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A STUDY ON BEHAVIOR BASED SAFETY INTERVENTIONS AND ITS IMPACT ON EMPLOYEE'S PERFORMANCE

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ABSTRACT

This study examines behavior-based safety interventions and their impact on employee performance within Brakes India Private Limited. The objective was to analyze employee perceptions, engagement levels, challenges, and the effectiveness of safety communication. Through surveys and data analysis, findings revealed that employees prioritize safety, yet there are areas for improvement such as clearer safety protocols and better leadership support. The study utilized surveys and statistical tools such as Mann-Whitney U test, Kruskal Wallis H test, Spearman's Correlaion methods to gather and analyze data, providing valuable insights for organizations aiming to strengthen safety practices and cultivate a positive work environment. Suggestion include enhancing safety training, ensuring equipment availability, and promoting two-way communication. Implementing these recommendations can enhance safety practices, create a workplace where employees feel valued, and foster a positive safety culture. This approach not only reduces risks and improves safety but also contributes to improved performance and employee well-being.

Keywords: Behaviour based safety, Employee Perceptions, Engagement level

INTRODUCTION

Behavior-based safety programs play a pivotal role in contemporary workplaces, particularly in industries where safety is of utmost concern. These programs are designed to focus on the behaviors and actions of employees, aiming to prevent accidents and promote a safer work environment. Within the context of Brakes India Private Limited, a leading organization in the automotive industry, the implementation of behavior-based safety interventions holds significant importance. Understanding how these programs impact employee performance is crucial for enhancing safety practices, reducing accidents, and fostering a culture where safety is ingrained as a core value. Behavior-based safety interventions are proactive measures implemented in workplaces to promote safe behaviors among employees. These interventions focus on observing, analyzing, and modifying behaviors to prevent accidents and improve overall safety culture.

Behavior based safety interventions aim to influence both safety climate (immediate perceptions and behaviors) and safety culture (long-term values and norms). Conducting behavioral safety observations is a key component of Behavior based safety. Observers are trained to look for specific behaviors related to safety, such as wearing PPE, following procedures, and maintaining proper posture. Observations should be conducted regularly and across various work shifts to ensure a comprehensive view of safety behaviors. The data collected from observations is then used for analysis and feedback. Behavior based safety draws upon psychological principles to understand and modify behaviors. Concepts such as reinforcement theory, positive reinforcement, social learning theory, and cognitive-behavioral approaches are often applied in Behavior based safety interventions. For example, positive reinforcement involves

rewarding safe behaviors to increase the likelihood of their repetition. Social learning theory suggests that employees learn safe behaviors by observing and modeling the behaviors of others.

NEED OF THE STUDY

The study of behavior-based safety interventions and their impact on employee performance within Brakes India Private Limited is essential for several compelling reasons. It is crucial to understand the perception of safety among employees which provides critical insights into their attitudes and beliefs towards safety protocols, enabling the identification of areas requiring improvement or reinforcement.

OBJECTIVES OF THE STUDY

- To analyze the perception of safety among employees within the organization.
- To assess the level of employee engagement and satisfaction with the safety practices that are followed by the organization.
- To identify the challenges or obstacles that hinder the initiatives.
- To assess the clarity and effectiveness of communication regarding safety expectations, updates, and feedback mechanisms.

REVIEW OF LITERATURE

1. Harbans La and E.M. Choueir (2023), in their title "The integration of behavior-based safety (BBS) as a company value is advocated!" states that human mistake is a factor in almost all incidents involving hazardous materials. A thorough safety culture framework combines data from several conceptualizations to demonstrate how safety culture develops and what factors affect it.
2. Bikarama Prasad Yadav, Nikhil Verma, Akshay Kant Mishra, N. A. Siddiqui & Devendra Gill (2022), in their title "Usage of Behavioral-Based Safety Approach for Improving Worker Performances in Construction Sector: A Review" states that in the 48,000 occupational accidents that occur each year, the Indian construction industry alone accounts for 24.20% of the deaths. Considering historical incidents and examining employee behavior,
3. Dr. Harbans Lal Kaila (2020), in his title "Planned Intervention of Behaviour-Based Safety (BBS) Helps Organizations Improve Their Safety Time Arithmetic" states that the firms may enhance safety time arithmetic to achieve good safety culture outcomes that would save lives and increase revenue. Committed corporate leaders should be inspired by the suffering caused by daily fatalities at sites to attain zero harm, zero at-risk behaviors, and positive safety actions at all costs.
4. G. V. Arockia Kabil, V. Sundararaju (2019), in their title "Behaviour Based Safety in Workplace" states that discussions, studies, and research on workplace safety are ongoing. Conventional safety programs assign higher management in each organization the duty of preventing accidents and coordinating safety measures. Presently, the industry is employing the Behaviour Based Safety (BBS) approach as an alternative.
5. Steve Roberts, E. Scott Geller (2017), in their title "Principles of Behavior-Based Safety" states that Behavior-based safety (BBS) is centered on recognizing critical behaviors that have the potential to cause harm or prevent it, analyzing the factors that influence these behaviors, and creating interventions to increase the frequency of safe behavior and reduce the incidence of at-risk behavior. Line-level workers have historically been active in behavior-based safety, with backing from the leadership.

RESEARCH METHODOLOGY

Research methodology serves as a blueprint delineating the systematic and logical path a researcher follows to investigate a specific research problem. It encompasses the strategies and techniques employed to ensure the credibility and validity of the study's findings, aligning with the researcher's objectives and goals. Descriptive research is a research method describing the characteristics of the population or phenomenon under investigation. In this study, data collection occurs through two distinct sources, they are Primary data and Secondary data. In this study, the sampling method employed is **PROBABILITY SAMPLING**. The sample size for this study is 176, which is derived from the population(N) of 250 through pilot study. Data analysis uses Mann- Whitney U Test, Kruskal-Wallis H Test, Spearman's Correlation.

DATA ANALYSIS AND INTERPRETATION

MANN-WHITNEY U TEST USING THE GENDER OF THE RESPONDENTS

Hypothesis:

Null hypothesis H0: There is no significant difference between the mean rank of male and female with respect to "Safety perception", "Employee engagement and satisfaction", "Challenges or obstacles" and "Communication and feedback".

Alternative hypothesis H1: There is a significant difference between the mean rank of male and female with respect to "Safety perception", "Employee engagement and satisfaction", "Challenges or obstacles" and "Communication and feedback".

TABLE SHOWING RANKS OF U TEST

	Gender	N	Mean Rank	Sum of Ranks
Safety Perception	Male	128	90.60	11597.00
	Female	48	82.90	3979.00
	Total	176		
Employee engagement and Satisfaction	Male	128	89.34	11435.00
	Female	48	86.27	4141.00
	Total	176		
Challenges or Obstacles	Male	128	94.75	12128.00
	Female	48	71.83	3448.00
	Total	176		
Communication and feedback	Male	128	94.02	12035.00
	Female	48	73.77	3541.00
	Total	176		

TABLE SHOWING TEST STATISTICS OF U TEST

	Safety Perception	Employee engagement and Satisfaction	Challenges or Obstacles	Communication and feedback
Mann-Whitney U	2803.000	2965.000	2272.000	2365.000
Wilcoxon W	3979.000	4141.000	3448.000	3541.000
Z	-.908	-.361	-2.670	-2.374
Asymp. Sig. (2-tailed)	.364	.718	.008	.018

a. Grouping Variable: Gender

INFERENCE

It is inferred that there are significant differences in Challenges or Obstacles and Communication and Feedback between genders, but no significant differences in Safety Perception or Employee Engagement and Satisfaction. In the Challenges or Obstacles aspect, males had a significantly higher mean rank (94.75) compared to females (71.83), indicating that males generally perceived fewer challenges or obstacles than females. In terms of Communication and Feedback, males had a higher mean rank (94.02) compared to females (73.77), suggesting that males perceived better communication and feedback than females.

KRUSKAL-WALLIS H TEST USING THE AGE OF THE RESPONDENTS

Hypothesis:

Null hypothesis H0: There is no significant difference among the mean rank of age groups with respect to “Safety perception”, “Employee engagement and satisfaction”, “Challenges or obstacles” and “Communication and feedback”.

Alternative hypothesis H1: There is a significant difference among the mean rank of age groups with respect to “Safety perception”, “Employee engagement and satisfaction”, “Challenges or obstacles” and “Communication and feedback”.

TABLE SHOWING RANKS OF KRUSKAL-WALLIS H TEST

	Age	N	Mean Rank
Safety Perception	20 and below years	25	75.12
	21 to 25 years	109	93.59
	25 to 30 years	28	93.23
	30 snd above years	14	63.32
	Total	176	
Employee engagement and Satisfaction	20 and below years	25	81.34
	21 to 25 years	109	92.45
	25 to 30 years	28	93.41
	30 snd above years	14	60.68
	Total	176	
Challenges or Obstacles	20 and below years	25	74.14
	21 to 25 years	109	93.57
	25 to 30 years	28	99.88
	30 snd above years	14	51.89
	Total	176	
Communication and feedback	20 and below years	25	72.44
	21 to 25 years	109	95.11
	25 to 30 years	28	90.34
	30 snd above years	14	62.00
	Total	176	

a. Kruskal Wallis Test
b. Grouping Variable: Age

TABLE SHOWING TEST STATISTICS OF H TEST

	Safety Perception	Employee engagement and Satisfaction	Challenges or Obstacles	Communication and feedback
Chi-Square	6.675	5.758	11.802	8.320
Df	3	3	3	3
Asymp. Sig.	.083	.124	.008	.040

INFERENCE

It is inferred that there are significant differences in Challenges or Obstacles and Communication and Feedback mean ranks across different age groups. However, there are no significant differences in Safety Perception or Employee Engagement and Satisfaction mean ranks. Individuals aged 25 to 30 years reported substantially higher mean ranks for

TABLE SHOWING CORRELATION

			Safety Perception	Employee engagement and Satisfaction	Challenges or Obstacles	Communication and feedback
Spearman's rho	Safety Perception	Correlation Coefficient	1.000	.429**	.368**	.459**
		Sig. (2-tailed)	.	.000	.000	.000
		N	176	176	176	176
	Employee engagement and Satisfaction	Correlation Coefficient	.429**	1.000	.368**	.331**
		Sig. (2-tailed)	.000	.	.000	.000
		N	176	176	176	176
	Challenges or Obstacles	Correlation Coefficient	.368**	.368**	1.000	.413**
		Sig. (2-tailed)	.000	.000	.	.000
		N	176	176	176	176
	Communication and feedback	Correlation Coefficient	.459**	.331**	.413**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	176	176	176	176

Challenges or Obstacles compared to other age groups and similarly, in Communication and Feedback, individuals aged 21 to 25 years exhibited higher mean ranks compared to other age groups, indicating a more positive perception of communication and feedback.

SPEARMAN'S CORRELATION

Hypothesis:

Null hypothesis H0: There is no significance relationship among "Safety perception", "Employee engagement and satisfaction", "Challenges or obstacles" and "Communication and feedback".

Alternative hypothesis H1: There is significance relationship among "Safety perception", "Employee engagement and satisfaction", "Challenges or obstacles" and "Communication and feedback".

INFERENCE

From the Spearman's Correlation it is found that all variables show moderate positive correlations with each other, suggesting that they are positively related and tend to increase together.

FINDINGS

- In terms of safety measures and employee well-being, most respondents prioritize the availability of safety equipment. Wellness programs are viewed as the most effective in promoting employee well-being and satisfaction. Nearly half of the respondents (47.70%) believe that the safety training programs have significantly enhanced their understanding of workplace safety. However, 40.90% feel that time constraints slightly impact the implementation of safety interventions.
- There is a notable resistance among some employees to adopting new safety behaviors, as agreed upon by 79% of respondents. Additionally, 39.20% see the lack of leadership support as a moderate barrier to adopting behavior-based safety practices, and resistance to change is seen as a hindrance to the success of safety initiatives. External factors, such as sales targets, are also perceived to prioritize over safety training initiatives by 26.10% of respondents.

SUGGESTIONS

- Improve the content and delivery of safety training programs to ensure they are clear, relevant, and engaging for employees. Incorporate real-life examples and practical scenarios to make the training more relatable and effective.
- Ensure availability of safety equipment, as it is considered crucial by most respondents for effective safety measures.
- Promote a healthy work-life balance and create a supportive environment where employees feel valued and cared for.
- Address any resistance to adopting new safety behaviors through targeted training and awareness campaigns. Communicate the benefits of these behaviors and provide incentives for compliance.
- Ensure that leadership is actively involved and supportive of behavior-based safety practices. Leaders should set a positive example and encourage employees to embrace safety as a core value

CONCLUSION

In conclusion, the study on behavior-based safety interventions and their impact on employee performance within Brakes India Private Limited provides a comprehensive analysis that underscores the critical importance of understanding employee perceptions, engagement levels, and challenges surrounding safety practices. With a primary objective focused on examining these interventions and their effects on performance, the study delved into employee perceptions of safety, satisfaction with existing practices, identified obstacles, and evaluated communication effectiveness. Despite limitations such as its specific organizational focus and potential biases in data collection, the study's findings shed light on crucial aspects including the importance of clear safety protocols, leadership support, and the impact of time constraints. Following the above mentioned suggestions not only reduces risks and makes safety better but also builds a good company culture where safety is really important. This will lead to better work and happier employees.

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