Promotion of safety culture at Airports

S Jyothi Prasad Reddy

Airfield Electrical team

Engineering & Maintenance Department

Kempegowda International Airport, Bengaluru
CONTENTS

1.0 Abstract
2.0 Can Regulatory requirements alone ensure effective Safety culture?
3.0 Challenges in promoting safety culture
   3.1 Management Culture - Production Vs protection
   3.2 Multiple Players – Different needs – Background Cultures
   3.3 Persisting Reward Culture
   3.4 Communication and reporting system
   3.5 ‘Normalization of deviation’ – A cultural challenge
   3.6 Measurement of safety culture - Can we manage without measurement?
4.0 Global initiatives in promoting the safety Culture
5.0 Significant focus areas - Initiatives in promoting the safety culture
   5.1 Incident analysis team formation
   5.2 Analyzing the incident based on the behavioural aspects
   5.3 Target your audience
   5.4 Promoting Motivational factor
   5.5 Nullifying the “Normalization of deviation”
   5.6 Effect of ‘Management culture’ on Safety culture
   5.7 Benchmarking
6.0 Conclusion and Way Ahead
7.0 References
Safety is “the state in which the possibility of harm to persons or of property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and safety risk management.” – ICAO Doc 9859

Culture is “characterized by the beliefs, values, biases and their resultant behaviour that are shared by members of a society, group or organization.” – ICAO Doc 9859

“Safety Culture” refers to the ways that safety issues are addressed in a workplace. It often reflects "the attitudes, beliefs, perceptions and values that employees share in relation to safety.” In other words, "the way we do safety around here.” Anonymous - Wikipedia

1.0 Abstract

Airport is an eco-system with multiple stake holders. The demand for airports to accommodate more flights with existing limited capacity is greater than ever before. As a common understanding, the aviation processes are numerous in number and every process demands the perfection and precision in achieving the desired result. All the processes play a key role in meeting the business objectives of ensuring safe journey for passengers. An aviation incident or accident irrespective of its magnitude always invites national and international media attention. A study by Federal Aviation Administration says that over 80% of major incidents in the recent era, in the field of aviation, have been a result of human errors. Many researches have proved through root cause analysis that human behavior and the cultural aspects are the main contributing factors in aviation accidents/incidents. Towards ensuring safe operations, aviation industry has laid enough stress on the requirements of safety systems in decreasing accident/incident rates.

The ICAO definition of Safety as quoted above is being ensured through implementation of Safety Management Systems (SMS) as a regulatory requirement by various international bodies. This has provided a good framework to airports in analyzing the existing and possible risk and mitigating the same in an objective manner. When it comes to culture it has multitude of intrinsic value based system which at times can be subjective in nature. In spite of added regulatory recommendations and mandatory procedures, airports still face the challenge of bringing these objective and subjective elements in establishing Safety Culture.

The paper here presents the importance of Safety Culture and how its promotion enhances SMS implementation. Some of the initiations taken by different airports in embedding the right attitudinal behaviour among their employees and the common challenges that would be faced by any airports in establishing the safety culture is elucidated. Also, the paper speaks about, what true safety culture means in the airport context and required changes in the reporting system and regulatory frame work for establishing the safe work culture.

2.0 Can Regulatory requirements alone ensure effective Safety culture?

After more than three decades, International Civil Aviation Organization (ICAO) has introduced Annex 19 as Standards and Recommended Practices for implementation of Safety Management System (SMS). Once this came into effect several airports implemented SMS, but merely as a regulatory requirement. Regulatory authorities enforce many new safety requirements such as additional safety processes, technological advancements, training requirements, management accountability and others. Given the number of compliances that need to be adhered to as a regulatory requirement there are chances that SMS implementation remains purely as documentation. But the essence of SMS is bringing in the right safety culture, which relates to all the individuals associated with airport operations either directly or indirectly.

Safety culture is about how you perceive or exhibit safety values when no one is watching you. It is the process of ensuring the safety within the organization by instilling the right attitudinal behaviour within the employees in terms of safety values and beliefs, where
“HUMAN” acts as an effective defense mechanism. It is worthwhile understanding the safety cultural requirements through a few Safety cases.

Case Study I:
An aircraft halted the entire night and the aircraft engineer took over duty from the outgoing technician. The headset was placed on the nose landing gear but the outgoing technician did not inform anyone of this. When the aircraft was ready for push back the Aircraft Maintenance Engineer (AME) did not see the headset, which was on the nose landing gear, and fetched a new one thus completing the departure formalities. On returning to their office the AME realized that the headset was missing and immediately informed the airport staff. The Airfield inspection was immediately carried out and the headset was found on the runway. There were no aircraft operations during this period. After detailed analysis, the probable cause of this incident include:

2. Organizational factor- Aircraft pushed back in a hurry due to delay

Model representation of case study I

Though it was a near miss situation the reporting system had worked very effectively in preventing a major incident. In spite of Human error and organizational failures a good reporting culture saved the situation.

Case Study II:
In the Continental Express Flight 2574 (Jet link 2574) incident, on September 11, 1991 the scheduled domestic passenger airline flight operated by Britt Airways from Laredo International Airport in Laredo, Texas, to Bush Intercontinental Airport (IAH) in Houston, Texas crashed while the turboprop aircraft was en route to Houston killing all 14 people on board.

The National Transportation Safety Board (NTSB) investigation revealed that screws had been removed from the horizontal stabilizer during maintenance the night before the accident and, following a shift change, the screws had not been replaced. The plane crashed on its second flight of the day.

The probable cause of this accident included “the failure of Continental Express management to establish a corporate culture which encouraged and enforced adherence to approved maintenance and quality assurance procedures”

From the above case studies, it can be inferred that the underlying, intrinsic problem with the industry is the deficiency of a safety culture. It is always easy to attribute the root cause to technical deficiencies and human errors. However, there are many underlying human errors which can be understood after studying the incidents more deeply in context of cultural aspects.

Despite the number of defense mechanisms that are put in place for a process we still cannot ensure that the incident would be improbable. Aviation experts say that it involves 6-7 consecutive errors which leads to an accident and mostly these are related to human behaviors. During all these errors, the processes involved might be different but the common constituent is “Human”. The human factor
doesn’t behave in the same way all the time. It changes with content and context of the present situation, be it time constraint in achieving the objective, state of mind, group involved, decision making, operational requirement, coordination or the system processes that are in place. All these could be a part of a catastrophic incident due to the psychology of the individual or a group. At the same time, only the human component can identify and control the risk at all means. In order to make this happen we need to inculcate the safety culture within a person akin to personal religion or beliefs, which can become a major defense mechanism and take the possibility of the incident to almost improbable. The cultural element of safety should be percolated at all levels. Those involved in the line functions are the ones who actually make SMS to function effectively on the field.

An approach to safety culture

In order to bring about such transformation there needs to be a cultural change within the organization by providing the required resources, framing policies and ensuring commitment towards cultural change. This is the point where triggering a cultural change within the organization should elicit an equal response from the management through active participation and encouraging best reporting practices. The top-down and bottom-up approach in the organization brings in a robust safety culture in effective SMS implementation. However, this has its inherent challenges which we will be discussed in the subsequent paragraphs.

3.0 Challenges in promoting safety culture

Having stressed on the importance of safety culture, it is a difficult task in inculcating safety culture within the airports in the present context. There are several constraints that need to be understood in depth and at times these mainly contradicts with the business advantages, time constraints and operational requirements. In the long run, compromising on these parameters on a daily basis would make it more difficult in establishing a positive safety culture within the airports. Let us understand some of the prime areas where the safety culture tends to move away from a broader context of an organization and specifically relates to Airports.

3.1 Management Culture - Production Vs protection

There is an inherent conflict between production and protection requirements. The production goals must be met in order to ensure profitable business operations and protective goals to ensure safe operations. Airport operators when confronted with a situation to meet project timelines compromise safety, and may err on safety in order to adhere to project timelines which has business values and cost implications. This negative impact of “taking the risk” approach with short sighted organizational interest, tends to send wrong signals to employees and steers them away from safety culture. In fact, it also affects the safety behavioural aspects of the individual itself. All
the errors and violations, be it big or small in the work area would be considered as negligible thus giving an impression that the organization doesn’t give much importance to safety. This also affects the communication with other internal parties and stake holders. In both cases such casual attitude cultivated and projected by the organization itself could turn latent causes into major incidents.

Management with good safety culture

During the normal course of delivering services, safety issues are created that need to be managed. The best way to manage this is to balance them to support the organizational goals. Hazard identification and risk management shall be the part of the regular business. Before taking any decision the risk shall be evaluated so as to estimate the concerns exactly and communicate it down the line. The culture of creating an open environment to communicate the risk involved to the top level management is crucial.

3.2 Multiple Players – Different needs – Background Cultures

Airports have multiple partners with different roles and responsibilities and each organization has a mix of different cultures and behaviour. The safety culture would be dependent on the organizational, national and professional cultures. Many airports now extend beyond a single national setting, drawing upon team members with varied cultural settings. Due to this aspect in the present context of aviation we have different cultures persisting such as organizational, national and safety cultures.

In the Professional culture, the perspective of safety culture would vary due to the specialization and work cultures the teams possess. This finally evolves as different professionals also reflect social and gender issues. The professionals tend to adopt a system that is primarily oriented towards their job roles and consequently develop behaviour patterns based on their own problem-solving approaches. These contribute to the challenges of instilling an effective safety climate due to inter-professional teamwork and their prime objectives. Normally, this exists with professionals such as group of pilots, controllers, engineering teams, ground handlers, etc.

At airports different organizations work together to ensure safe operations, be it the operator, the airliners, the ground handlers, the regulator authority etc... However, each entity has its own culture with which they work and this would be different from the other. The organizational culture mainly refers to the characteristics and safety perceptions among members interacting within a particular entity. Having such varied factors involved at different levels of the organizations it becomes a challenging task to embed the safety culture at all levels effectively.

Let us also focus on how a National Culture influences Safety Culture. The term “National Culture” should not be understood as referring to stereotyping any nation or its citizens, but is a shorthand representation of particular clusters of outlooks and expectations.
One of the key identified characteristics of the national culture is “power distance”. Power distance is a measure of country orientation towards hierarchy. In a culture that has high power distance the task of mitigating the risk may be difficult. It is measured through parameters such as comfort level of subordinate to disagree with the superior. As per one of the surveys conducted to identify the impact of ‘power distance’ in 1980’s, it was inferred that the states with higher power index were having higher accident rates. This could be true also with the organizations itself.

<table>
<thead>
<tr>
<th>Country</th>
<th>Power Distance Index (PDI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>104</td>
</tr>
<tr>
<td>Slovakia</td>
<td>104</td>
</tr>
<tr>
<td>Guatemala</td>
<td>95</td>
</tr>
<tr>
<td>Panama</td>
<td>95</td>
</tr>
<tr>
<td>Philippines</td>
<td>94</td>
</tr>
<tr>
<td>Russia</td>
<td>93</td>
</tr>
<tr>
<td>Romania</td>
<td>90</td>
</tr>
<tr>
<td>Sweden</td>
<td>86</td>
</tr>
<tr>
<td>Suriname</td>
<td>85</td>
</tr>
<tr>
<td>Mexico</td>
<td>81</td>
</tr>
</tbody>
</table>

In this context, the statement which could be drawn from above analysis is that the organizational culture, national culture and professional culture do have an impact on safety culture. We have different combination of cultures in order to achieve desired objective. Work can be accomplished by exhibiting any of this culture types and could impact the safety behaviour or the safety culture. The dominant attitudinal behaviour within the organization, nation or professional culture would make all the differences in their behaviour of communication, reluctance to intervene, etc. This can directly impact the terms with Human – Human, Human-Software and Human–Machine interface – either positively or negatively. In bringing the safety cultural change i.e., perceiving safety as top priority while carrying out their (individual, group or an organization) work is not an easy task given background behavioural attitudes that they possess. Reporting system forms the robust mechanism in balancing implications of the above mentioned cultural aspects and in ensuring a safety culture. A non-punitive reporting system with an effective voluntary reporting culture driven by the management ensures an effective safety culture in place.

3.3 Persisting reward Culture

The common metric used presently is assessing the performance is based on the output achieved in lesser time which is measured in terms of parameters such as revenue generated, etc. Here, the three important factors are the business profit achieved, time and, most importantly, the result. Unfortunately, this phenomenon is being followed at most of the organizations including the aviation sector. It has become more prominent in the aviation sector due to time constraints and operational limitations. The employee tends to take undue advantage of a management-defined system rather than following culture. On a recurrent basis, one can observe the impact of individual’s behavioral aspects in neglecting the safety culture at the workplace. Such behavioural aspects of individuals would change based on the organizational culture and its importance to safety values.

For example, if there exists a pressure from the airline management to maintain the schedule as its primary goal and rewards are given on this measurement, the crew would start compromising on errors. This will also impact decision making of the collective group as
time is more important and everything else is secondary. If in the process of saving time or increasing output, which in general may be praised, if any incident is hidden and comes out during the process they would be blamed.

Persisting rewarding culture within organizations

The behavior-based activities and quality of work done shall be taken as prime measuring factors in the rewarding culture. The performance management system shall also focus on assessing the individual contribution made by the employees toward embedding the safety culture within the organization. Although, it is fair enough to measure the result, it is equally important to assess the attitudinal behaviour on safety exhibited during the planning and execution of the work. The reward and recognition shall also be existing for a safety behaviour prior to an efficient one.

3.4 Communication and reporting system

The basic intent of establishing the error reporting system is to stop affixing blame and start solving problems by moving from a blame culture to a reporting culture. Any incident cannot be sudden, there would be many latent causes that are hidden, neglected, bypassed activities and many more near misses. All these are the precursors of an incident before it actually happens, which triggers at many points. Identifying the safety deficiencies within the department to an extent is feasible but reporting them to the superior is the toughest task. Reporting, understanding deeply of every latent conditions and mitigating it is very necessary to prevent the catastrophic incidents. In reporting of self-errors the fear is about the response received from management and subsequent treatment on a longer run in the organization. Punitive measures would certainly dilute the reporting system.

For example, a technician recruited by the department manager, might not perform well due to his less hands on experience. The solution would be to provide the technician with hands on experience by a proficient agency i.e., he shall be put on training for accurate results. In this case the probable chances of reporting about this case to senior management by departmental manager is very low due to the blame culture persisting within the organization. Here, the error transforms to violation. This blatant disregard for the standards required for a technician in a department is a latent cause which could result to a serious incident.

3.5 ‘Normalization of deviation’ – A cultural challenge

Normalization of deviance breaks the safety culture, instituting a slippery slope of tolerating more and more errors and accepting more and more risk, always in the interest of efficiency and on-time schedules. The unsafe activities tend to become standard procedures. The established procedures are soon violated to deviate without understanding where and why the original limits were established.

Organization functioning would be process oriented and in specific aviation industry involves numerous processes, checklists, inspections and procedures insisted by regulatory authorities, local bodies, organizational initiatives and other certification bodies. Having these many procedures several times means some of the jobs would need to be reiterated i.e., for example, if inspection of the runway is required three times a day as per regulatory procedures, inspecting the same again and again could be taken in a light manner. Every inspection meant to be carried out, would have a definite purpose such as inspection of FOD, etc. Taking these in a very normal manner in an organization would lead to the cultural deficiency making the industry to encounter with several incidents. Normalizing
the procedures wouldn’t happen in a single day. During the initial operations the process might be followed exactly as required as per the standards. But this would slowly deteriorate considering that there were no incidents but at the same time your probability of latent causes would be increasing day by day and turn catastrophic.

Culture of normalizing the deviances (Graphics created from images sourced online)

3.6 Measurement of safety culture – Can we manage without measurement?

The measurement of safety culture has become a challenging task for airports. In fact, many studies have been made to measure the safety culture but there is a lack of a clear framework around which these measurements can be constructed. The safety culture is a measurement of values and beliefs and these are intangible. However, the safety culture outcome is attitudinal behavior and strong beliefs towards safety practices and procedures. Safety climate is the integration of employee attitudes and opinions regarding safety in every day experience. Based on the outcomes, measuring the safety climate has been developed using different types of surveying methods which includes key partners and stake holders across different levels of organization. There were more than fifty types of surveying models which have been existing in assessing the safety climate. Validating of these surveys is also an additional task as one needs to understand how the survey has been viewed from the employee’s perspective. This may also give a wrong set of results which leads the organization down the wrong path.

Time constraint is another challenge to assess existence of safety culture and to what level such a culture prevails. The safety culture varies with the organizational involvement, motivation factors and most importantly through continuous efforts in embedding the culture. The assessment of a safety culture requires huge time in identifying and analyzing the different groups of work culture. A study states that the trend of the safety culture survey made was highly episodic and therefore difficult to trend. Having all these constraints measurement of safety culture in a dynamic environment poses new challenges for the aviation field.

4.0 Global initiatives in promoting the safety Culture

Several airports have actively taken the responsibility of inculcating the safety culture within their organizations understanding the importance of safety culture and the challenges persisting with the system. In spite of all these challenges many airports have successfully promoted safety culture initiatives within their airports. Aviation safety teams and committees involving take holders have been part of airports which are committed towards ensuring safety. The process of hazard identification and risk analysis has become common at most airports. Different approaches were adopted in enhancing the safety within their airport systems.

Kempegowda International Airport, Bengaluru (KIAB), which is a green field airport, faced challenges in inculcating the right safety culture. Since it was a new airport the aviation safety system started with more of a reactive model in terms of investigations of even minor occurrences and proactive at the organization level as a whole. This is where the organization made its first step towards the
culture in order to improve safety. With several initiatives such as safety weeks, FOD awareness, trainings and many more it has encouraged the participation level of the employees.

Safety approach at KIAB

The safety committees and teams have been formed which include all key partners and stakeholders of the airport. This has been the platform to provide inputs and frame principles that were followed at KIAB. The rules and changes could become effective only after winning confidence of multiple partners involved in the airport. Safety action groups have been formed to mandatorily discuss any of concern that impacts the safety at airport premises. The group meetings also include safety risk assessment and mitigation measures of the upcoming projects planned at the airport. Thus a collaborative safety culture was set up.

The top-down and bottom-up approach has been ensured throughout the process of SMS with Non-punitive reporting system. No penalties or punishments are levied against the individuals in case of errors encouraging them to report any minor concerns impacting the safety. Pinnacle Awards were instituted in order to encourage airlines and stakeholders to follow best safe practices thus increasing the motivation levels among the airport’s stakeholder ecosystem. All these measures have made KIAB move into the zone of proactive safety culture.
Reporting system implemented at Bangalore airport

Reporting is the key component of the organizational, professional and national cultures. Understanding the criticality of reporting system a predictive model, which is well structured and maintains the confidentiality, monitors the efficiency of safety culture. The reporting tool has been proposed to put in place an easily accessible platform for every employee of the organization in order to ensure a strong and effective reporting system. With these efforts in place, a predictive safety culture is being ensured through a huge database.

Other efforts globally include National Airport Safety Award at Australia and New Zealand, which has become a great platform to encourage the best practices and disseminate information to other airports. This would bring a sense of belonging to every individual of the organization and tend towards bringing the behavioral changes within the individuals, creating a trust factor towards the organization. Airport safety weeks have been introduced at many Asia Pacific regional airports to create awareness among internal stakeholders of the aviation system. At Abbotsford International Airport, the initiative by the Airport Authority Board has made use of prudent and effective use of qualified consultants, and good communication with employees that has created a strong safety culture and a hands-on functional SMS.

Programs such as Airport excellence (APEX) from ACI in promoting the safety culture has encouraged different state bodies globally in being a key part of an improved safety process. Runway Safety, Markings, Signs and Lighting, Winter Operations, Movement Area Maintenance, Apron Safety Management and Safety Management System, Wildlife Hazard Management and Rescue and Fire Fighting are just some of the areas reviewed under APEX. Several private consultancies have emerged in providing their support in assessing and establishing a safe work culture. The non-punitive reporting policy at Brantford Airport was framed in a concrete manner to report the safety issues, violations, hazardous condition, error or near miss, or makes suggestions that seek to improve aviation safety, internal protocols, procedures or policy, the Manager (or employee) will not be subject to disciplinary action except in case of willful violations.
Global efforts have been initiated to reach the next level of safety culture harnessing learning from experience of the airports. Hong Kong International Airport has pursued a zero-injury goal with safety training to both staff and business partners pertaining to reporting and analysis. Knowing that motivation is key to actually cultivating a safety culture, the airport promoted communication and recognition programmes. The safety climate assessments are carried out annually among airport stakeholders. The Airport Authority has introduced a behavior-based safety programme, aiming to identify and prevent potentially unsafe activities. The airport has recognized and rewarded airport organizations for their commitment to safety. The International Federation of Airlines Pilots Association has rated Changi Airport Group (CAG) several times as a deficiency free airport, which by itself motivates employees to upkeep the legacy. To continuously foster such a strong culture within CAG and the wider airport community, Changi conducted safety briefings and disseminated safety messages, through posters, newsletters and bulletins to staff of CAG and airport partners. They have established a wide range of training programmes, awards and incentives initiatives to equip and encourage the continuous delivery of quality service at Changi. The General Civil Aviation Authority (GCAA) U.A.E. in connection with global aviation traffic, has worked very hard to instill a culture of safety at grassroots level across the country’s airports.

Several successful initiatives have taken place at different airports such as crew resource management, safety climate studies, just culture, check lists and socio-technical probability risk assessments. Detailed studies have been conducted to understanding the psychological behaviour of individuals at different levels within the organization.

5.0 Significant focus areas - Initiatives in promoting the safety culture

Once the global efforts and importance of safety culture is understood a cultural change can be imbibed deep into the human psyche to instil an effective safety culture. Some of the initiatives are proposed below to promote the safety culture at the airports.

5.1 Incident analysis team formation
Establishment of safety culture is not possible only when certain individuals, groups or key departments are involved regularly in safety. Work force from different part of the organizational levels should be part of incident analysis for a clear understanding of the human errors which compounded together leading to an incident. This would also increase the motivation and involvement of the individuals to be part of safety analysis and to understand the criticality of the process. Being part of the incident team and owning the incident analysis process, rather than just going by the root cause that contributed to the failure, will help the group look for improvements towards preventing the reoccurrence of the incident.

Incident analysis group formation pertaining to an incident

These kind of structural formation of team would involve employees at every level in knowing the right behavioural causes which impacted the operations. The involvement of team also can be ensured. The process of incident analysis and the communication levels certainly will improve the belongingness and awareness of the people towards the process.

5.2 Analyzing the incident based on the behavioural aspects

Safety culture is a combination of different behavioural aspects, all together exhibited while performing the duties. As said earlier, there would be many latent causes neglected and over sighted before an actual incident happens. Identification of those and mitigating them with respective to behavioural performances is much important, as these would be the right defense mechanism in reducing the probability of the incident and sometimes make it completely improbable. The cause identification and its mitigation is an obvious procedure immediate after an incident with all the inputs from several documents, field studies and actual happenings pertaining to an incident. The key point is to identify the gaps in the all the processes of an individual or a group has performed, which has contributed to the incident. The focus shall be on identifying the cause which made the technical error/human error probable due to the human behaviour. Although this is a tough task, mitigating the incident completely from reoccurrence could only be possible by correcting the procedures adopted in handling the system. This would be very helpful in order to assess the safety culture to an extent and in identifying gap to what level shall be addressed.
Matrix- Behavioural skills led to the incident

Analyzing the root cause based on behavioural aspects would also give a clear picture of the present level of the safety culture prevailing at the organization. After identifying the actual human error made thereby triggering the incident the same shall be documented in identifying the lacking skills, which mainly bringing down the safety culture. The data shall be maintained in actually identifying the behavioural traits which shall be improved for a better work culture. The above table shown as an example which clearly maps the gap (Decision making in this case) pertaining to the particular level of the organization which shall be addressed for a better cultural practice.

5.3 Target your audience

Training, although not a complete tool for change in the safety culture, is the initial step before planning to inculcate the safety culture within the department. Content of the training module should be customized based on the targeted audience. A technical power point presentation might not be understood by a junior person. Training needs to be imparted in a language that is understood and based on requirements. Always reflecting on the cultural advantage may not be very effective but educating people on their contribution towards the incident and its seriousness if they or their family were involved. Make it simple for them to understand. Trainings on case studies, understanding the behavioural aspects would actually make an individual aware of the error if it is being done repetitively. The module shall be prepared basis the audience, for example when an engineering team is getting to be trained, they should able to relate the case studies to their work environment and feel the importance of every single job which is ensuring a safe travel. These shall directly affect the individual’s inner self which actually helps in transformation of culture. Personalized induction programs shall be developed for new joinees in promoting safety culture. In fact the initial phase of joining and training for a new employee is the right time in introducing the organizational culture. For adaptation to the safety culture, people might not be knowing the terminology but how safety is perceived is very important and should be a criteria in identifying the right human resource for the organization.

5.4 Promoting Motivational factor

Change in culture cannot be forced. It shall happen by inspiring and influencing for better benefits in a long run. In aviation everyone handles safety critical role either directly or indirectly. A cultural expert says that “If you want to establish change, you have to 'rewire' the neural network that enables the old behavior pattern”. This means even in the best case the desired behavior may have to be repeated and reinforced for many days within a controlled environment. The way they react to a situation can also be controlled with enough motivation and making the people aware that even minor errors could turn into a catastrophic incident.
The process of change within the organizational employee shall be repeated and reinforced. Hence, more emphasis shall be given to contextual examples of incidents in each sector be it ATC, engineering, ground handlers or operations. The department related incident shall be displayed in the form of videos and posters within the proximity of the department. This would connect individuals emotionally as they feel that the incident happened due to a small error from the working group and the importance of their roles and responsibility towards ensuring the safety. A better safety culture could always be ensured, if the working group actually connects emotionally with their professional objectives.

5.5 Nullifying the normalization of deviations

It requires more precision in safety in field of aviation. Immediately after an immense training the quality of the work would be within acceptable limits. However, with time, the replacement of leadership and other fellow workers, makes the team to forget the standard. Hence, the prototype of carrying out the assigned critical jobs ensuring safety along with the check lists to be followed need to be created and communicated with the team by the respective department in forms of media so as to actually hold the right way of doing things permanently irrespective of internal changes within the department or organizations. This ensures the level of safety knowledge to be constant and refreshment of the same would motivate the team in carrying out the job safely.

5.6 Management culture effect on Safety culture

As noted earlier, how organizations perceive safety affects the thought process of individuals down the level. The perception from management perspective shall be demonstrated by the head of the departments when any incident is related with “SAFETY”.
For example, if the head(s) of department(s) becomes involved mandatorily even in all small safety issues people would be more alert. This makes a cultural difference in a longer run. This would make employees at the lower level take note of the importance given to safety by the management and ensure prevention of recurrence of such incidents. Also, this would directly send a message to all the staff of the particular group, that any issue related would be taken seriously by management.

5.7 Benchmarking

Airport performance measurement is carried out basis six key performance areas (KPA) using internal and external benchmarking with different performance indicators (PI). The key performance areas include core processes, safety/security, service quality, productivity/efficiency, financial/commercial and environmental. However, categorization of these KPAs and their performance indictors differs from airport to airport as per the operational requirements.

The KPAs and PIs in various sectors of the industry that is used to benchmark to identify the change in its own performance or change, when compared with the other airports such as “ASQs” are taken very seriously in maintaining the service standards. Similarly, the Safety culture shall also be taken with the same level of importance as this directly relates with the passenger safety requirements and organizational culture itself. Just like Airport Service Quality (ASQ), the ACI APEX in safety review can also be benchmarked in defining safety standards of various airports.

6.0 Conclusion and Way Ahead

Culture cannot be copied. Culture has to be understood considering all the intrinsic parameters before a cultural change is attempted. The focus should be on instituting a safety culture in a phased manner by educating, creating awareness, influencing or inspiring, motivating and establishing a continual improvement process in making the existence of safety culture. The promotion of safety culture of an airport depends on its own approach keeping the fundamentals constant. The approach shall be tailor made to the level of the existing organizational behaviour. The values, the beliefs and the vision of the organization is what can transform into the safety culture.
To be precise, it is the commitment which the individual makes to the organization in terms of the consciousness during the process of the work we do and make safety behavior as one of the greatest virtues they possess. Although detailed frameworks have been developed by the international regulatory bodies, local authorities shall emphasis in developing a frame work comprising and taking into consideration prevailing national culture, professional behavior, etc. The 4c’s – Courage, Commitment, Collaboration and Communication – shall need to be exhibited at an organizational level. Safety does not lie in buildings, files and in regulatory compliance reports. It shall be in the daily work practices that individuals follow with the constant support and involvement of all levels.

**IN THE PRESENT CONTEXT OF AVIATION, THE OBJECTIVE OF THE EXTREME SAFETY STANDARDS REQUIRED CAN ONLY BE MET WHEN A GOOD SAFETY CULTURE IS IN PLACE.**

**References**

- Safety culture – Building and sustaining a cultural change in Aviation and Health care by Manoj S. Patnakar, Jeffrey P. Brown, Edward J. Sabin
- https://en.wikipedia.org/wiki/Aviation_accidents_and_incidents
- Project report on developing safety culture measurement tools and techniques based on site audits rather than questionnaires by Dr. mark Fleming
- Aircraft Accident report – Avianca the Airline of Columbia by National transport safety Board, Washington, D.C 20594
- Safety Culture survey jointly conducted by AAPA, AACO and ACI.
- Safety management system for airports – ACRP report 1
- Safety Management manual(SMM) – International civil aviation organization
- Guide to airport performance measures by Airports council international prepared by Oliver Wyman