

Research Article

Received on: 12/05/2016

Published on:21/07/2016

Corresponding Author:

Kumar Lalit

General Manager HR, ER & Admin at
Tata Motors Lucknow, Dava Road
Lucknow Uttar Pradesh, India.

Email: Klalit@tatamotors.com



QR Code for Mobile users

Conflict of Interest: None Declared !

Role of Safety observations in improving morale and productiveness at work

Kumar Lalit* and Dr. A K Singh**

*General Manager HR, ER & Admin at Tata Motors Lucknow ,Deva Road Lucknow Uttar Pradesh, India.Email: Klalit@tatamotors.com

**Vice – Chancellor , Shri Ramswoop Memorial University ,Lucknow ,Deva Road , Uttar Pradesh, India Email:VC@srmu.ac.in

Abstract:

The Occupational safety and health improvement should not be seen merely as regulatory compliance or as a cost implication, as these provide a competitive advantage to the companies that implement it. Establishing a safe working place leads to a continuous and sustainable improvement in organizational performance. A central belief in most of the literature is that people perform better when they are physically and emotionally able to work and want to work, which in turn leads to higher productiveness, which can lead to higher profits. It is important to recognize that safer workplaces translate into increased productivity, more job satisfaction, employee involvement and other organizational performance parameters. The findings of this case study indicate that **Safety Observations** have resulted in in reduction of accidents and increase in morale of people The culture of **safety first** has helped people in imbibing safety as a way of life, beyond work, at their home and wherever they go. They have helped in transforming the safety culture beyond the workplace and people have inculcated safety as a way of life. Thus, safety observations and safety culture can be used as a very powerful tool in changing the mindset of people with respect to high levels of safety behavior.

Key Words: Safety Observation, Unsafe Act, Unsafe Condition, Safety Culture, Quality Parameters

INTRODUCTION

Many studies have been carried out throughout the world relating cost of incidents, morale and productivity with safety. Some of the papers were studied for research. **Michael Behm**[1] concluded that occupational safety and health performance and management is a significant component of employee morale. The results also demonstrate that occupational safety and health performance can, and should, play a larger part in enhancing employee morale as companies seek to move from good to great. While beyond-compliance safety initiatives are an important factor in helping organizations improve, it is the psychological safety initiatives that appear to be a key component in an organization's improvement. This case study supports the improved impact of a unique safety management system having focus on "safety observations", on the morale and productiveness of the employees in **Tata Motors Commercial Vehicle Manufacturing Plant at Lucknow, UP-India.**

THE PARADIGM SHIFT

Then

Before introduction of the new safety management system, employees including management used to believe that injuries are unavoidable. The attitude towards safety was reactive in nature and only major incidents were reported for taking necessary preventive action and legal compliance. The accountability for safety was mainly delegated to the safety professionals with line management playing a minimal role. There was a belief that most injuries result from design of equipment, unsafe conditions prevailing at the workplace or behavior of the employee. The training related to safety was given to SHE (Safety health and environment) professionals and line management exposure to safety related training was limited. There was very little awareness about safety (the initiatives taken for spreading awareness was by safety department during national safety day, by organizing a poster or an essay competition etc.). SHE was considered as low priority among line management and SHE professionals were held responsible for it.

Off the job safety was a personal matter and not many paid attention to it. Also, management focus on contractors' safety was limited. There were hardly any consequences for violation of safety rules. Incident investigations were carried out by safety professionals without involvement of line management. Minor incidences and near misses were a part of life and not reported. The standard operation procedures (SOPs) of most processes did not address safety. Safety standards for critical activities did not exist. Accidents were a part of workplace and a regular phenomenon.

Now

Dupont [2] was hired as a consultant by Tata Motors to help improve the safety culture and safety observation was one of the tool developed with their help. People were trained in safety observations to change the safety culture. Tata Motors moved from compliance to commitment mode with respect to safety as a result of the engagement with Dupont. Then, a new safety management system was introduced with the help of DuPont. One of the main initiative of the new system was influencing the top leadership about safety and teaching them the technique of systematic safety observation at workplace. The need for this was felt to reduce accidents and as the company wanted to take care of the employees safety .

Useful Definitions:

Unsafe Situation is defined as any unsafe act or condition

Unsafe Act: are activities and/or job performance which employees are involved in and may include:
Unauthorized use or operation of equipment

Unsafe Condition: A condition in the work place that is likely to cause property damage or injury.

Unsafe Acts

- Operating equipment without qualification or authorization
- Lack of/or improper use of PPE
- Operation equipment at unsafe speeds
- Failure to warn
- Bypass or removal of safety devices
- Using defective equipment

Unsafe Conditions

- Defective tools, equipment or supplies
 - Inadequate supports or guards
 - Congestion in the workplace
 - Inadequate warning systems
 - Fire and explosion hazards
 - Poor housekeeping & Hazardous atmospheric conditions
- Safeopedia [3] explains Behavior-Based Observation

collection and analysis of at-risk behavior in the workplace. At a higher level, it attempts to determine the cause of at-risk behavior. In a more basic sense, it involves using simple but effective observation techniques whereby co-workers observe each other and give constructive one-on-one feedback to reinforce safe work behaviors and discourage at-risk behaviors. This can help strengthen workplace safety culture.

THE SAFETY OBSERVATION (Du Pont)

Safety observation is a structured and planned proactive two-way safety conversation with people at their work place to achieve positive change in people's behavior towards safety in order to:

- o Recognize and reinforce positive safety behavior
- o Identify and correct behavior at risk
- o Engages in conversation regarding safety concerns or issues

The process

Safety Observations focus on all behaviors that have the potential for injuries. Results from previous injury investigations, from previous near miss investigations, and from previous observations are used to focus the effort.

The following observation categories have been developed to assist in the identification of unsafe acts and behaviors. Safety Observations are conducted using these categories to stimulate thought about the different types of safe/unsafe behaviors present in the area.

- **Reactions of people (RP)** – Are people modifying their behavior (unsafe to safe) when they see a Leader/Manager in the area? Employees may sometimes react to being observed and change their body position, adjust their PPE, switch to the correct tool, grab the handrails, wind up a loose hose, put seatbelt on etc. This generally indicates the employee is aware of the correct/safe work practice which, for some reason, they were not using prior to being observed.
- **Positions of people (PP)** – Are people positioning their body in a way that reduces the potential for injury? This includes Ergonomics in office and operating/maintenance environments

- **Personal protective equipment (PPE)** – Are people utilizing the appropriate PPE, using it correctly, and is it in good condition?
- **Tools and equipment (TE)** – Are the proper tools being used? Are they being used correctly? Are they in good condition? Are “homemade tools” being used?
- **Procedures (PRO)** – Are adequate procedures in place? Are they understood and being followed?
- **Orderliness Standards or Housekeeping (HK)** – Is the work area orderly?

- Encourage the employee to discuss safer ways to do the job.
4. **Get agreement** to work safely.
 5. Invite the employee to discuss **other safety issues** in the work place.
 6. **Thank** the employee.

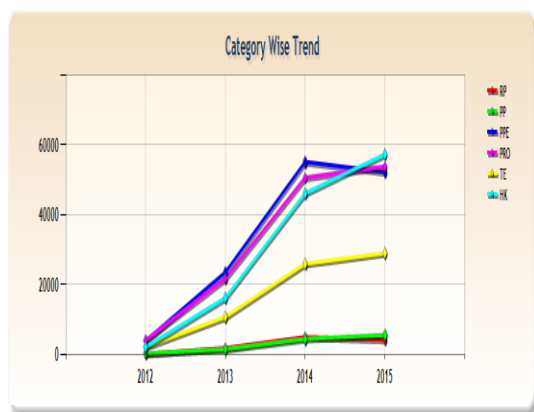
a. Initially, some leaders were trained on how to carry out the safety observation using the 6 step process. The training was called Leading Safety Efforts (LSE). When leaders from various departments started taking a round of safety observation every week, a strong message was percolated down through all levels reemphasizing the importance of safety. Leadership commitment was shown across all verticals, both for manufacturing as well as non-manufacturing areas and thus started the paradigm shift in safety culture.

b. Gradually the practice was extended to next level of managerial grade. The senior management and subsequently middle and junior management were given training on Safety Management Fundamentals (SMF), teaching them the technique of safety observation. Handholding sessions were planned by pairing the safety observers in groups of 2. Every group of 2 observers started taking a safety observation round every week and started correcting unsafe situations at work. Short term and long term plans were made to cover the whole workplace during safety observations. Unsafe situations requiring budget provisions were covered under long term plans.

c. This practice got extended to the blue collars as well by the introduction of the Actions Employees Can Take (AECT) programme. In this, blue collars are required to perform safety observations and note down the unsafe situations in the registers maintained at all divisions. Thus, the practice of safety observation is done at all levels.

For the last few years, the following safety observations were obtained with respect to the above categories:

Exhibit 1:



Category wise trend from March 2012 to March 2015.

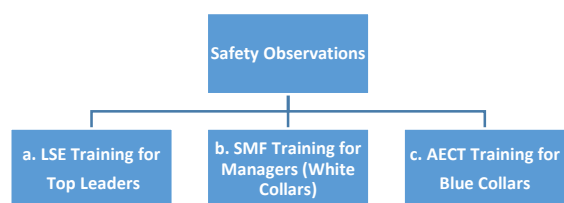
All observed unsafe acts, behaviors, and conditions in any area or location are addressed and acted on immediately.

All leadership model the safe behaviors that they expect from their employees. This is in line with the proverb *“You get the level of safety that you demonstrate you want”*.

Safety Observation: The Six Step Process [4]

1. **Observe**, decide how to approach the employee, stop the unsafe act (safety)
2. **Comment** on safe acts/behavior.
3. **Discuss any unsafe/at risk behavior observed.**
 - Discuss consequences (possible injury) of the unsafe act/behavior.

Exhibit 2:



The initiative which started with training few leaders has now reached a stage where all employees of the plant are trained in performing safety observation rounds. The plant has almost reached 100% compliance stage in terms of number of safety observations as per plan.

BENEFITS OF SAFETY OBSERVATION SYSTEM:

As the system started with leaders performing the observations, it demonstrated leadership commitment towards safety and encouraged employees to participate in the same. Employees safe acts were recognized and they were encouraged to discuss unsafe situations in their area. The system required all the white collar employees to be trained in the safety standards which were developed with the help of DuPont. This ultimately raised safety awareness to a great extent inside the workplace. The standards were established and their compliance and understanding was tested during safety observation rounds. The safety observation system helped to identify the strengths as well as weaknesses in the system as it was mandatory to note down 'safe situations' as well. To help people improve their observation skills with respect to the safety standards, all the employees were trained in the safety standards.

Align your Observation Checklists and Safety Committees Terry McSween, Ph.D[5] ,A checklist provides a metric of the norms established by the workgroup. While leadership sets the policy and enforces the rules related to lockout/tagout, the workers in the group are the ones who establish the norms for practice within their group. Thus a platform for this alignment may be through the Safety Portal.

THE SAFETY PORTAL :

The safety portal is an online system developed initially where all trained people can log and view their observations. A theme is generally displayed while filling the safety observation. As soon as employees log their observations, a mail is sent by the system to the line manager responsible for the situation in the particular area. The line manager then has the responsibility to close the observation if it is left open. All the open observations are then tracked by the system and a mailer is sent to as reminder next week with a copy to the boss. The Observations are entered into 3 categories : Fatal, Serious and Minor. Every fatal observation is closed on the spot immediately by the observer

and a mail is sent to plant head by the system. For other observations, system sends the mail to the line manager responsible for closure. **Exhibit 4 (next page)**

MEASURES

Injury or illness [5]. An injury or illness is an abnormal condition or disorder. Injuries include cases such as, but not limited to, a cut, fracture, sprain, or amputation. Illness includes both acute and chronic illnesses, such as, but not limited to, a skin disease, respiratory disorder, or poisoning.

MTC- Medical Treatment Case is a work related injury in which the employee resumes his duties within next 24 hrs from the day of the accident and is able to perform his assigned activities.

RWC- Restricted Work Case is a work related injury in which the employee resumes his duties within next 24 hrs from the day of the accident but is unable to perform his assigned activities

LTI Lost Time Injury (Injured person is not able to come back to work in his/her next schedule shift)

LTIFR- Lost Time Injury Frequency Rate=
Calculation of LTI-FR == No. of (LTI) X
1,000,000/Man-hours Worked

TRC-Total Recordable Cases = (Fatality+ LTI +RWC+MTC), TRC-FR - Total Recordable Cases Frequency Rate, Calculation of TRC-FR = No. of (TRC) X 1,000,000/Manhours

Closure of Safety Observation:

The plant has reached a stage where more than 99% of the observations are closed on time. In many cases, there are observations where budget approval is required to close the observation due to which they are not closed on time. The whole tracking and monitoring is done through online portal. A snapshot of the portal from April 2015 to October 2015 is shown below. It shows that more than 99.43% of the observations for the year till date have been closed which is a remarkable number.

Exhibit 3:

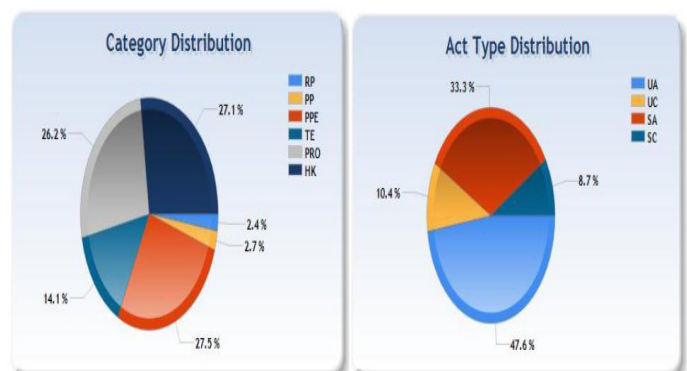
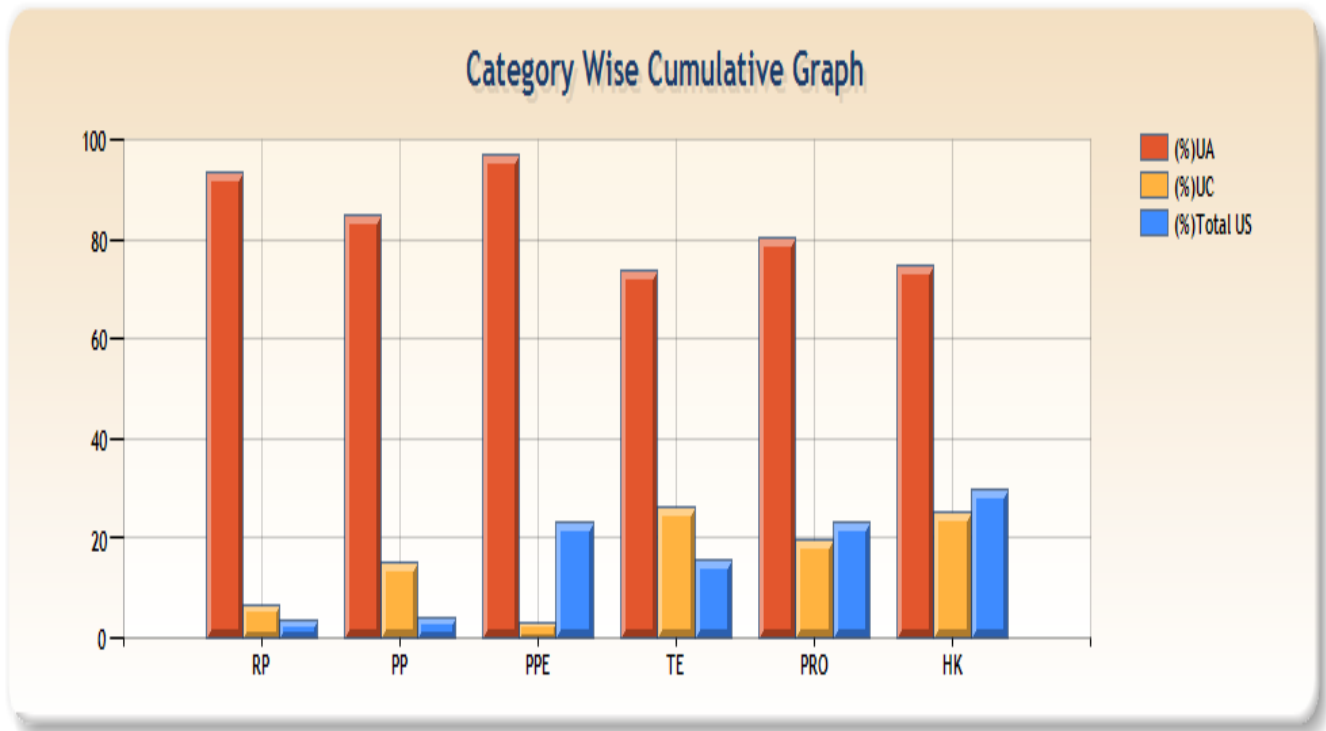


Exhibit 4



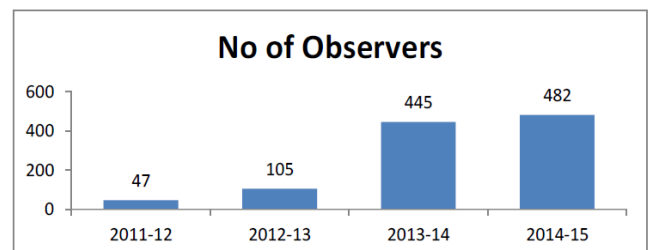
Quality of safety observations:

After reaching a compliance level of 100% per week of safety observations, the focus shifted on the quality of observations as there were too many observations of ‘minor’ nature. The observations were more focused on unsafe conditions than on unsafe acts and hence some quality parameters were defined. Not all people did observations based on the theme of the month and the name of the line manager, with whom the discussion/contact was done, was not mentioned in the portal. There were few observations on contractual workers and in silent hours. So these things were given weightage while defining the quality parameters.

After defining the quality parameters, people were communicated the criteria and this led to a slight increase in quality of observations.

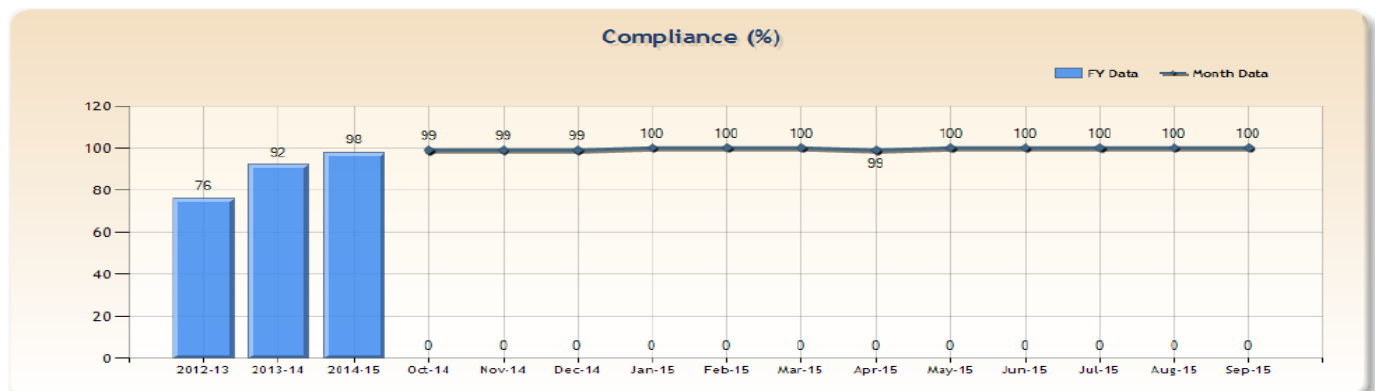
In few years, a stage was reached where most of the population was trained in all the safety standards and they could effectively do safety observations with respect to all the standards.

These trainings included training on safety observations, so the pool of safety observers kept increasing over the years and has reached a stage where only new joinees are required to be provided the Safety Management Fundamentals (SMF) training. The following graph shows the increase in no. of safety observers



The following graph shows the past few years journey in the compliance of safety observation schedule which is released every week. Over the years, the organization has reached a level of 100% compliance in terms of no. of safety observations per week.

Exhibit 6:



People felt empowered, motivated and responsible for safety of themselves and their colleagues. This not only helped in prevention of injuries, but also raised the morale and productiveness of the workforce.

The next challenge that lies with the plant is to raise the quality of safety observations. A method of determining quality score has been developed the observations are now rated based on the quality score.

Safety Observation Quality Parameters:-

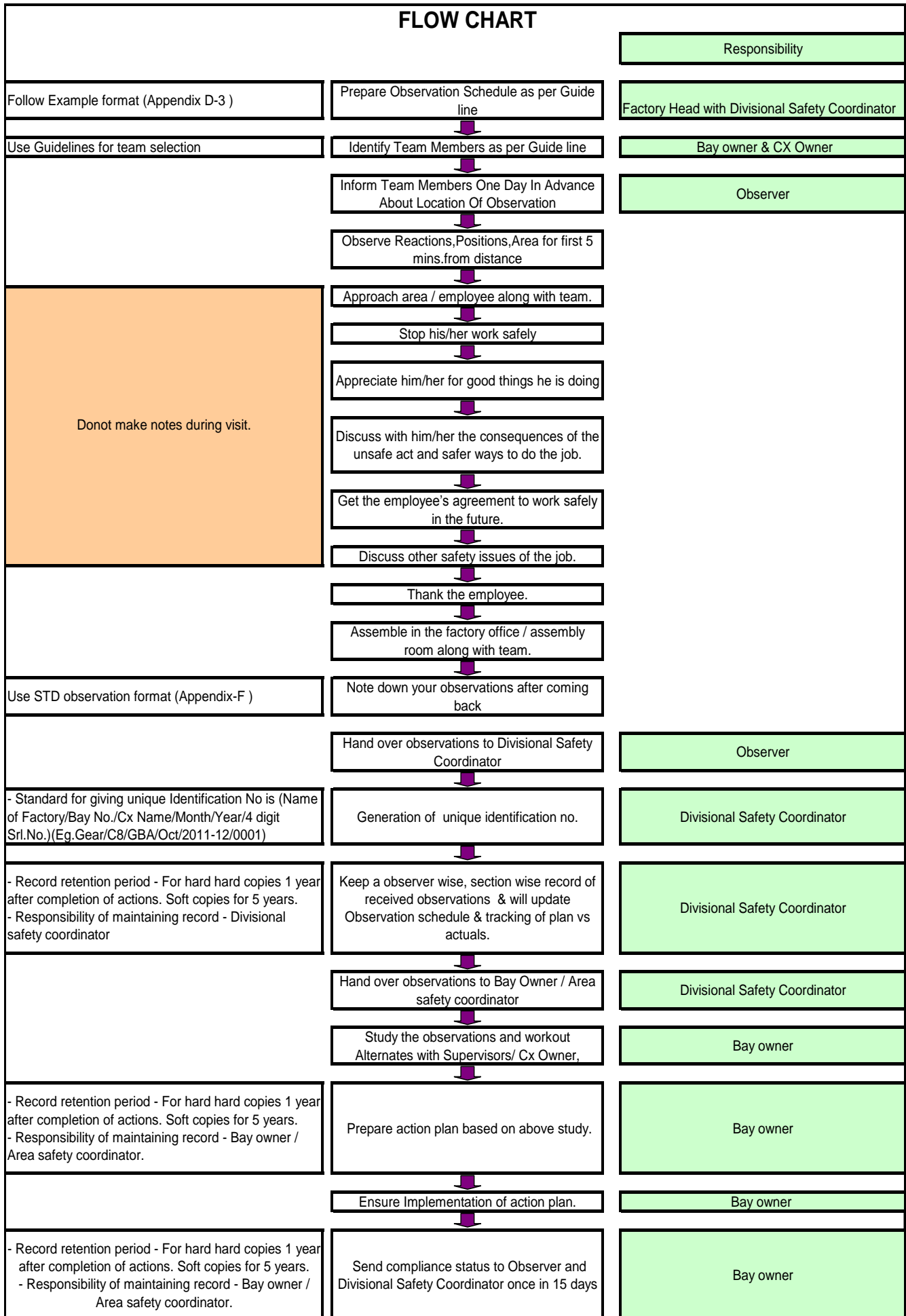
Sr. No.	Parameters
1	Name of Accompanying Person/Line in charge is specified in the Log.
2	Theme based observation is added in the Log.
3	No. of SA/SC added per contact in the Log in between 1 and 5 and is logged under any of the below Categories: RP- Reaction of People PPE- Personal Protective Equipment PP- Position of People TE- Tools and Equipment PRO- Procedure HK - Housekeeping (Exclude Occurrence)
4	No. of UA/UC added per contact in the in between 2 and 8 and is logged under any of the below Categories: RP- Reaction of People PPE- Personal Protective Equipment PP- Position of People TE- Tools and Equipment PRO- Procedure HK - Housekeeping (Consider Occurrence)
5	No. of contacts added in the Log is between 3 and 6.
6	One or more contacts added for Contractor Employees.
7	Maximum No. of occurrence added for an observation is between 1 and 3.
8	One or more Observation added under Procedure with Standards.
9	At least one Observation is added under each one of the selected Category below: TE- Tools and Equipment & PRO- Procedure

The quality score is now being tracked at all divisions and recommendations are made for continuous improvement.



SCHEDULE

The schedule for safety observation is prepared so as to cover the entire area of the plant. All the trained employees are mapped against a particular high risk area and they perform the safety observations per week as per the master schedule. The schedule may be prepared on monthly basis and can be modified based on risk assessment and the various other factors. Further, employees are given themes of the month based on incident trend analysis in various areas. **Exhibit7**



Source: Standard Training Material developed with the help of DuPont

CHANGE IN MIND-SET:

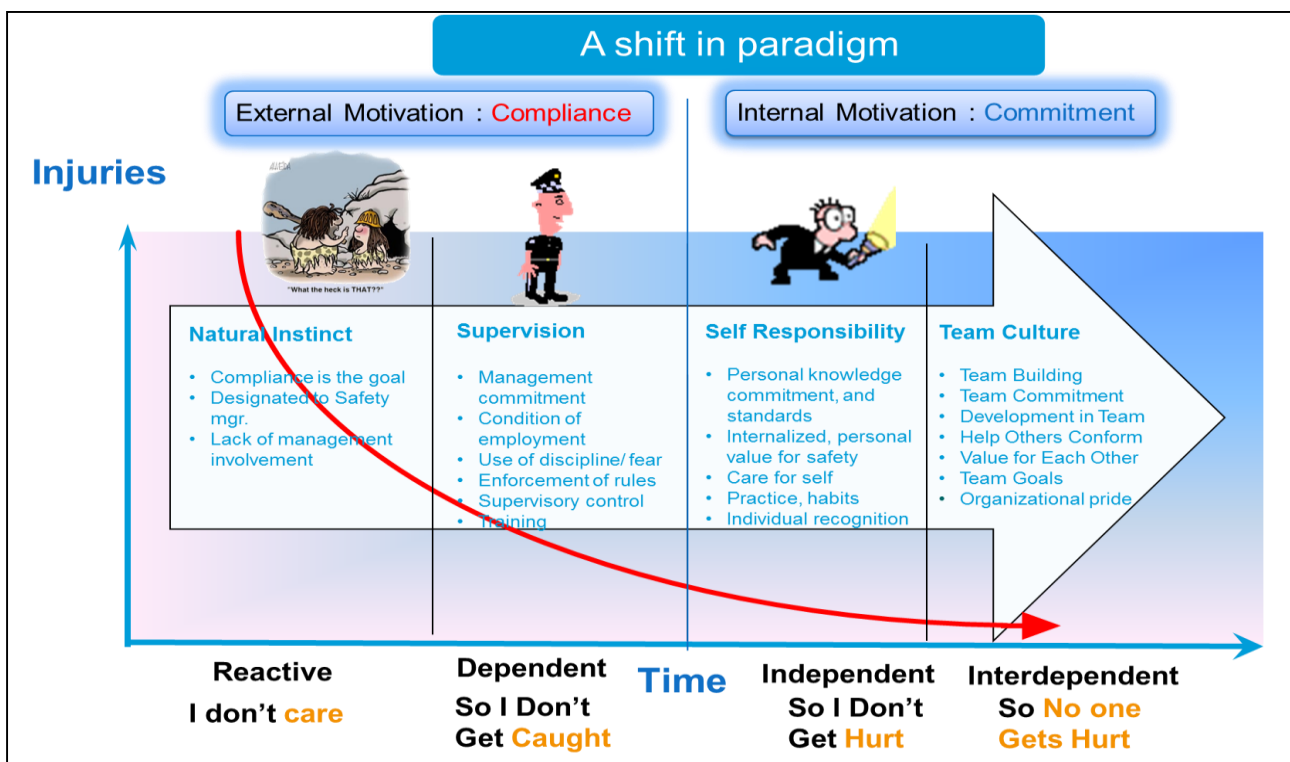
Martijn Frijters, Erik Deen, Arne Gillert and Jurry Swart -Safety & Mindset [6]Core to the way of working is to make employees mindset about safety explicit and reflect on it. We believe that people will merely tolerate the conclusions of others, but they will only act and adapt their mindsets based on their own conclusions.

Apart from reducing the incident rate, the safety observations have played a powerful role in bringing a change in mindset of the people with respect to safety. This has brought a paradigm shift in terms of the following:

S. No	PAST	PRESENT
1	Injuries are unavoidable	All injuries can be prevented
2	Safety Audit done by Safety officer	Safety observation is done by all management staff
3	No practice of formulating standards	Cross location team forms Safety high risk standards
4	Contractors can follow their own standards	Contractor SHE = Employee SHE (contractor related safety observations to be performed regularly)
5	Safety was safety officer's responsibility	Safety is Line management responsibility
6	Safety was not mentioned in the PMS system	Safety is part of PMS for all management staff
7	Safety Training was delivered by Safety officer	A pool of trained line managers have been developed to impart training to all employees, TTT
8	Safety officer was responsible for establishing and enforcing Safety rules	Line management is responsible for establishing and enforcing safety rules
9	Standard operating procedures (SOP) were not having safety requirements	SOPs are having safety requirements integrated into the procedure

Thus, safety observations have made people realize that safety is their own responsibility and they need to own it. The safety excellence journey can be well understood from the following graph:

Exhibit 8:



STAGES IN SAFETY CULTURE

- a. Reactive : where safety is the responsibility of safety officer and management is least involved
- b. Dependent: where management commitment is there for safety and it uses discipline/fear to enforce safety
- c. Independent: where each person is responsible for his own safety
- d. Interdependent: where team commitment is there and every person cares not only for his own safety, but also for his colleagues

SAFETY BEYOND WORKPLACE

The culture of safety first has helped people in imbibing safety as a way of life, beyond work, at their home and wherever they go. They have helped in transforming the safety culture beyond the workplace and people have inculcated safety as a way of life.

To describe how Tata Motors took the safety initiative beyond work we can discuss the Defensive Driving Campaign .In order to create awareness and ensure safe driving behavior of the drivers – The Company launched a campaign ‘i-drive safe’ - A Tata Motors initiative on building a safe driving culture. This campaign was a structured approach to create awareness on safe driving, thus enhancing the Defensive Driving skills of all those who drive to and from work or on account of it. The endeavour was to build ‘I-drive safe’ as one of the personal ethics of our employees.

Since the inception of the campaign in September 2011, 8,135 employees and associates (contractors) have been trained on Defensive Driving through 410 sessions across our operations (that includes plants, offices, warehouses and workshops).

Also Employees have taken the basic safety principles / standers at home as well. For example, assuming a machine has been powered off and verifying this before starting a repair (lock-out/tag-out protocol)

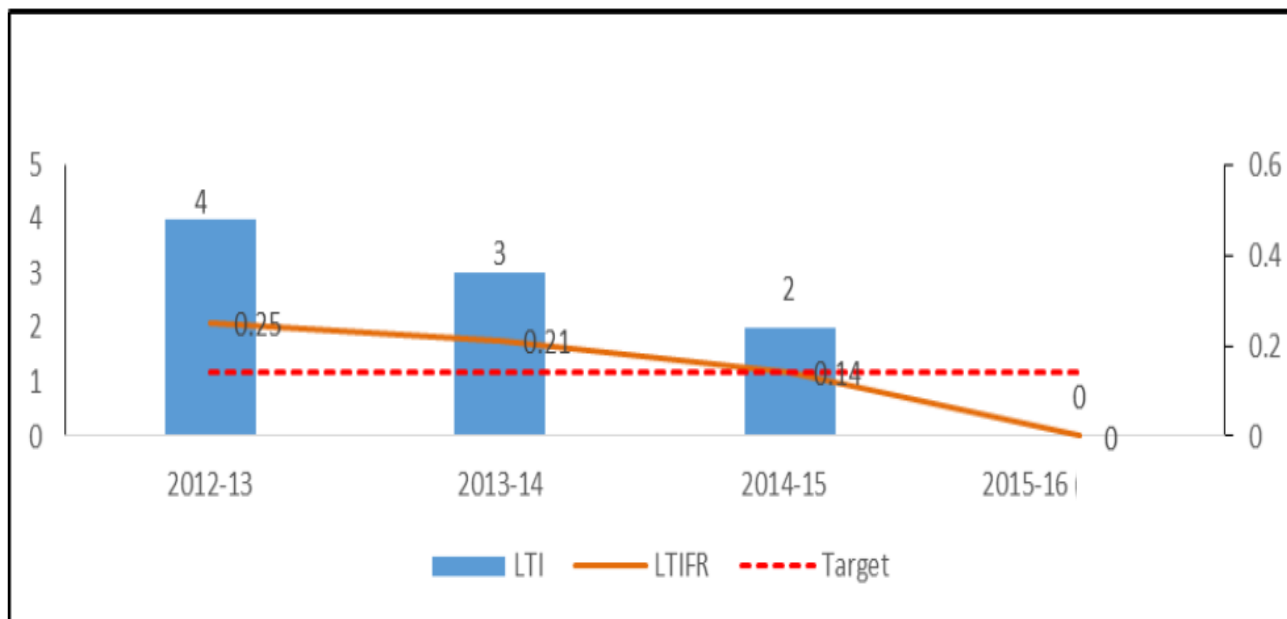
People often operate on autopilot, especially under time pressures; it's unlikely they'll lift weight / material one way at work and differently at home. So it's important that workers develop habits that will still protect them, even when safety's not in the forefront of their minds or when they are at home.

Highlighting at-home safety can provide a sustaining boost of energy and performance in overall behavior and culture

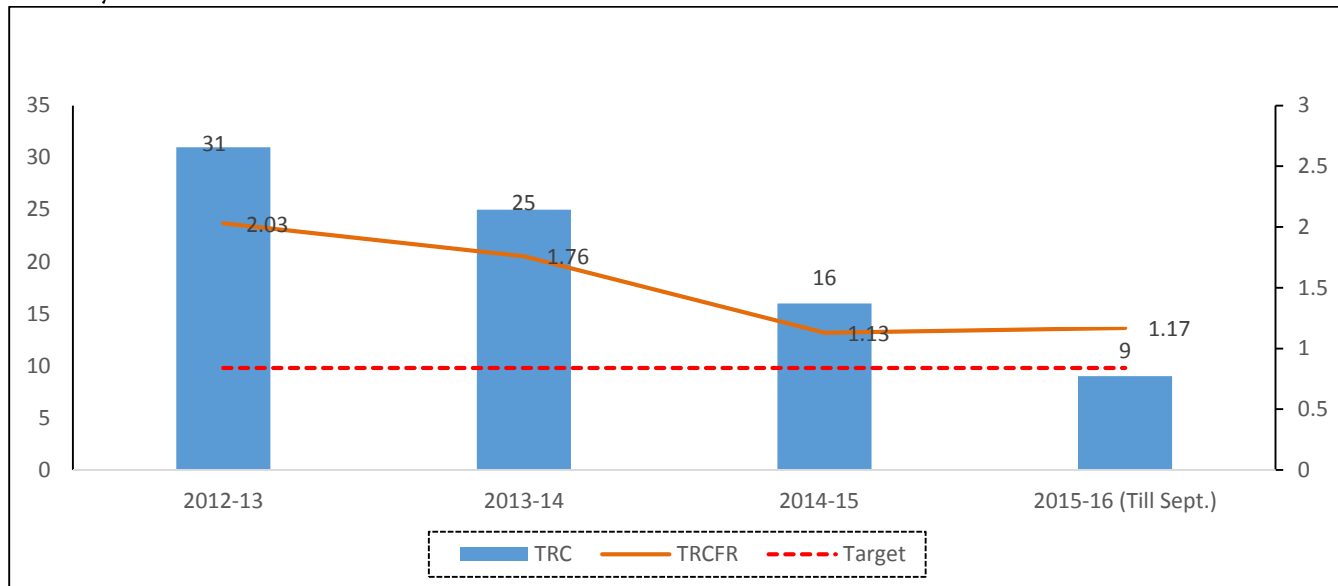
CONCLUSION

As a result of 3 year engagement with Dupont, Employees have begun inculcating safety as a value in life and started practicing safety beyond workplace and wherever they go.

We can say that the company’s culture has transformed from dependent towards interdependent stage. This paradigm shift has led to reduction in incident frequency rate as well as many other benefits to the organization. Reduction in Lost Time Injury (LTI) and its frequency rate (LTIFR) is evident from the following graph:



Not only LTI, there has been a continuous reduction in TRC as well as TRCFR :



Increasing Morale



Apart from the above paradigm shifts, we observed that there has been an improvement in the morale and productiveness of the employees performing safety observation. Employees feel empowered and are more willing to work for safety from within and without any external motivation. A survey was conducted to verify

the above statement. The following questions were used in the survey:

Occupational safety and health performance can, and should, play a larger part in enhancing employee morale as companies seek to move from good to great. W ASSE Foundation Research ASSE Foundation Research **Employee Morale Examining the link to**

occupational safety and health By Michael Behm [7], WORKPLACES WITH ACTIVE, VISIBLE SAFETY leadership have fewer injuries, are often rated as better places to work, and have more satisfied, more productive employees who are less likely to change jobs (OSHA, 2002). ASSE (2002) has taken the position that safety and health management programs improve a company's bottom line, including productivity and employee morale

It has been observed that:

1. Safety observations have resulted in increase in **morale of people**
2. The culture of safety first has helped people in imbibing safety as a **way of life**, beyond work, at their home and wherever they go.
3. They have helped in transforming the safety culture **beyond the workplace** and people have inculcated safety as a value in life.

Thus, safety observations and safety contact can be used as a very powerful tool in changing the mindset of people with respect to safety.

This gives further scope for study of behavioral changes and perspective change on safety by the employees over the transformation process.

Safety performance is divided into two aspects: safety program elements and safety process elements (Erickson, 2006)[8]. The program elements deal with basic safety functioning: regulations, legislation, training audits and related items. These elements are considered hard skills and are under control of the safety professional. The process elements are the underlying factors within an organization that either help or hinder the safety effort. These soft skills are indicators of the corporate culture, and they are not under the safety professional's control (Erickson, 1994).

REFERENCES

1. **Michael Behm**, Professor, Occupational Safety, East Carolina University "Employee morale 2009, Journal-Professional Safety, Volume-54, Issue-10, Pages 42-49
2. **DuPont, E. I. du Pont de Nemours and Company**, commonly referred to as DuPont, is an American conglomerate that was founded in July 1802 as a gunpowder mill by Éleuthère Irénée du Pont. DuPont businesses are organized into the following five categories, known as marketing "platforms": Electronic and Communication Technologies, Performance Materials, Coatings and Color Technologies, Safety and Protection, and Agriculture and Nutrition.
3. **Safeopedia**, is the on-line encyclopedia of safety. The goal of Safeopedia is to provide easy access to occupational health and safety information and reinforce safe work practices. www.safeopedia.com, Scott Cuthbert - Co-founder Safeopedia.com
4. **Safety Training and Observation System (S.T.O.P.) DuPont Safety**, Health and the Environment ;<http://www.dupont.com/safety/>
5. **Injury or illness** by Occupational Safety & Health Administration, United States Department of Labour
6. **Safety & Mindset Safety & Mindset** Changing thinking and acting by working with dilemmas. Martijn Frijters, Erik Deen, Arne Gillert and Jurry Swart, Kessels & Smit, The Learning Company | 2010
7. Employee Morale Examining the link to occupational safety and health ,**Michael Behm**, ASSE Foundation Research, OCTOBER 2009
8. **Erickson, J.** (1997, May). The relationship between corporate culture and safety performance. *Professional Safety*, 42(5), 29-33.
9. Employee Morale Examining the link to occupational safety and health ,By **Michael Behm.**, PROFESSIONAL SAFETY OCTOBER 2009 www.asse.org
10. Anthony Veltri, Mark Pagell, Michael Behm, Ajay Das "A data based evaluation of the relationship between Occupational safety & Operating performance" *American Society of safety Engineers Journal*. Vol 4 num 1 2007
11. Employee Morale, examining the link to occupational safety and health, ASSE foundation research, By Michael Behm (www.asse.org), Oct 2009
12. Improving manufacturing safety and performance using an integrated risk management model, By Steve Ludwig (Rockwell Automation) et al, Zurich American Insurance Company, 2011
13. Graham S. Lowe, PhD "Healthy Workplaces and Productivity": A Discussion Paper Prepared for the Economic Analysis and Evaluation Division, Health Canada, April 2003
14. Hesapro Partners "The Link between productivity and health and safety at work" Background research paper, April 2013
15. Hasse Nordlöfa, , Birgitta Wittavaara, Ulrika Winbladb, Katarina Wijkc, d, Ragnar Westerlingb "Safety culture and reasons for risk-taking at a large steel-manufacturing company: Investigating the worker perspective" Received 12 December 2013, Revised 14 November 2014, Accepted 23 November 2014, Available online 11 December 2014 at <http://www.sciencedirect.com/science/article/pii/S0925753514003087>
16. Andries Jacobus Steenkamp, Safety leadership initiatives in eskom, Generation "A case study on The reduction of lost time injuries due to the effect of safety leadership initiatives in Eskom", Generation division- 2010. Thesis (MBA (Business Management))--University of Stellenbosch, 2010.
17. Angela O'Dea and Rhona Flin, "The role of managerial leadership in determining workplace safety outcomes", Prepared by University of Aberdeen for the Health and Safety Executive 2003, RESEARCH REPORT 044.
18. Neal a,* , M.A. Grin b, P.M. Hart , "The impact of organizational climate on safety climate and individual behavior", Department of Psychology, University of Melbourne, Melbourne 3010, Australia, *Safety Science* (Impact Factor: 1.83). 02/2000; 34(1):99-109. DOI: 10.1016/S0925-7535(00)00008-4
19. Bernard M. Bass, "The Future of Leadership in Learning Organizations", *Journal of Leadership & Organizational Studies* 2000; 7; 18, DOI: 10.1177/10717919000700302
20. Crossman, D. (2008) "The Impact of Safety Culture on Worker Motivation and the Economic Bottom Line"

- Unpublished doctoral dissertation, Capella University, Minneapolis, MN.
21. Dominic Cooper, Safety Culture- A model for understanding & quantifying a difficult concept- 2002, FEBRUARY 2009 PROFESSIONAL SAFETY, <http://www.asse.org/>
 22. Dr. M.O. Agwu, MNIM, MNISP Total Safety Management, "A Strategy for Improving Organisational Performance in Selected Construction Companies in Nigeria"- ,October 2012, Department of Business Administration Niger Delta University, Wilberforce Island, Bayelsa State, International Journal of Business and Social Science, Vol. 3 No. 20 [Special Issue – October 2012]
 23. The Institute for an Industrial Safety Culture , "The Institute for an Industrial Safety Culture", Association de loi 1901 Leadership in safety industrial practice,2013-06,
 24. Jeffrey Gandz, Gerard Slijts, Leadership and Risk Culture, "Leadership Character and Corporate Governance By paying more attention to what defines "character," directors can improve the quality of leadership in their organizations" ,Ivey Business School at Western University, Human Capital, Issue / Numéro 167 | May / Mai 2013
 25. M.D. Cooper, R.A. Phillips, "Exploratory analysis of the safety climate and safety behavior relationship",(2004), Journal of Safety Research 35 (2004) 497 – 512
 26. Marcin Nazaruk, "Developing Safety Culture Interventions in the Manufacturing Sector", A thesis submitted for the degree of Doctor of Philosophy (June 2011), Department of Psychology University of Bath June 2011,
 27. Rita Yi Man Li, Sun Wah Poon, Construction Safety,2013, SBN: 978-3-642-35045-0 (Print) 978-3-642-35046-7 (Online)
 28. Sybert H. Stroeve, Alexei Sharpanskykh+, Barry Kirwan- "Can we predict safety culture? Safety culture analysis by agent-based organizational modelling"- October 2009 NLR Air Transport Safety Institute, Amsterdam, The Netherlands + Vrije Universiteit, Amsterdam, The Netherlands # EUROCONTROL Experimental Centre, Brétigny-sur-Orge, France
 29. Sara Singer, Shoutzu Lin and Alyson Falwell, David Gaba, Laurence Baker, "Relationship of Safety Climate and Safety Performance in Hospitals" - Article first published online: 4 NOV 2008, DOI: 10.1111/j.1475-6773.2008.00918.x

Cite this article as:

Kumar Lalit and A K Singh. Role of Safety observations in improving morale and productiveness at work. Asian Journal of Management Sciences, 04(15), 2016, 16-27.
