

Safety Management Systems and Safety Culture

Part 1 – Why and What

Introduction

A Safety Management System (SMS) is a system comprised of a policy, procedures and practices implemented to enhance the safety performance of an organisation. In order to be considered effective, a SMS should be an integral element of an organisation's operations^{1,2}. By becoming an integral element of business operations, a SMS can provide a more objective and realistic representation of the operational risks confronting an organisation. It should also provide the tools for managing these risks and how to allocate constrained resources³.

How then, can a SMS enhance the safety culture of an organisation? Every organisation has a safety culture and it is the effectiveness of this culture which is being examined. Put simply, a positive safety culture is the creation of a work environment in which safety is routinely practised and improved regardless of whether is being monitored or not⁴.

Why pursue a strong safety culture?

Prior to defining a safety culture and how to achieve it using a SMS, it may be astute to establish a need to pursue a strong safety culture. Whilst it may seem rhetorical to ask why an organisation, particularly a high consequence organisation, would want a strong safety culture, there are persistent barriers and/or challenges to undertaking the processes of achieving a positive culture. Predominantly these challenges are financial but there are others including resistance to change and lack of understanding. It is, therefore, important to highlight the benefits which may emanate from a strong safety culture. These include:

- Creation of a safer working environment;
- More accountable and responsible employees → increased levels of employee empowerment → improved morale;
- Better quality of life; and
- Improved performance through improved quality and productivity → improved financial performance⁵.

Safety Culture

The key element of an effective safety culture has been identified as the manner by which an organisation disseminates safety information on risks and hazards. In fact, a safety culture results from a combination of organisational “cultures” including an **informed** culture, a **reporting** culture, a **just** culture and a **learning** culture^{6,7}.

Informed Culture

An informed culture refers to the level of awareness, and currency of awareness, by management and operators of the human, equipment, technological, process and environmental factors which could impact operational safety.

Reporting Culture

Reporting culture is the willingness of staff to report accidents, incidents including near misses and errors. The depth of a reporting culture is directly impacted by a just culture.

Just Culture

A just culture is one in which reporting is actively encouraged with an emphasis on learning from these reports versus blaming those involved. It is close to, but not quite, the opposite of a blame culture. Staff still need to be aware of the differentiation between acceptable and non-acceptable behaviour.

Learning Culture

The learning culture refers to the ability and readiness of the organisation to analyse safety related data, draw conclusions and act upon validated recommendations^{8,9,10}.

Evolution of a Safety Culture

The evolution of a safety culture has been captured in five levels: **pathological**, **reactive**, **calculative**, **proactive** and **generative**.

Pathological - the level of maturity has been colloquially captured as “*Who cares if we’re not caught*”. At this level organisations see safety as a problem; they suppress information and blaming individuals to support the personal needs, power and glory of those in charge.

Reactive - Organisations at the reactive level, captured as “*Safety is important we do lots of it after every accident*”, view safety as important but respond only after significant harm has occurred.

Calculative - “*We have systems in place to manage all hazards*” organisations tend to be fixated on rules, positions and departmental territory. After a safety incident has

occurred, information may be ignored by this type of organization and failures explained away or resolved, with no deeper inquiry into them^{11,12}.

The first three levels are, historically, where the aviation industry has been but large steps have been taken to bring it organisations to the next two levels.

Proactive - this level has been colloquially described as “We work on problems that we still find “. Organisations at this level focus their efforts on anticipating safety issues before they occur by involving a wide range of stakeholders in safety.

Generative - described as “*Safety is built into the way we work and think*”. Organisations actively seek out information to understand why they are safe and unsafe. Inquiries into safety-related events serve as a means to attack the underlying conditions, not just the immediate causes of the failures. The characteristics of a high-reliability organization can be likened to the characteristics of an organization that has reached the generative level of cultural maturity^{13,14}.

It is quite likely that an organisation may exhibit characteristics from more than one of these levels throughout its various facets of operation.

Using the SMS to enhance the Safety Culture

Part 2 of this article describes how organisations can enhance their safety culture using their SMS.

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¹ CASA 2002, *Safety Management Systems: An aviation business guide*, Civil Aviation Safety Authority

² Transport Canada 2002, *Introduction to Safety Management Systems*, TP 13739 (04/2001), Transport Canada

³ Flight Safety Foundation, 2006 ‘Systematic approach to managing safety calls for conceptual shifts’ *ICAO Journal* Number 2, 2006 pp. 14-16

⁴ Sumwalt, R 2007, ‘Do you have a Safety Culture?’, *Flight Safety Foundation: AerosafetyWorld*, July 2007, pp. 37-38

⁵ Transport Canada 2007, *Module 6 Safety Culture*, viewed 3 June 2008,

<http://www.tc.gc.ca/CivilAviation/SMS/Training/Module6/presentation.htm>

⁶ Reason, J 1997, *Managing the risks of organizational accidents*, Ashgate, Sydney

⁷ Ibid ref 5

⁸ GAIN Working Group E, 2004 *A roadmap to a just culture: enhancing the safety environment*, September 2004, Global Aviation Information Network

⁹ Ibid ref 7

¹⁰ Trautvetter. C 2008, ‘SMS: more than just the latest buzzword for bizav’, *Aviation International News Online*, viewed 4 June 2008, <http://www.ainonline.com/news/single-news-page/article/sms-more-than-just-the-latest-buzzword-for-bizav/>

¹¹ Ashcroft, D, Morecroft, Parker, C and Noyce. P 2005. ‘Safety Culture Assessment in Community Pharmacy: Development, Face Validity, and Feasibility of the Manchester Patient Safety Assessment Framework’, *Quality and Safety in Healthcare* 14(6), 2006 pp 417-21

¹² Edwards, C 2005, ‘Developing Safety Management Systems’, *Presentation of the Transport Canada Safety Management Systems Information Session, Calgary Oct 2005*, viewed 31 May 2008, <http://www.tc.gc.ca/CivilAviation/SMS/Info/Oct2005/1367810.pdf>

¹³ Ibid ref 12

¹⁴ Ibid ref 13