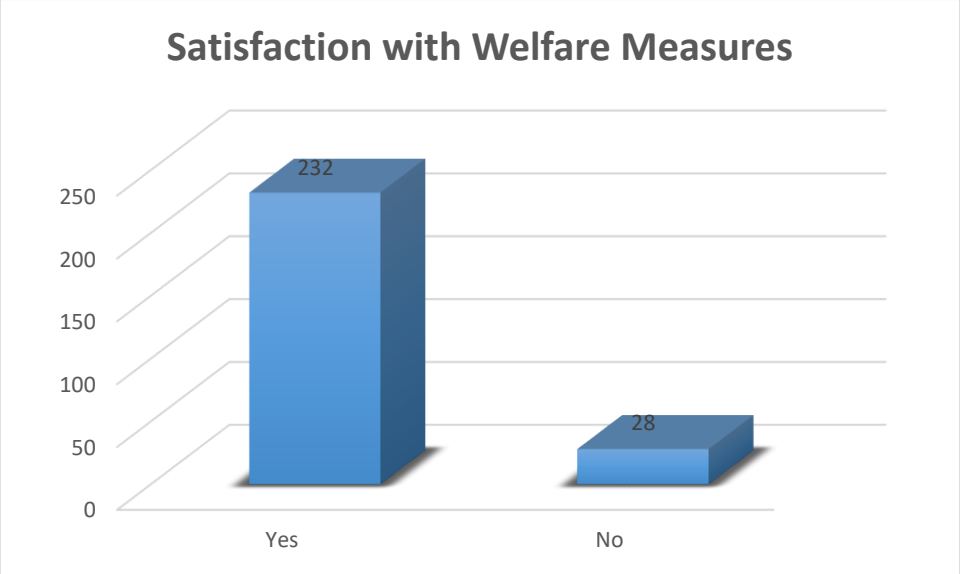
Findings:

From the above table it is observed that, 89% individuals, expressed satisfaction with the welfare measures in place, whereas 11%, respondents, indicated dissatisfaction

Inference:

It is inferred that, the welfare measures implemented are effectively meeting the needs of most employees (89%).

CHART 3.2.10: Chart showing the satisfaction with the accessibility of Welfare measures provided to the respondents



Interval Estimation:

$$p \pm Z\propto/2\sqrt{pq}/n$$

When n = 260,

p = $\frac{x}{n}$ = $\frac{232}{260}$ = 0.89,

q = 1-p = 0.11,

Z∝/2 = 1.96

At 95%, the Confidence Interval for p is,

$p \pm Z\propto/2\sqrt{pq}/n$

= $0.89 \pm 1.96\sqrt{0.89(0.11)}/260$

= 0.89 ± 0

= p (0.89, 0.89)

Inference:

At a 95% confidence interval, the proportion of respondents who are satisfied with the accessibility of welfare measures is estimated as 89%.

TABLE 3.2.11: Table showing the Impact of Welfare measures implemented to the respondents

S. No	Impact of Welfare measures		V	L	M	H	V	T
a)	Healthcare Benefits	Frequency	8	14	56	182	0	260
		Percentage	3	5	21	71	0	100
b)	Work-Life balance Initiatives	Frequency	35	84	91	42	8	260
		Percentage	13	32	35	16	3	100
c)	Professional Development Opportunities	Frequency	8	14	35	196	7	260
		Percentage	3	5	13	75	3	100
d)	Financial Wellness Support	Frequency	8	7	49	189	7	260
		Percentage	3	3	19	73	3	100
e)	Employee Assistance Programs	Frequency	0	28	126	106	0	260
		Percentage	0	11	48	41	0	100
f)	Inclusive & Supportive workplace culture	Frequency	0	14	92	154	0	260
		Percentage	0	6	35	59	0	100
g)	Recognition & Reward Systems	Frequency	0	14	28	15	203	260
		Percentage	0	5	11	8	78	100
h)	Safety & Security measures	Frequency	0	14	50	196	0	260
		Percentage	0	6	19	75	0	100

Findings:

From the above table it is observed that, Healthcare Benefits and Safety & Security Measures are highly regarded, with 79% and 75% of respondents respectively feeling a high impact. Professional Development Opportunities and Financial Wellness Support also reflect strong positive impacts, rated high by 75% and 73% of respondents. In contrast, Recognition & Reward Systems, although largely seen as having a very high impact by 78%, indicate potential dissatisfaction or misalignment in more moderate impact perceptions. Work-Life Balance Initiatives exhibit a balanced spread across all impact levels, suggesting mixed effectiveness. Meanwhile, Employee Assistance Programs and an Inclusive & Supportive Workplace Culture are primarily viewed as having moderate to high impacts, indicating general but not overwhelming positivity.

Inference:

It is inferred that Benefits, Safety & Security Measures, Professional Development Opportunities, and Financial Wellness Support are highly effective, garnering strong positive responses from the majority of employees, other areas show room for improvement. Recognition & Reward Systems, although rated very high by many, also show signs of dissatisfaction among a significant minority, suggesting misalignment or inconsistent experiences. Work-Life Balance Initiatives and Employee Assistance Programs, along with efforts to foster an Inclusive & Supportive Workplace Culture, receive mixed reactions, indicating a moderate but not fully satisfactory impact.

CHART 3.2.11: Chart showing the Impact of Welfare measures implemented to the respondents

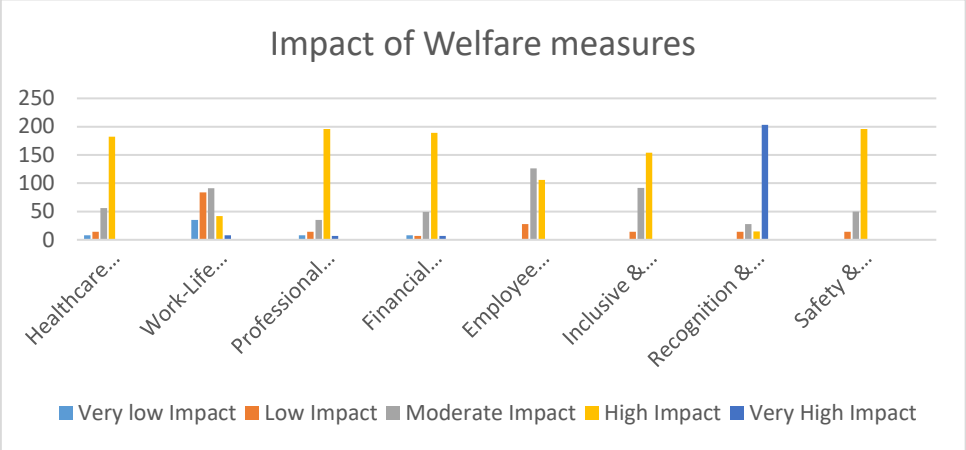


TABLE 3.2.12: Table showing on how the respondents assess the quality of accessibility, relevance & impact of Welfare measures provided

S. No	Accessing Welfare measures	No. of Respondents	Percentage
a)	Very Poor	0	0
b)	Poor	0	0
c)	Neutral	49	19
d)	Good	211	81
e)	Excellent	0	0
	Total	260	100

Findings:

From the above table it is observed that, 81% respondents rate their access to welfare measures as good, while 19% respondents feel neutral about their access. None of the respondents rated their access as very poor, poor, or excellent.

Inference:

It is inferred that, the respondents have rated the access to welfare measures as good (81%) which indicates a generally positive perception of accessibility, suggesting that the majority find the measures sufficiently available and manageable.

CHART 3.2.12: Chart showing on how the respondents assess the quality of accessibility, relevance & impact of Welfare measures provided

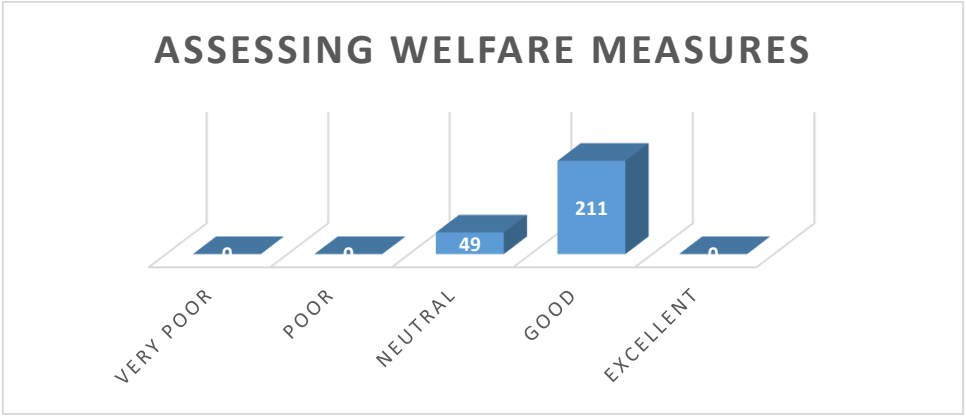


TABLE 3.2.13: Table showing the Level of agreement on Welfare measures provided to the respondents

S. No	Level of agreement	No. of Respondents	Percentage
a)	Strongly Disagree	0	0
b)	Disagree	7	3
c)	Neutral	63	24
d)	Agree	190	73
e)	Strongly Agree	0	0
	Total	260	100

Findings:

From the above table it is observed that, 73% respondents agree with the statement presented, indicating a high level of agreement, 24% respondents remain neutral, while a small number, 3% respondents, disagree. There are no respondents who strongly disagree or strongly agree.

Inference:

It is inferred that, the high percentage of respondents are agreeing (73%) on the Welfare measures provided, suggesting a general consensus or approval of the surveyed topic among the majority.

CHART 3.2.13: Chart showing the Level of agreement on Welfare measures provided to the respondents

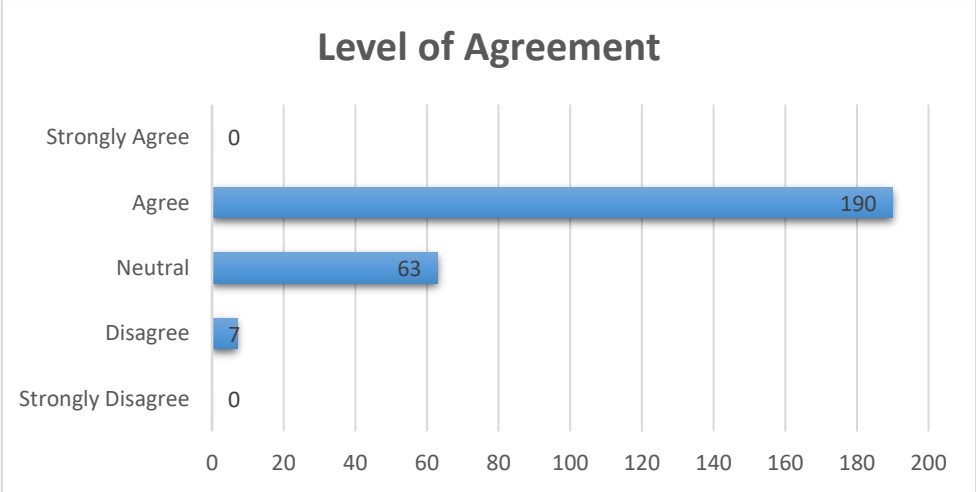


TABLE 3.2.14: Table showing how the respondents feel about the Safety measures provided address the potential hazards in the workplace

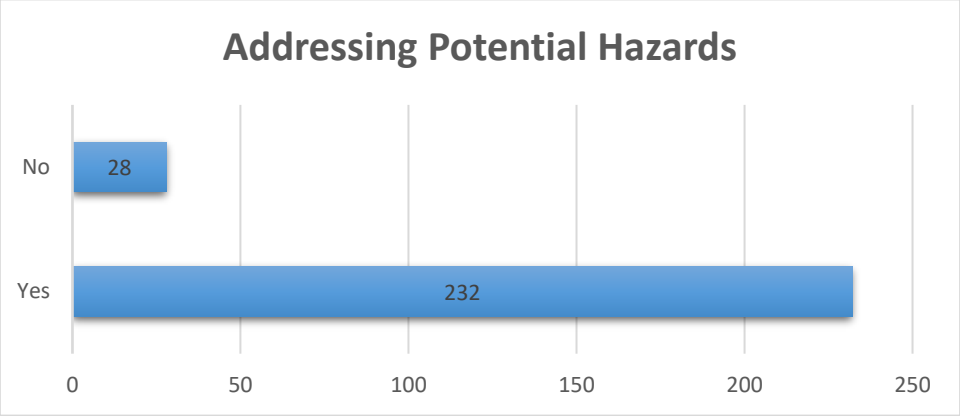
S. No	Addressing potential hazards	No. of Respondents	Percentage
a)	Yes	232	89
b)	No	28	11
	Total	260	100

Findings:

From the above table it is observed that, a significant majority of 89% respondents affirm that potential hazards are effectively addressed, while 11% respondents believe that they are not adequately addressed.

Inference:
It is inferred that, the strong majority are indicating that potential hazards are well-managed (89%), which suggests that safety measures and hazard responses are generally perceived as effective, aligning with organizational safety policies and practices.

CHART 3.2.14: Chart showing how the respondents feel about the Safety measures provided address the potential hazards in the workplace



Interval Estimation:

$$p \pm Z\propto/2\sqrt{pq}/n$$

When n = 260,
p = $\frac{x}{n} = \frac{232}{260}$ = 0.89,
q = 1-p = 0.11,
Z∝/2 = 1.96
At 95%, the Confidence Interval for p is,
$p \pm Z\propto/2\sqrt{pq}/n$
= $0.89 \pm 1.96\sqrt{0.89(0.11)}/260$
= 0.89 ± 0
= p (0.89, 0.89)

Inference:
At a 95% confidence interval, the estimation suggests that 89% of the respondents feel that the safety measures provided effectively address potential hazards in the workplace.

TABLE 3.2.15: Table showing the Agreement on safety measures enforced are consistently followed by the respondents

S. No	Agreement on Safety measures	No. of Respondents	Percentage
a)	Strongly Disagree	0	0
b)	Disagree	0	0
c)	Neutral	28	89
d)	Agree	232	11
e)	Strongly Agree	0	0
	Total	260	100

Findings:

From the above table it is observed that, 89% respondents agree that the measures are adequate, 11% respondents, remains neutral, indicating neither agreement nor disagreement. There are no respondents who disagree or strongly disagree, nor are there any who strongly agree.

Inference:

It is inferred that, the majority of respondents are satisfied (89%) with the current safety protocols and procedures.

CHART 3.2.15: Chart showing the Agreement on safety measures enforced are consistently followed by the respondents

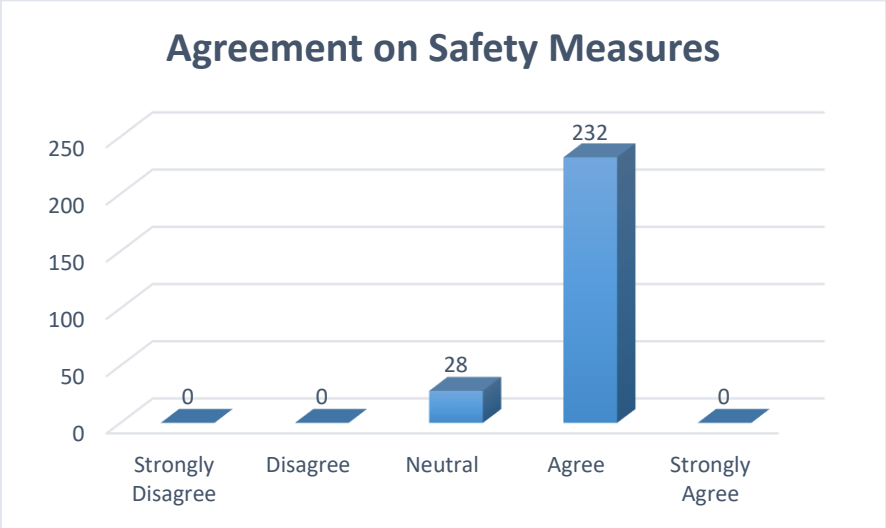


TABLE 3.2.16: Table showing the effectiveness of safety training programs that ensures the respondents understanding with safety protocols

S. No	Impact of Welfare measures		V	I	N	E	V	T
a)	Leadership Support	Frequency	0	0	63	189	7	260
		Percentage	0	0	24	73	3	100
b)	Trainer Competency	Frequency	0	0	42	196	21	260
		Percentage	0	0	16	75	8	100
c)	Delivery Methods	Frequency	0	0	189	63	70	260
		Percentage	0	0	73	24	27	100
d)	Interactive Elements	Frequency	0	0	190	70	0	260
		Percentage	0	0	73	27	0	100
	Follow-up & Reinforcement	Frequency	0	0	42	182	35	260
		Percentage	0	0	16	70	13	100

Findings:

From the above table it is observed that, the strongest aspects are Leadership Support and Trainer Competency, with 73% and 75% of respondents respectively finding these elements effective or very effective. Delivery Methods and Interactive Elements present areas of concern, with a majority of respondents (73% each) rating them as neutral, indicating a lack of strong impact. Follow-up & Reinforcement seems moderately successful, with 70% rating it effective or very effective.

Inference:

It is inferred that Leadership support and trainer competency are the program's strengths, with most respondents rating these aspects highly. However, the methods of delivering the training and the interactive elements are seen as less impactful, with the majority of responses indicating neutrality, suggesting these areas require significant improvement. Follow-up and reinforcement practices receive a moderately positive assessment, indicating a generally effective approach but also room for enhancement to ensure optimal understanding and implementation of safety protocols.

CHART 3.2.16: Chart showing the effectiveness of safety training programs that ensures the respondents understanding with safety protocols

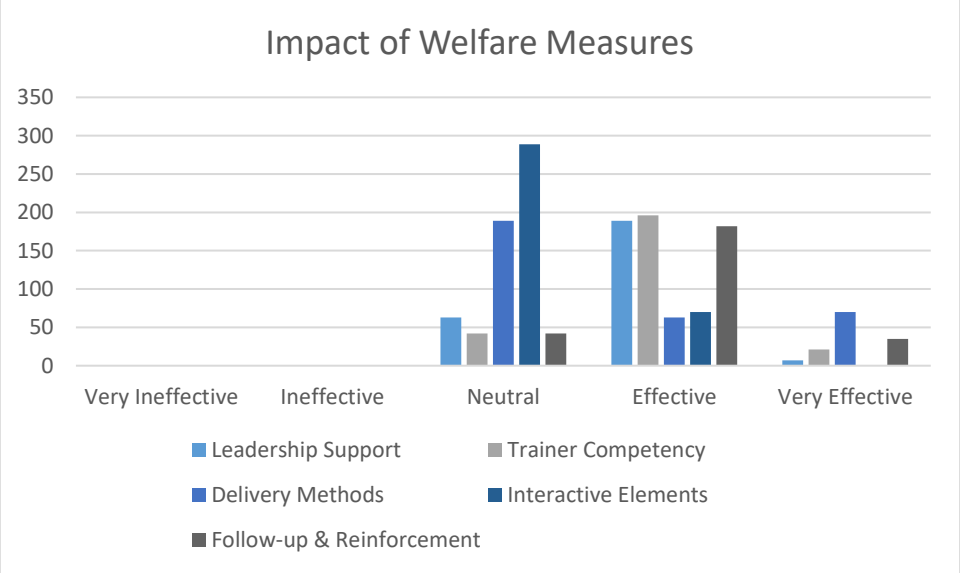


TABLE 3.2.17: Table showing the Level of confidence on the aspect of Safety measures followed by the Management

S. No	Factors	R1	R2	R3	R4	R5	R6	R7	R8	Weights	Rank
		8	7	6	5	4	3	2	1		
a)	Personal Protective Equipment	105	119	0	21	0	0	0	15a	**50**	**R2**
b)	Machine Guarding	0	0	0	0	28	8	56	168	**11**	**R8**
c)	Safety Signage & Labels	119	105	36	0	0	0	0	0	**53**	**R1**
d)	Emergency Preparedness	0	0	0	7	0	14	175	63	**21**	**R7**
e)	Hazard Communication	0	0	0	0	42	182	21	15	**21**	**R6**
f)	Noise & Vibration Control	0	0	0	21	189	50	0	0	**24**	**R5**
g)	Maintenance & Inspection	0	21	98	126	0	7	8	0	**39**	**R4**
h)	Safety training & Education	36	14	126	84	0	0	0	0	**43**	**R3**

Weighted Average:

Weighted Average = $\frac{Sum\ of\ Weighted\ terms}{Total\ number\ of\ terms}$

$$WA_1 = \frac{(105*8)+(119*7)+(0*6)+(21*5)+(0*4)+(0*3)+(0*2)+(15*1)}{36} = 50$$

$$WA_2 = \frac{(0*8)+(0*7)+(0*6)+(0*5)+(28*4)+(8*3)+(56*2)+(168*1)}{36} = 11$$

$$WA_3 = \frac{(119*8)+(105*7)+(36*6)+(0*5)+(0*4)+(0*3)+(0*2)+(0*1)}{36} = 53$$

$$WA_4 = \frac{(0*8)+(0*7)+(0*6)+(7*5)+(0*4)+(14*3)+(175*2)+(63*1)}{36} = 21$$

$$WA_5 = \frac{(0*8)+(0*7)+(0*6)+(0*5)+(42*4)+(182*3)+(21*2)+(15*1)}{36} = 21$$

$$WA_6 = \frac{(0*8)+(0*7)+(0*6)+(21*5)+(189*4)+(50*3)+(0*2)+(0*1)}{36} = 24$$

$$WA_7 = \frac{(0*8)+(21*7)+(98*6)+(126*5)+(0*4)+(7*3)+(8*2)+(0*1)}{36} = 39$$

$$WA_8 = \frac{(36*8)+(14*7)+(126*6)+(84*5)+(0*4)+(0*3)+(0*2)+(0*1)}{36} = 43$$

Findings:

From the above table it is found that, Safety Signage & Labels is Ranked 1st, Personal Protective Equipment is ranked 2nd, Safety training & Education is ranked 3rd, Maintenance & Inspections is ranked 4th, Noise & Vibration Control is ranked 5th, Hazard Communication is ranked 6th, Emergency preparedness is ranked 7th and Machine Guarding is ranked 8th.

Inference:

It is inferred that, Safety Signage & Labels are ranked highest, emphasizing the importance of clear communication in preventing accidents. Personal Protective Equipment follows, highlighting its essential role in individual safety. Safety Training & Education also ranks highly, pointing to the value placed on knowledge and preparedness. In contrast, areas like Emergency Preparedness and Machine Guarding are ranked lower, suggesting these might be seen as less immediately impactful but are still integral to the overall safety strategy.

TABLE 3.2.18: Table showing the Respondents Participation in Training and Awareness program

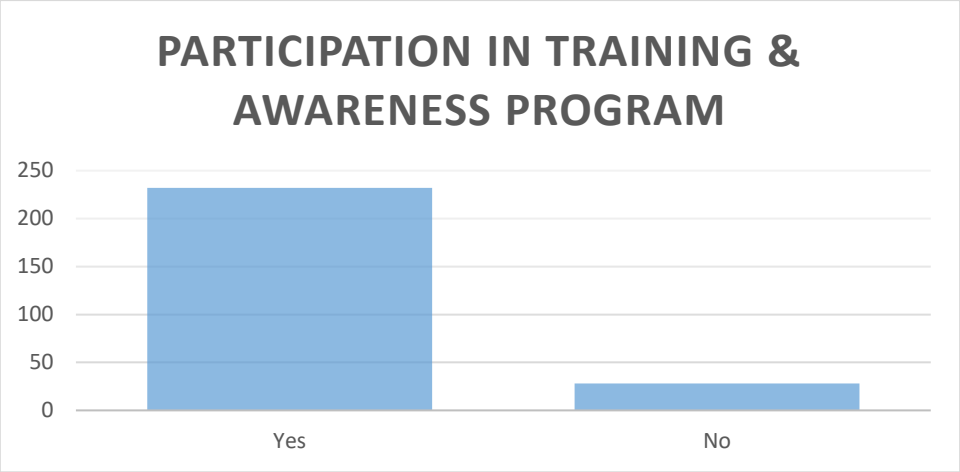
S. No	Participation in Training & Awareness program	No. of Respondents	Percentage
a)	Yes	232	89
b)	No	28	11
	Total	260	100

Findings:

From the above table it is observed that, 89% respondents participated in training and awareness programs, whereas 11% respondents, did not participate.

Inference:
It is inferred that, the high participation rate (89%), suggests effective engagement strategies and a strong alignment with the organization's commitment to continuous learning and development.

CHART 3.2.18: Chart showing the Respondents Participation in Training and Awareness program



Interval Estimation:

$$p \pm Z\propto/2\sqrt{pq}/n$$

When n = 260,
p = $\frac{x}{n} = \frac{232}{280}$ = 0.89,
q = 1-p = 0.11,
Z∝/2 = 1.96
At 95%, the Confidence Interval for p is,
$p \pm Z\propto/2\sqrt{pq}/n$
= 0.89 ± 1.96 $\sqrt{0.89(0.11)}/260$
= 0.89 ± 0
= p (0.89, 0.89)

Inference:
At a 95% confidence interval, the estimation indicates that 89% of the respondents participate in the training and awareness program.

TABLE 3.2.19: Table showing the respondents Agreement on training, effectively educated about health and safety measures in the workplace

S. No	Agreement on training	No. of Respondents	Percentage
a)	Strongly Disagree	0	0
b)	Disagree	0	0
c)	Neutral	49	19
d)	Agree	204	78
e)	Strongly Agree	7	3

	Total	260	100

Findings:

From the above table it is observed that, 78% individuals, agree that the training they received is effective, 3% respondents strongly agree, adding a higher level of approval. Meanwhile, 19% respondents remain neutral, expressing neither agreement nor disagreement, with none explicitly disagreeing or strongly disagreeing.

Inference:

It is inferred that, a high overall satisfaction (78%), with the training programs was evidenced by the majority who agree or strongly agree with the effectiveness of the training

CHART 3.2.19: Chart showing the respondents Agreement on training, effectively educated about health and safety measures in the workplace

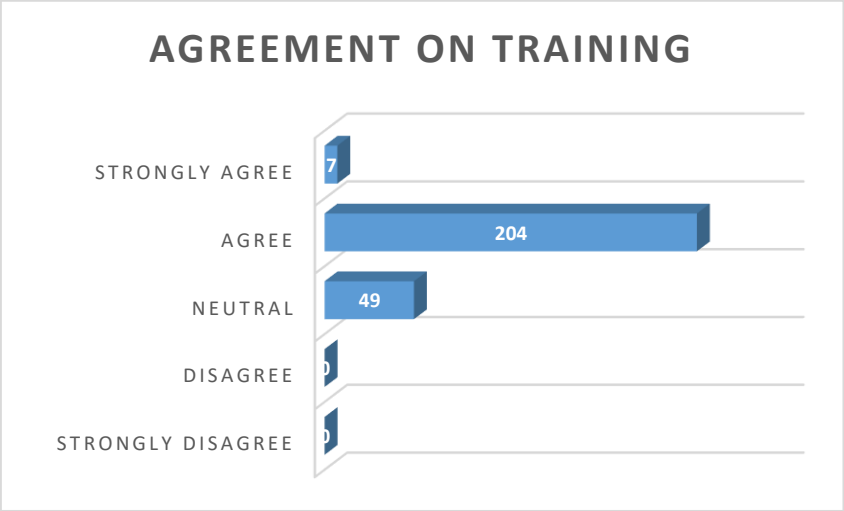


TABLE 3.2.20: Table showing the respondents rating the completeness of Training materials provided during health & safety awareness programs

S. No	Completeness of Training Materials		Inc	So	Ne	Co	Ex	Tot
a)	Coverage of relevant topics	Frequency	7	0	42	210	0	260
		Percentage	3	0	16	80	0	100
b)	Incorporation of Interactive elements	Frequency	0	28	91	140	0	260
		Percentage	0	11	35	54	0	100
c)	Provision of resources for further learning	Frequency	7	0	56	196	0	260
		Percentage	4	0	21	75	0	100
d)	Use of visual aids and examples	Frequency	0	35	196	28	0	260
		Percentage	0	13	75	11	0	100
e)	Incorporation of case studies or real-life scenarios	Frequency	7	7	98	133	14	260
		Percentage	3	3	38	51	5	100
f)	Accessibility of all learners	Frequency	0	7	49	196	7	260
		Percentage	0	3	19	75	3	100

Findings:

From the above table it is observed that, Coverage of relevant topics and the provision of resources for further learning are notably strong, with 80% and 75% of respondents respectively rating them as complete. The incorporation of interactive elements and case studies or real-life scenarios are also positively viewed, with a majority finding them effective. However, the use of visual aids and examples appears less satisfactory, as 75% rate it neutral, suggesting an area for improvement. Overall, while most training aspects are well-received, enhancing visual aids could further improve the effectiveness of the training materials.

Inference:

It is inferred that, the completeness of training materials generally meets the needs of learners, with strong positive feedback on the coverage of relevant topics and provision of resources for further learning, indicating effectiveness in content delivery and accessibility. However, areas like the use of visual aids and examples require significant improvement, as they receive a predominantly neutral response, suggesting they may not be as engaging or clear as needed. While interactive elements and real-life scenarios are effectively incorporated, enhancing visual support could lead to more comprehensive and effective training outcomes, better supporting learner understanding and engagement.

CHART 3.2.20: Chart showing the respondents rating the completeness of Training materials provided during health & safety awareness programs

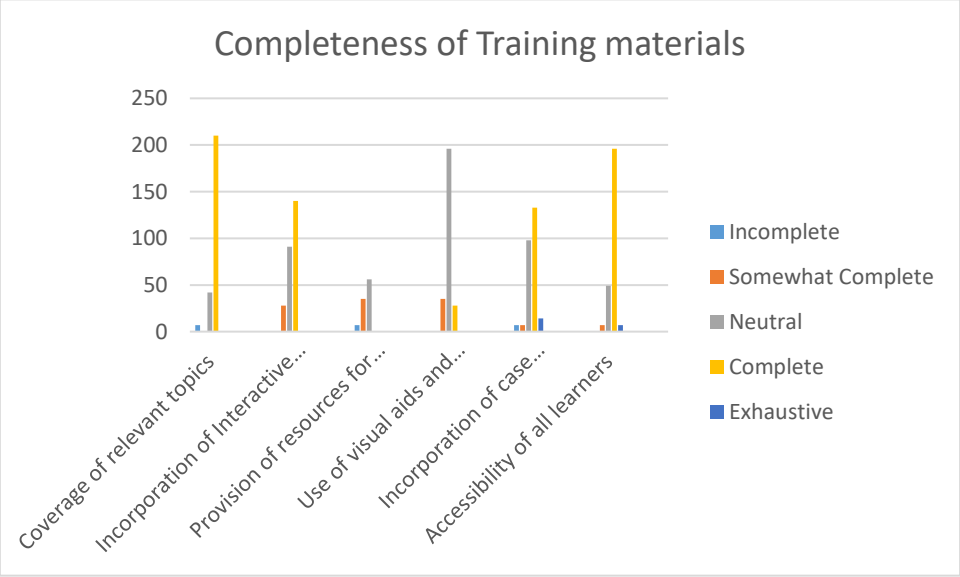


TABLE 3.2.21: Table showing the Confidence level of the respondents in applying the health and safety knowledge gained from the training programs in daily work

S. No	Confidence Level	No. of Respondents	Percentage
a)	Not at all Confident	78	30
b)	Slightly Confident	0	0
c)	Moderately Confident	0	0
d)	Very Confident	182	70
e)	Extremely Confident	0	0
	Total	260	100

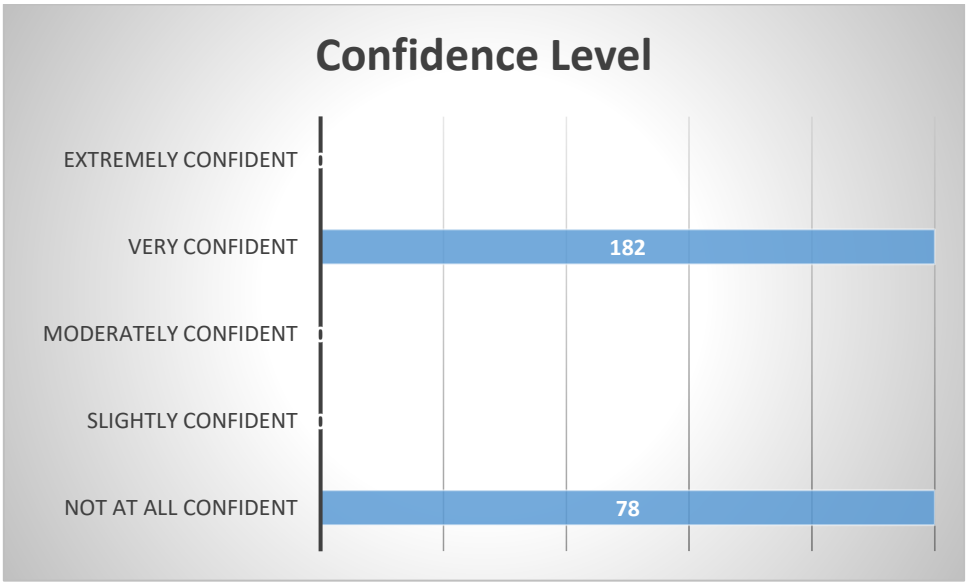
Findings:

From the above table it is observed that, 70% individuals are very confident, while 30% respondents are not at all confident. Notably, there are no respondents in the slightly, moderately, or extremely confident categories.

Inference:

It is inferred that, a majority feel very confident (70%), suggesting that aspects of the environment or training provided are effectively boosting confidence for most participants.

CHART 3.2.21: Chart showing the Confidence level of the respondents in applying the health and safety knowledge gained from the training programs in daily work



3.2.22 Mann-Whitney U Test:

H0: There is no significant difference between the mean rank of Men and Women with respect to health, welfare, safety and training.

H1: There is significant difference between the mean rank of Men and Women with respect to health, welfare, safety and training.

Ranks

	Gender	N	Mean Rank	Sum of Ranks
Health	Men	113	125.41	14045.50
	Women	147	133.50	19624.50
	Total	260		
Welfare	Men	113	121.91	13653.50
	Women	147	136.17	20016.50
	Total	260		

Safety	Men	113	131.31	14707.00
	Women	147	129.00	18963.00
	Total	260		
Training	Men	113	130.66	14633.50
	Women	147	129.50	19036.50
	Total	260		

Test Statistics[a]

	Health	Welfare	Safety	Training
Mann-Whitney U	7.718E3	7.326E3	8.085E3	8.158E3
Wilcoxon W	1.405E4	1.365E4	1.896E4	1.904E4
Z	-.929	-1.533	-.262	-.126
Asymp. Sig. (2-tailed)	.353	.125	.793	.900

a. Grouping Variable: Gender

Findings:

From the results of the test, since **P-values 0.353, 0.125, 0.793, 0.900 > 0.05**, the Null Hypothesis (H0) is accepted. This shows that there is no significant difference between the mean rank of Men and Women with respect to health, welfare, safety and training.

Inference:

From the H-test results, it is inferred that the organizational measures in the areas like Health, Welfare, Safety and Training are perceived equitably by men and women, reflecting effective and inclusive practices.

3.2.23 Kruskal Wallis Test (H-Test) -Age:

H0: There is no significant difference among the mean ranks of Age with respect to Health, Welfare, Safety and Training.

H1: There is significant difference among the mean rank of Age with respect to Health, Welfare, Safety and Training.

Ranks

	Age	N	Mean Rank
Health	Below 25	29	99.38
	26 - 30	175	132.66
	31 - 40	35	160.10
	Above 40	21	98.50
	Total	260	
Welfare	Below 25	29	98.50

	26 - 30	175	135.46
	31 - 40	35	132.80
	Above 40	21	121.83
	Total	260	
Safety	Below 25	29	90.62
	26 - 30	175	130.56
	31 - 40	35	153.10
	Above 40	21	139.33
	Total	260	
Training	Below 25	29	106.38
	26 - 30	175	132.94
	31 - 40	35	151.70
	Above 40	21	100.83
	Total	260	

Test Statistics[a,b]				
	Health	Welfare	Safety	Training
Chi-Square	16.575	6.300	12.944	9.584
df	3	3	3	3
Asymp. Sig.	.001	.098	.005	.022
a. Kruskal Wallis Test				
b. Grouping Variable: Age				

Findings:

From the results of H-test, Since the **P-Values 0.001, 0.005, 0.022 < 0.05**, the Null Hypothesis (H0) is rejected. Hence, there is significant difference between mean rank of respondents on Age with respect to Health, Safety and Training. But, the **P-Value 0.098 > 0.05**, The Null Hypothesis (H0) is accepted. Hence, there is no significant difference between mean rank of respondents on Age with respect to Welfare.

Inference:

The individuals aged 30-40 report better health (mean rank – 160.10) and safety conditions (mean rank – 153.10), and also receive more effective training (mean rank – 151.70). This evidence suggests that while health, safety, and training experiences improve with age. These insights underscore the importance of age-inclusive strategies in organizational health, safety, and training programs to enhance overall employee welfare and productivity.

3.2.24 H – Test – Experience with the company:

H0: There is no significant difference among the mean ranks of respondents on Experience in the company with respect to Health, Safety and Training.

H1: There is significant difference among the mean rank of respondents on Experience in the company with respect to Health, Safety and Training.

Ranks			
	Years with the company	N	Mean Rank
Health	0 - 2 years	49	93.00
	3 - 5 years	126	138.17
	6 - 10 years	57	144.00
	Above 10 years	28	130.00
	Total	260	
Welfare	0 - 2 years	49	91.00
	3 - 5 years	126	154.31
	6 - 10 years	57	127.38
	Above 10 years	28	94.12
	Total	260	
Safety	0 - 2 years	49	73.50
	3 - 5 years	126	151.00
	6 - 10 years	57	118.62
	Above 10 years	28	157.12
	Total	260	
Training	0 - 2 years	49	90.50
	3 - 5 years	126	146.14
	6 - 10 years	57	123.88
	Above 10 years	28	138.75
	Total	260	

Test Statistics[a,b]				
	Health	Welfare	Safety	Training
Chi-Square	17.903	33.683	48.527	21.130
df	3	3	3	3
Asymp. Sig.	.000	.000	.000	.000
a. Kruskal Wallis Test				
b. Grouping Variable: Years with the company				

Findings:

From the results of H-test, Since the **P-Values 0.000 < 0.05**, the Null Hypothesis (H0) is rejected. Hence, there is significant difference between mean rank of respondents on Experience in the company with respect to Health, Safety and Training.

Inference:

The employees with 6–10 years of service report the highest health satisfaction (mean rank – 144), suggesting a positive correlation between medium-term tenure and perceived health outcomes. Those with 3–5 years of experience rate welfare (mean rank – 154.31) and training highest, indicating that earlier stages of employment might benefit from focused welfare and training initiatives. Meanwhile, employees with over 10 years of experience perceive safety most favorably (mean rank – 157.12), reflecting perhaps a deeper familiarity with or adaptation to the company's safety culture over time. These findings underscore the importance of tailoring health, safety, and training programs to the varying needs and perceptions of employees at different stages of their tenure, enhancing overall job satisfaction and organizational commitment.

3.2.25 H – Test – Qualification

H0: There is no significant difference among the mean ranks of respondents on Qualification with respect to Health, Safety and Training.

H1: There is significant difference among the mean rank of respondents on Qualification with respect to Health, Safety and Training.

Ranks			
	Qualification	N	Mean Rank
Health	High School	8	144.00
	Diploma	49	190.00
	UG	112	137.44
	PG	63	91.11
	Vocational	28	79.25
	Total	260	
Welfare	High School	8	67.00
	Diploma	49	144.50
	UG	112	149.47
	PG	63	108.61
	Vocational	28	90.62
	Total	260	

Safety	High School	8	46.00
	Diploma	49	148.00
	UG	112	137.22
	PG	63	108.22
	Vocational	28	139.62
	Total	260	
Training	High School	8s	151.00
	Diploma	49	176.00
	UG	112	144.22
	PG	63	92.28
	Vocational	28	72.25
	Total	260	

Test Statistics[a,b]				
	Health	Welfare	Safety	Training
Chi-Square	72.757	27.756	20.958	58.158
df	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000
a. Kruskal Wallis Test				
b. Grouping Variable: Qualification				

Findings:

From the results of H-test, Since the **P-Values 0.000 < 0.05**, the Null Hypothesis (H0) is rejected. Hence, there is significant difference between mean ranks of respondents on Qualification with respect to Health, Safety and Training.

Inference:

From the Ranks of the H-Test table, the Employees with Diploma degree have good Health (Mean rank - 163.66), The Employees with UG degree have good Welfare, the Employees with Diploma degree have good Safety (Mean Rank – 132.50), and the Employees with Diploma degree have good Training (Mean Rank – 149).

The Employees holding a Diploma degree report the highest satisfaction levels regarding health (mean rank – 163.66), safety (mean rank – 132.50), and training (mean rank – 149), suggesting that this group perceives the workplace environment more positively in these aspects. Conversely, those with an Undergraduate (UG) degree express higher satisfaction with welfare (Mean Rank-128.69), indicating varied perceptions based on educational background.

3.2.26 Chi – Square Test:

H0: There is no significant association between Age and Welfare measures.

H1: There is significant association between Age and Welfare measures.

Gender * Welfare Crosstabulation															
Count		Welfare													Total
		20	26	32	33	35	36	37	38	39	40	41	42	44	
Gender	Female	0	0	14	7	14	7	7	14	21	35	21	7	0	147
	Male	7	7	14	0	0	0	0	42	14	0	14	7	7	112
Total		7	7	28	7	14	7	7	56	35	35	35	14	7	259

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.050E2[a]	12	.000
Likelihood Ratio	138.878	12	.000
N of Valid Cases	259		
a. 12 cells (46.2%) have expected count less than 5. The minimum expected count is 3.03.			

Findings:

From the results of H-test, Since the **P-Values 0.000 < 0.05**, the Null Hypothesis (H0) is rejected. Hence, there is significant association between Age and Welfare measures.

Inference:

From the above table it is inferred that, the differences in perceptions or benefits derived from welfare measures within the organization are influenced by the age of the employees. Such an outcome highlights the need to consider age-specific preferences and requirements when designing and implementing welfare measures, ensuring that they effectively cater to the diverse needs of different age groups within the workforce.

3.2.27 Spearman's Rank Correlation:

Correlations						
			Health	Welfare	Safety	Training
Spearman's rho	Health	Correlation Coefficient	1.000	.397**	.536**	.435**
		Sig. (2-tailed)	.	.000	.000	.000
		N	260	260	260	260
	Welfare	Correlation Coefficient	.397**	1.000	.544**	.518**
		Sig. (2-tailed)	.000	.	.000	.000
		N	260	260	260	260
	Safety	Correlation Coefficient	.536**	.544**	1.000	.391**
		Sig. (2-tailed)	.000	.000	.	.000
		N	2609	260	260	260

	Training	Correlation Coefficient	.435**	.518**	.391**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	260	260	260	260
**. Correlation is significant at the 0.01 level (2-tailed).						

Inference:

The findings from Spearman's Rank Correlation indicate strong positive correlations among health, welfare, safety, and training, with all correlation coefficients significantly exceeding the threshold of 0.07.

- The correlation between health and welfare (0.397), health and safety (0.536), and health and training (0.435) underscores the foundational role of employee health in promoting overall welfare, ensuring a safe work environment, and enhancing the effectiveness of training programs. This implies that healthier employees are likely to perceive higher welfare, feel safer, and benefit more from training.
- Welfare's strong correlations with health (0.397), safety (0.544), and training (0.518) suggest that employees who perceive higher welfare are also likely to report better health outcomes, feel more secure in their work environment, and find training programs more beneficial. This points towards welfare measures as crucial drivers for holistic employee well-being and development.
- Safety's significant correlations with health (0.536), welfare (0.544), and training (0.391) indicate that a safe working environment contributes to better health perceptions, higher welfare, and improved training outcomes. It suggests that safety is a critical component that supports health and welfare initiatives and enhances the receptivity to and effectiveness of training.
- Training's correlations with health (0.435), welfare (0.518), and safety (0.391) highlight the role of training not just in skill development but also in promoting health, welfare, and safety. Effective training programs can therefore be seen as integral to fostering a supportive and safe work culture that prioritizes employee well-being.

3.4 FINDINGS

- The majority of respondents are women (57%) in the age group of 26-30 years (68%), with 43% holding an undergraduate degree and 73% being married. This suggests that the survey might be more accessible or relevant to this demographic.
- A significant portion of the workforce is in the early to mid-stages of their careers, with 48% having 3-5 years of experience, indicating that the company's policies may be particularly appealing to less experienced professionals.
- There is a high level of satisfaction (89%) with the adequacy of resources provided. Safety measures are prioritized highly, with 89% satisfaction regarding the management of potential hazards and current safety protocols.
- There is dissatisfaction with the clarity, accessibility, and feedback mechanisms of communication, though a strong satisfaction rate (78%) shows that employee needs and concerns are generally well-addressed. Additionally, mental health support and work-life balance are perceived as the least prioritized areas, suggesting room for improvement in these aspects.
- Training programs are well-received (78% satisfaction), with leadership support and trainer competency noted as strengths. However, there is a need for improvement in the methods of delivering training and enhancing interactive elements.

- The perceptions of health, welfare, safety, and training are seen as equitable across gender lines. However, age seems to play a role in how employees perceive these factors, with different age groups reporting varied satisfaction levels, highlighting the importance of age-inclusive strategies.
- Employees with different lengths of service and educational backgrounds report varying levels of satisfaction, underlining the importance of tailored programs to meet these diverse needs effectively.
- Strong correlations among perceptions of health, welfare, safety, and training emphasize the interconnected nature of these areas and the need for a holistic approach to employee well-being and development.

3.5 SUGGESTIONS

Enhance Communication Practices:

- Implement more robust communication channels that ensure clarity and accessibility of information.
- Establish regular feedback loops with employees to gather input and respond to concerns promptly, improving the overall communication strategy.

Prioritize Mental Health and Work-Life Balance:

- Develop or expand programs focused on mental health support, such as counselling services and stress management workshops.
- Promote and support work-life balance through flexible work arrangements, such as telecommuting options and flexible hours.

Refine Training Programs:

- Update training delivery methods to be more engaging and interactive, incorporating modern educational technologies and methodologies.
- Provide ongoing training opportunities that cater to the diverse skill sets and career stages within the organization.

Address Recognition and Reward Systems:

- Review and potentially overhaul the existing recognition and reward systems to address noted dissatisfaction and ensure they align better with employee contributions and expectations.
- Consider introducing peer recognition programs and non-monetary rewards to diversify the incentives provided.

Tailor Programs to Different Age Groups:

- Implement age-specific initiatives that address the unique needs and preferences of various age groups, especially in areas like health, safety, and training, where age-related differences in perceptions were noted.
- Conduct further research to understand the specific needs of each age group to better tailor these initiatives.

Improve Safety Training and Emergency Preparedness:

- Despite high satisfaction with safety measures, continue to invest in and update safety training programs to maintain high standards.
- Enhance emergency preparedness and machine guarding to ensure comprehensive safety coverage that aligns with best practices and regulatory requirements.

Foster Inclusivity and Equity:

- Continue to monitor and promote equity in health, welfare, safety, and training perceptions across

gender and other demographic lines.
- Ensure that all policies and practices are inclusive and supportive of a diverse workforce.

Customize Initiatives Based on Employee Tenure and Educational Background:
- Develop targeted initiatives that address the specific needs and preferences of employees based on their tenure and educational backgrounds.
- Offer specialized programs for career advancement that cater to both undergraduate and postgraduate employees.

CONCLUSION

Based on the analysis at PreBo Automotive Pvt. Ltd., it is evident that customizing health, wellbeing, and safety practices to meet the diverse needs of the workforce enhances employee satisfaction and safety outcomes. Investing in targeted programs for various demographic groups, especially younger employees and those with different educational backgrounds, helps bridge satisfaction and safety gaps. By prioritizing skills-based hiring and continuous training, PreBo Automotive fosters a diverse, inclusive, and efficient work environment. Enhancements in emergency preparedness, machine guarding, and safety training, along with expanded mental health support and work-life balance initiatives, contribute to a safer, more supportive workplace. These efforts not only position PreBo Automotive as a leading employer in the automotive industry but also set benchmarks for best practices, promoting a model for others to follow, and ensuring a society where everyone can thrive and contribute productively.

ANNEXURE

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