

# A STUDY ON-ACCIDENT REDUCTION BY USING BUDDY SYSTEM IN AN INDUSTRY

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**ABSTRACT:** Workers in construction industries suffer through many minor or major injuries every now and then. Most of these mishaps goes unnoticed and eventually lead to a major hazard which leads to the death of a worker. Till date we've been using old techniques to eradicate hazards and other unsafe acts and conditions. Personal protective equipment's play major role in safeguarding workers from getting harmed or injured. Safety Helmet, belt, goggles, gloves are some examples of PPE's worker use every day. Improving the safety culture and climate of an organization by using the Buddy system will be effective. Implementing a buddy system in your work environment not only provides benefits for the new employee, it can also be valuable to your organization. Providing a workplace buddy ensures that your new employee has someone to talk to, which is important in the first nerve-wracking weeks of a new job.

The study present study related to the safety culture improvement with buddy system. it begins with background of safety issues and safety culture in construction industry. The objectives of this study are:

- To present the findings of the literature review as a guide to understand the issues and problems in the development of safety culture in the construction industry.
- To develop safety culture conceptual framework in the construction industry.
- To examine people's values attitude, perception, competencies and patterns of behavior that determine the commitment, and effectiveness of health and safety management in the construction industry based on a buddy system

## INTRODUCTION

### Safety Culture:

- Safety culture is the set of beliefs, norms, attitudes, roles, and social and technical practices that are concerned with minimizing the exposure of employees, managers, customers and members of the public to conditions considered dangerous or injurious.
- Safety culture is the concept that the organization's beliefs and attitudes, manifested in actions, policies, and procedures, affect its safety performance.

### Safety Climate:

- The safety climate is the environment in which a company puts its safety culture to work. Like providing the tools and equipment necessary, maybe the resources on our job sites to create that environment in which people are allowed to work safely.
- Safety climate is the shared perceptions of organizational members about their work environment and, more precisely, about their organizational safety policies.

### Buddy System:

- Implementing a buddy system in your work environment not only provides benefits for the new employee, it can also be valuable to your organization.
- Providing a workplace buddy ensures that your new employee has someone to talk to, which is important in the first nerve-wracking weeks of a new job.
- The buddy system should also encourage the new employee to share project management tips, tools, knowledge, and techniques they learned from previous work experiences. The knowledge sharing goal is to incorporate new ideas and technologies that enhance the organization.
- Reduction of first aid cases with implementation of buddy system.

## LITERATURE REVIEW

- Mark Fleming, Keri Harvey, Kate C. Bowers, Development and testing of a nuclear regulator safety culture perception survey, Safety Science, 10.1016/j.ssci.2022.105792, 153, (105792), (2022).
- This part of the guidance provides examples of how safety culture is addressed in different domains: railway, aviation, nuclear, etc
- David Flores, Emily Haire, The Development of an Organizational Safety Culture & Climate in the United States Forest Service, Journal of Forestry, 10.1093/jofore/fvab025 said that,

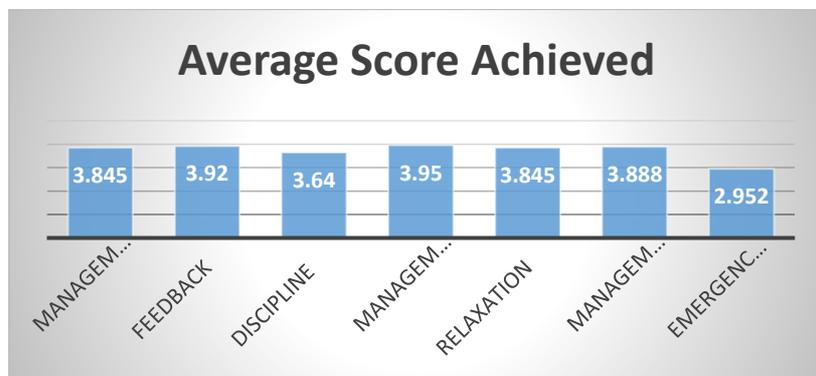
- Communication was identified as critical to creating and maintaining a positive safety climate. Safety-related communication from the company and from supervisors was perceived as very important, and forums for this to happen include toolbox talks, employee orientations, and crew level meetings. Safety newsletters can be used to share timely
- Most new hires begin their first day on the job with anticipation and eagerness. This early enthusiasm can be either boosted or ruined, depending on a first impression. What happens during the first few days will determine the new hire's long-term perception of the job and the organization? A weak or non-existent and stopgap onboarding process may leave a new worker with bad first impression that in turn, may lead to negative long-term business impacts, such as unexpected turnover or poor performance.

**METHODOLOGY**

The questionnaire can be used to measure safety culture by taking opinions from various level employees. The questionnaire comprising of 33 questions relating to different aspects of safety and the employees were requested to mention their opinion 1-5 Likert scale.

These questionnaire involves the Management Commitment, Feedback, Discipline, Management Support, Relaxation, Management Reaction and Emergency Preparedness.

Management Commitment	Feedback	Discipline	Management Support	Relaxation	Management Reaction	Emergency Preparedness
3.845	3.92	3.64	3.95	3.845	3.888	2.952

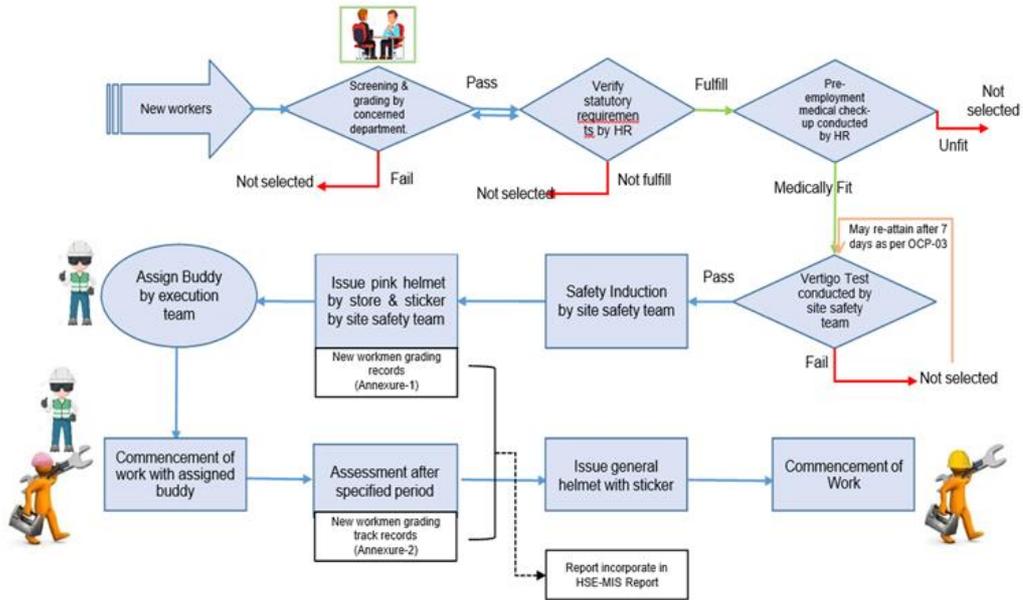


From that questionnaire round, we identified the area of improvement of this organization.

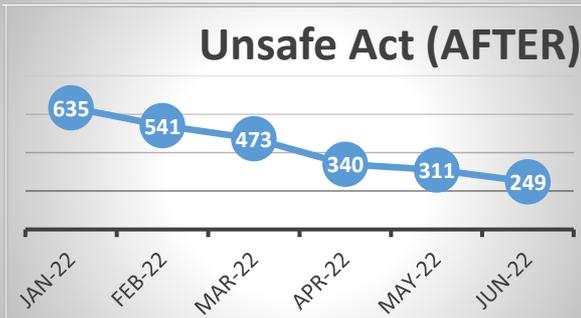
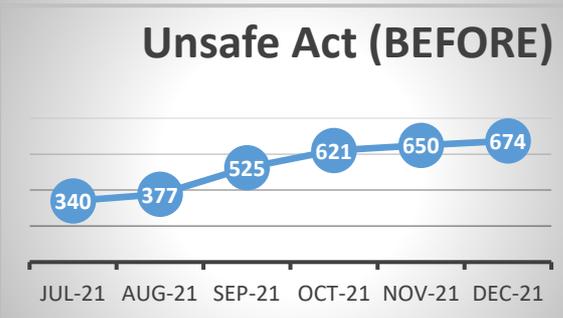
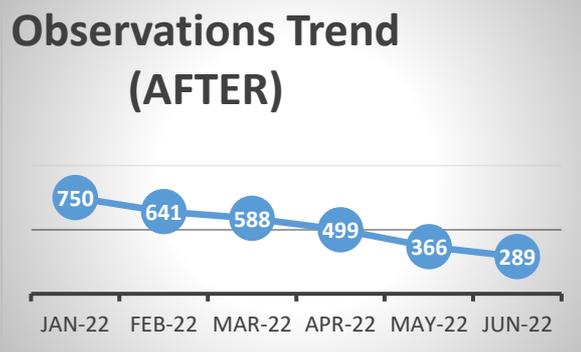
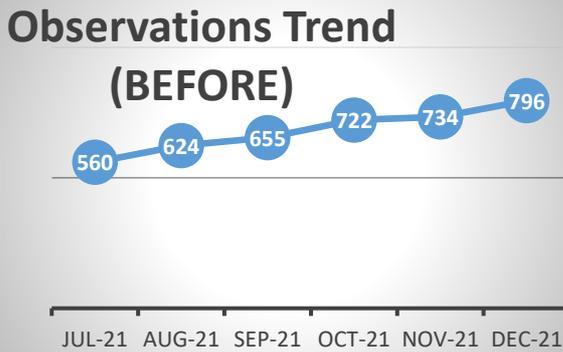
**Implementation of Buddy System:**

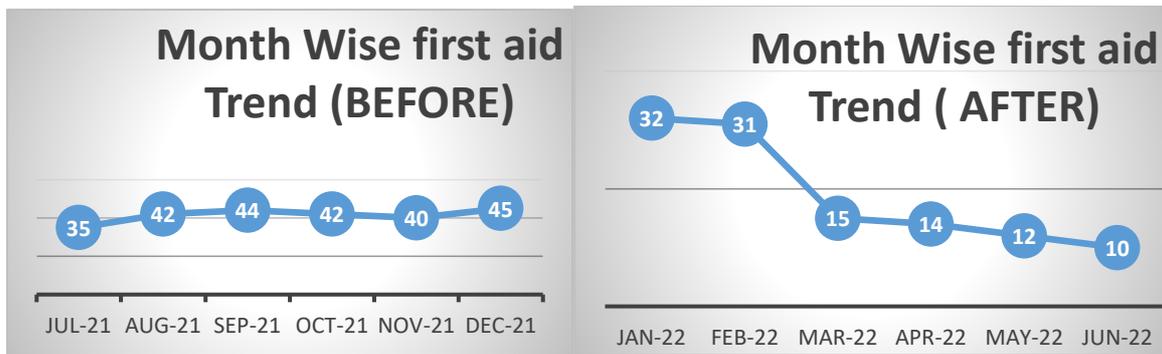
- New Workers at Site/Industry
- Screening & grading by concern department
- Verification of statutory requirements of workers by HR.
- Pre-employment medical check-up conducted by HR
- Vertigo Test conducted by site safety team
- Safety Induction by site safety team
- Issue pink helmet by store & sticker by site safety team
- Assign Buddy by execution team
- Commencement of work with assigned buddy
- Assessment after specified period
- Issue general helmet with sticker
- Commencement of Work

Flow chart of Buddy system



RESULTS AND DISCUSSION





Results

- Graphs showing decrease in observations as Unsafe act of workers reduced due to implementation of Buddy Systems at site.
- As observations reduced the same way First Aid cases also reduced and safe environment (Culture) developed in an industry.

1. Discussion

- A Buddy system for identifying behavior of persons which use provides an effective means of reducing the risk of personal injury and enhancing construction sites safety.
- However, majorities of studies have adopted multi-stage methods to solve this problem with limitations in adaptation and practical feasibility to construction sites conditions.
- Meanwhile, in reviewing the literature, no benchmarks have been published in this area and real industrial data are impossible to obtain because of confidentiality constraints.
- This study set out with the aim of identifying any individuals' safety behavior by a buddy-based method from onsite scenes.
- This study finds out that **significantly drops of first aid** cases after implementation of buddy system. The model can be further improved by increasing the number of buddy personal layers and by making good safety culture at sit.

CONCLUSION

Unsafe Act Analysis:

Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
340	377	525	621	650	674
Before					
Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
635	541	473	340	311	249
After					

Observations Analysis:

Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
560	624	655	722	734	796
Before					
Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
750	641	588	499	366	289
After					

First Aid Analysis:

Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
35	42	44	42	40	45
Before					
Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
32	31	15	14	12	10
After					

From the study the following conclusion are drawn

- The employees are the key implementing the safety culture in an organization.
- This study finds out that significantly drops of first aid cases after implementation of buddy system.
- Assignment of buddy to new comers will result into drastically change in companies first aid cases as shown.
- The limitation of study is the buddy sample size. By considering more respondents, a better tool can be developed towards the measurement of the safety culture in an organization. If the responders are more there is possibility of eliminating the more issues related to safety culture in any organization.

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