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BOOK REVIEW

Sidney Dekker: The field guide to understanding 'human error'

3rd Edition, Ashgate, 2014

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This is a very interesting book and easy to read.

Who should read this book?

- Practitioners, experts and academics with a technical background knowledge and familiarity with safety issues.
- Novices and newcomers in the domain should start from a more basic type of text so as to familiarise with the fundamentals of aviation safety. However, if a newcomer is attracted by the book for its appealing title, the concepts and examples discussed in the book are very easy to grasp and may well be generating further reading interest and search for deeper knowledge.

The present version (no. 3) is an improved and expanded volume with respect to the previous editions for practical aspects as well as for data and information.

The initial chapters tackle the basic theoretical grounds that support the development of a Safety Management System (SMS) and safety analysis primarily from a human factors perspective, whereas the following chapters focus on more practical aspects of implementing a SMS.

Important conceptual issues discussed in the initial chapters are as follows:

- Consideration for the human beings as 'positive' contributors to incident mitigation, containment and recovery, rather than error makers and contributors or generators of incidents.

  This important concept is fully shared by other distinguished authors (Hollnagel 2014; Vanderhaegen 2015), and it is further discussed in the subsequent chapters.

  It is worth noticing that currently there is no reference to a valuable taxonomy of 'positive' contributions of human beings to safe ending of sequences. This is an important issue and opens a new area of work and development for researchers and regulators.
- Relevance of the single human being contribution to incidents in terms of errors and mishaps made during an occurrence as relevant conditions to study and analyse. This does not cancel the consideration for organisational issues as potential main causes or contributors to incidents. The same concept was already identified by J. Reason with the metaphor of the 'pendulum' having reached its most extended position and need to return towards a static equilibrium, in a central position ('the pendulum may have swung too far in our present attempts to track down possible errors and accident contributions that are widely separated in both time and place from the events themselves'; Reason 1997, p. 234).
- Just culture issue, already well developed by S. Dekker in previous publications, is well introduced and discussed (Dekker 2013). The strong regulatory environment that pervades aviation is discussed, and the role of human error, just culture and the correlation between personal judgement and norms, is considered. This concept is further developed in Chapter 7 totally dedicated to the development of a 'Safety Culture' within an organisation.

From Chapter 3 onward, the more practical aspects of implementation of a SMS are dealt with focusing

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especially on the assessment of incidents and occurrences actually encountered by an organisation. In particular:

- Chapter 3 contains a very accurate description of how to carry out an investigation about human error. The concepts of retrospective analysis, already discussed in the earlier chapters in more general terms, are applied in this chapter and focused on human error evaluation.
- In particular, the notion of 'event' is thoroughly discussed even if a precise and formal definition is not formulated. The relevance of this concept and of the definition of the time line for performing a consolidated and effective root cause analysis is remarked and made clear to the reader.
- Chapter 4 focuses on some of the most commonly utilised causal elements of human inappropriate performance. In particular, the concepts of Situational Awareness and Complacency, two of the most frequently recalled causes of human error in the well-known list of human error causes known as the 'dirty dozen', are discussed and revised in detail.
- The most relevant novelties with respect to previous editions of this book may be found in Chapter 5 which gives the guidelines for the retrospective analysis approach and supports the reader in defining an accident causation model that will guide all investigations about occurrences associated with human factors. In this chapter, the positive contribution of human intervention to incident development is further revised in combination with the concept of resilience, very familiar to the author.
- These concepts are the foundations for the three last chapters of this book, where the author offers a valuable support the establishment of a safety department of an organisation. This should correctly be based on solid, real and effective safety culture and on the need of continuous overlook of the activities aimed at an early identification of hazards and threats.

In essence, this book is certainly a very valuable guide for any safety manager intending to build and maintain an effective safety activity. The focus on human factors is one of the most relevant aspects as much as the need to define the most valuable ways to perform a retrospective analysis of occurrences.

The implementation of a Safety Management System is the essential instrument on which safety processes and company operations are based. The correct approach to dealing with human factors and in particular to analysing the contribution of human errors to incident causation is a crucial pillar, but not the only one, on which the entire foundation of organisational safety is based. This book offers a valuable support in ensuring this is achieved.

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