A Study on Behaviour Based Safety Management

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***Abstract*: Many businesses have invested significant time and resources in improving safety, typically by lecturing hardware problems and executing safety management systems that consist of regular line management safety audits. Over time, these efforts tend to result in some reductions in accident rates. However, there is frequently an upland of minor accidents that acts to be obstinately resistant to total efforts to eliminate them. Although many are attributed to people's carelessness or poor safety attitudes, the majority are caused by deeply ingrained unsafe behaviours. A significant number of workplace accidents are caused by unsafe acts and unsafe working conditions created by employees. Employers must be aware that further lowering accidents may only be accomplished by detecting, evaluating, and concentrating on such dangerous or at-risk behaviour. This study item will complete them.**

***Keywords*: Behaviour Based Safety (BBS), behaviour safety approach, BBS management.**

1. Introduction

Various techniques have had some effectiveness in decreasing dangerous workplace behaviours. Some have sanctions; others have surveillance; yet others have guidelines, regulations, and procedures to follow; and still others are supportive and training-oriented. Some efforts originate from the employer, some from social partner groups, others from state regulatory agencies, and some from individual workers' thoughts, ideas, training, and development activities related to health and safety. Most safety employers and workers will agree that the ultimate goal of the safety programme is a "complete safety culture," but this idea is rarely articulated. A whole safety culture is one in which:

- Entities concern safety as a 'value' rather than a primacy,
- Individuals take responsibility for the safety of their co-workers as well as their own,
- All levels of employees are willing and able to act on their sense of responsibility - they can go above and beyond the call of duty Individuals hold safety as a 'value' and not just a priority.

The following are some prerequisites for any approach to workplace safety that produces observable, long-term effects and contributes to a holistic safety culture:

- The regular actions of personnel at the management level demonstrate a strong management commitment to maintaining and improving behavioural safety.

- Respectful, trustworthy, and transparent communication between management and employee groups on all elements of workplace safety.
- Employees must have an open, feedback-rich culture in order to continually learn and progress.
- A commitment to raising the profile of and attitude toward health and safety, as well as increasing employee safety participation.
- An emphasis on safe versus risky behaviour, rather than relying solely on trailing signs such as safety statistics.
- A forceful, persistent, and rapid response to the discovery of harmful activities, whether or not they cause injury. Safety accidents are considered as a chance to learn and grow.
- Leadership that is generally transparent and fair from everyone, including managers, supervisors, and owners.
- All employees should be aware of the many approaches to consider or question human aspects - how and why we do what we do.

Objectives of Behaviour Based Safety Management:
- Developing a culture of safety in a company necessitates managers paying close attention to two parameters.
- Environmental factors such as equipment, tools, machines, systems, and workplaces, and people factors such as characteristics, job, capabilities, attitudes, and behaviours.

A consistent emphasis on proper safety behaviour is proactive because it permits other safety-related concerns in the accident causative chain to be discovered and addressed before an event occurs. A Behaviour Based Safety process's goal is to decrease events caused by hazardous or risky behaviours. To do this, particular behavioural problems are discovered by concentrating on occurrences that occur as a result of individuals interacting with their working environment. Implementing Behavioural Based Safety has resulted in breakthrough proportions of efficiency in the following:
- Significant reductions in serious injuries
- Accidental leaks of dangerous chemicals are being reduced
- Reduced regulatory agency breaches

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- Accidental damage instances are being reduced
- Improved security readiness
- Increases in the number of important tests and inspections completed on time

What exactly is Behaviour-Based Safety?

Behaviour-Based Safety (BBS) is a scientific strategy that modifies harmful behavioural patterns to positively encourage a safe work environment. A BBS system examines how people operate, deduces why they function the way they do, and employs an intervention method to reduce risky behaviour.

What is the significance of behaviour-based safety?

The significance of a behaviour-based safety programme stems from its practical approach to eliminating the most prevalent cause of workplace injuries or accidents - "human negligence." While human mistake is unintentional, it liberates us from our casual behavioural propensity to be complacent when doing high-risk professions. Front-line personnel are frequently prone to human mistakes since they tend to overlook the finer points of safety when carrying out everyday activities. Because experience leads to speedier outcomes, these employees are more likely to adopt unsafe shortcut that go unnoticed. This shift in behaviour encourages a harmful pattern, which eventually leads to an accident, inflicting injury to oneself and others.

A BBS programme continually monitors your whole business, from management to frontline workers, to detect dangerous or damaging behavioural trends. A thorough BBSO programme monitors employees while they conduct everyday activities, giving constant feedback, motivation, and awareness to reinforce their behaviour in accordance with safe work norms.

A BBS program's principal purpose is to positively reinforce safe practises by proactively recognising naturally predisposed harmful behavioural tendencies in people and ensuring that timely interventions are in place to encourage individuals or groups to consistently comply to EHS best practises.

BBS principles:

Define target behaviours Create key behaviour checklists to track instances of target behaviours Design interventions to improve/prevent dangerous behaviour Chart performance on a regular basis Provide effective behavioural feedback

The advantages of BBS:

Because of its versatility, behaviour-based safety is frequently referred to as the Swiss Army Knife of safety programmes. When used effectively, BBS provides a plethora of advantages that boost site safety, productivity, and satisfaction. These are only a few of the advantages that managers may expect when BBS is properly implemented.

- Focuses on the social phase of safety; defines safe and harmful behaviours; encourages safe behaviour while discouraging unsafe or dysfunctional behaviour.
- Workforces are vigorously involved in safety.
- Management must put their resources where their mouth is. This fosters dedication and enthusiasm, particularly in the beginning.

What exactly is a Behaviour-Based Safety (BBS) strategy?

This handbook is influenced by the area of Behaviour-Based Safety (BBS), which will be frequently defined as a bottom-up (frontline personnel) approach with top-down assistance from safety leaders. A people-centered approach to safety encourages interventions that include one-on-one or group observations of employees completing ordinary job activities, carefully formulating goals, and providing timely feedback on safety-related behaviour, coaching, and mentoring. The efforts are proactive in nature, urging people and workgroups to consider the possibility of incident participation (accidents) and to evaluate their own behaviour as safe or hazardous at all times, no matter what.

A BBS strategy is one that:

- Is founded on sound concepts for engaging, motivating, aiding, reinforcing, and maintaining safe behaviours.
- Takes a methodical approach to increasing safe behaviour by investigating the motivations driving behaviours.
- Is a continuous endeavour; not a set of one-time requirements, but a new style of functioning that the safety leader must constantly promote in order to achieve long-term, good effects.
- It takings time to find; yet, because of the nature of the measurement involved, benefits can be seen quickly.
- Focuses on promoting safe behaviours rather than the duration of time without harm.
- BBS developers do not rely simply on trailing indications' (after the fact), but rather turn their attention to 'positive signs' (preventative).
- Is not a replacement for anything that already exists

BBS is a subfield in organisational behaviour analysis. Both organisational behaviour analysis and BBS are concerned with behaviour. The overriding premise in behaviour analysis and BBS is that what happens after behaviour is what sustains it (consequences). Many workplace safety treatments focus on antecedents or events that occur before to the behaviour that may elicit behaviour. Numerous workplaces, for example, rely extensively on training, safety signs, pep speeches, toolbox presentations, or pre-briefs. These can be useful in first triggering behaviours, but it is what happens thereafter that assures the behaviour will occur over and over again. The ABC model is used to describe behaviour in BBS (Antecedent, Behaviour, and Consequence).
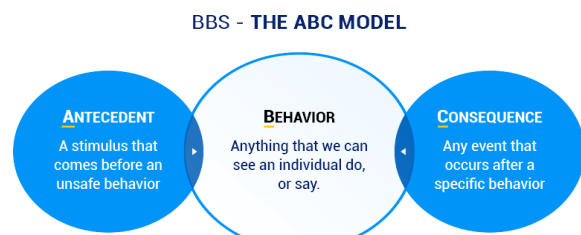
BBS - THE ABC MODEL

Fig. 1. ABC diagram

What exactly is the ABC model in BBS?

The ABC model, also known as the Antecedent-Behaviour-Consequence model, is a well-established and scientific technique to analysing why people behave in specific ways and determining how to make behavioural changes.

The A stands for antecedent, which is the prevailing circumstance that acts as a trigger for the previous action, based on this cognitive behaviour therapy. Antecedents explain what triggered the behaviour. The letter B stands for Behaviour, which is described as any visible activity that a person takes that is observable and quantifiable. The C stands for consequence; it is the action that occurs when the behaviour's outcomes is triggered. Depending on the outcome of the behaviour, it might be either favourable or unfavourable.

Process of Improvement:

A seven-step strategy for increasing Behaviour-Based Safety.

- Identify critical problem behaviours.
  Discover dangerous behavioural habits.
- Identify root causes.
  Determine the lead signs that trigger unfavourable behaviour.
- Generate potential actions.
  Obtain possible resolutions to the problem.
- Evaluate possible actions.
  Select the most effective solutions.
- Develop an action plan.
  Make a plan for implementing the behaviour changes.
- Implement an action plan
  Implement the method to readily adjust to changing situations.
- Conduct follow-up.
  Measure and evaluate if the implemented change has created a difference.
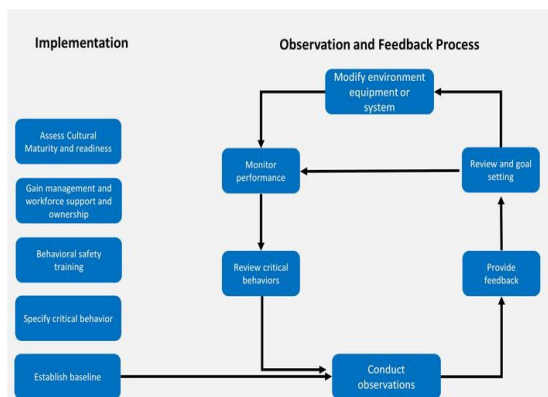
Implementing a behaviour-based safety:

Fig. 2. BBS implementation flow diagram

To put in place a successful behaviour-based safety programme, your firm should foster a safety culture that encourages it.

Open communication: Generate a feedback-rich workplace in which workers may easily express their issues and

management implements continuous awareness campaigns.

Reporting culture: Developing a culture in which any risky activities/behaviours' are promptly reported in order to take appropriate action.

Management commitment: Ownership persons, safety officers, and other high-ranking personnel must assure company-wide openness in implementing safety standards.

Timely Reaction: Act quickly on complaints of risky behaviour, and coordinate teams to quickly distribute preventative measures before it turns into an incident.
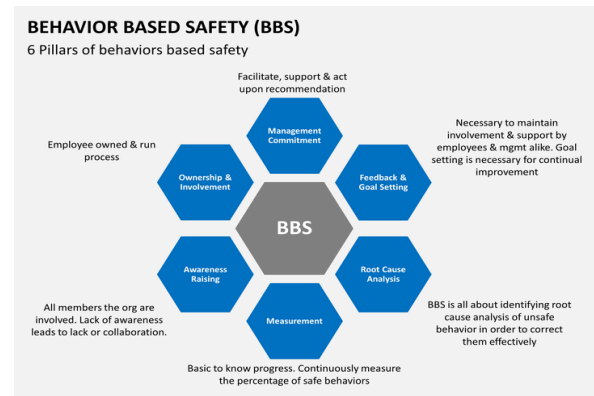
Elements of a top-tier BBS programme:

Fig. 3. Six pillars of BBS

Create a checklist from target behaviour:

Use findings from safety audits and safety meetings to identify site vulnerabilities and important safe behaviours that may be incorporated into the observational checklist.

Employ a measurement system:

Ensure that a method is in place to weigh the occurrence of safe and risky behaviours while in an assessment.

Carry out observations:

Regularly observe skilled HSE personnel who can integrate into the workplace environment without interfering with working operations.

Deliver Consistent Feedback:

Make certain that any harmful behaviour noticed is communicated to the worker as soon as possible, creating a rapid feedback loop in which the employee communicates his concerns and management determines overall remedial action.

Utilize data to take corrective action:

With useful observation findings in hand, identify trends that require immediate remedial action and ensure that all personnel is aware of any newly identified abnormality or prevalent problem.

Evaluate change:

Set targets for improvement by tracking the success of each behavioural alteration used as a defensive measure to achieve good results.

Reinforcement:

Reinforcement occurs when a consequence that follows a behaviour makes it more likely that the behaviour will occur again in the future. Therefore, a reinforcing consequence is one that causes behaviour to occur more frequently. For example,

the behaviour of putting money in a snack vending machine and pressing a button has the consequence of the chosen food item being distributed. The presentation of the food item putting the money in and pressing the button. If the person using the vending machine actually wanted the food item, then they will repeat this behaviour in the future (because it was successfully accomplished).

People can increase results by using both negative and positive reinforcement.

Negative simply implies removing something (for example, shutting a window eliminates a cool breeze),

Whereas Positive indicates adding something (e.g., turning on a light switch results in the addition of light).

Negative Reinforcement:

We do a lot of things to avoid something, therefore we act in order to get rid of the thing we don't want - this is called negative reinforcement. For example, if you wear PPE to avoid a fine (which might occur if you do not wear PPE), you are operating under negative reinforcement. In order to avoid a disastrous circumstance, your 'wearing PPE' behaviour has intensified. Avoiding punishment or adverse situations will not stimulate exceptional or innovative achievement. We get by, but we're not inspired to develop because we're afraid! Working because we 'have to' will provide adequate results, but working because we 'want to' will yield optimal results. Work is usually performed in many companies under negative reinforcement conditions (i.e. because we 'have to'). As a result, personnel perform inadequately; they do enough to meet a compliance norm but do not go the extra step. Working under positive reinforcement conditions, on the other side, might result in employees going above and beyond their job tasks, and employees will take personal responsibility for safety. Employees that work under positive reinforcement settings (that is, because they 'want to') will be:

- Working towards something more positive (rather than avoiding something undesirable), motivated to work, which may result in creative thinking, innovative tactics, successful decision making, and desiring additional responsibilities.

Positive Reinforcement:

Individuals working under positive reinforcement circumstances are less prevalent in work contexts, yet they are preferred. Positive reinforcement results in long-term behavioural changes and happy employees! For example, if you wear PPE because you believe you are making a contribution to safety in your organisation (by taking personal control of safety), you will be more likely to be wearing PPE when your manager is not present, in situations where it is not compulsory by law, and you may well begin to exhibit other safe behaviours voluntarily in addition to this. Doing something that results in positive reinforcement stimulates robust, long-term behaviour change, as well as the development of new positive behaviours. We refers to the consequence that enhances behaviour as a reinforcer when we talk about reinforcement. A reinforcer is anything provided after a behaviour to promote that behaviour in the future. This might be recognition, praise, money, or anything else given in exchange for our actions. As an example,

while two individuals are talking, they are rewarding each other's conversational behaviour. If one person stopped talking, there would be no reinforcement and the discourse would come to a halt. Reinforcements are all around us in our surroundings, and they keep our behaviours consistent.

- An effective leader will find their employees' reinforcers by studying what drives them and testing prospective reinforcers.
- Such as boosting positive feedback to see whether it encourages safe behaviour.

Fig. 4. Flow structure

Reinforcement and Feedback:

Feedback is information provided to a person or a group about their behaviour and its impact (Braksick, 2007), and it is one of the most significant communication tools in assisting individuals in staying healthy and secure. Feedback may take numerous shapes and forms, and in most cases, feedback in the workplace is a blend of positive and constructive information. A feedback-rich atmosphere improves communication as well as motivation. Positive feedback can have the effect of increasing behaviour (reinforcement). Feedback informs us that we are acting appropriately; positive feedback should be explicit in identifying the specific behaviours that merit favourable commendation. Instead of saying "good job, Bill," say "Bill, your cleaning abilities are extremely outstanding." My path is never obscured. "going around your office," will express to Bill just what he has done to impress the individual providing comments. Individuals will most likely enhance their behaviour if they obtain feedback that they are doing "the right thing," provided the feedback is explicit and genuine. It is sometimes necessary to provide constructive feedback. Constructive feedback is defined as "clear, nonjudgmental instructions given to the individual on what behaviours they must improve in order to achieve the desired behaviours." If positive feedback is given in a 5:1 ratio to constructive criticism, it will be simpler for the communicator to give constructive feedback and for the listener to hear it. If a person is accustomed to getting positive feedback, when constructive input suggesting that a change in behaviour is necessary, the person will make the adjustments, especially if a goal is established around the new behaviour. We frequently 'do' improper things because we haven't been taught how to do the right ones.

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2. Conclusion

BBS programmes were created so that the study of psychology might be used to encourage safe workplace behaviours. It is employed, however, when safety experts administering BBS programmes have information and awareness of how these programmes came to be. In workplaces with high rates of hazardous performance, well implemented behavioural safety programmes result in considerable increases in safe performance and large reductions in occupational accidents and illnesses. Both human suffering and financial expenditures are significantly minimised. Furthermore, the costs of making these improvements in human performance are a solid investment that will pay for itself many times over.

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