



UWL REPOSITORY

repository.uwl.ac.uk

Crisis and organisational learning: the hidden links between aviation and
hospitality industry

Sikora, Ivan ORCID logoORCID: <https://orcid.org/0000-0003-2314-9724> (2021) Crisis and
organisational learning: the hidden links between aviation and hospitality industry. In:
Organizational learning in tourism and hospitality crisis management. De Gruyter Studies in
Tourism, 8. De Gruyter, Berlin, Germany, pp. 151-168. ISBN 9783110679120

<http://dx.doi.org/10.1515/9783110679120-010>

This is the Published Version of the final output.

UWL repository link: <https://repository.uwl.ac.uk/id/eprint/8753/>

Alternative formats: If you require this document in an alternative format, please contact:
open.research@uwl.ac.uk

Copyright:

Copyright and moral rights for the publications made accessible in the public portal are
retained by the authors and/or other copyright owners and it is a condition of accessing
publications that users recognise and abide by the legal requirements associated with these
rights.

Take down policy: If you believe that this document breaches copyright, please contact us at
open.research@uwl.ac.uk providing details, and we will remove access to the work
immediately and investigate your claim.

Please reference this Chapter as:

Sikora, I. (2021). Crisis and organisational learning: the hidden links between aviation and hospitality industry, In: Ghaderi, Z. and Paraskevas, A. (Eds). *Organizational Learning in Hospitality and Tourism Crisis Management*, De Gruyter Publishing, pp. 151-167.

Ivan Sikora

Crisis and organisational learning: the hidden links between aviation and hospitality industry

Introduction

Global nature of hospitality and aviation is crucial when addressing the need for emphatic, effective and efficient Crisis Management (CM) of significant events. Nowadays, the “visibility” of adverse events is almost immediate worldwide. It projects to the general public, family, and friends of those involved directly or indirectly (e.g. emergency landing on Hudson River US Airways Flight 1549 (National Transportation Safety Board, 2010) or Mumbai Hotel Attacks (Garg, 2010)). Presently, aviation had more chances to deal with adverse events, mainly due to its higher profile and the World’s focus on its developments. Regardless of that, sudden and unexpected nature of the crisis affects organisations in both industries in unpredictable ways offering little or no time to react at the very moment when it happens.

Hospitality and tourism activities contribute to 9.8% of the World’s gross domestic product (World Travel and Tourism Council, 2017). On the other hand, aviation’s share stands at 3.6% (ATAG & Oxford Economics, 2018, p. 4). Before the current COVID-19 Pandemics challenge, one in eleven jobs worldwide come from tourism, while aviation employed 10.2 million people globally (ATAG & Oxford Economics, 2018, p. 4). All of this makes them very much at the forefront of public interest. In addition to this, there are many ‘hidden links’ between aviation and hospitality. By nature, both industries are often responsible for people from other parts of the World far away from the company headquarters, hotel or particular crisis location. Because of that, whenever a crisis happens in one or the other industry, it can not be missed globally. Equally, aviation as well as the hospitality and tourism industry, are intricate systems that involve the collaboration of companies, people and events in multiple subsystems. Moreover, they are similar in their service nature; the number of customers served and people affected directly and indirectly in any crisis and the sensitivity of the “bottom line” to their CM.

Aliperti et al. (2019) state that there is a need for the hospitality industry to take advantage of knowledge about CM from parts of the global industry that has been dealing with crises longer. With the similar nature and importance of aviation and hospitality, they should have an equal or comparable response to a crisis. Therefore, this chapter aims to identify and elaborate on CM elements observed in aviation and their relevance for hospitality. When dealing with a crisis, we will discuss features that serve as ‘hidden links’. A long history of aviation dealing with crises on the global stage makes it a potentially valuable place to look for inspiration and indication of how to design, operate and improve CM approach and systems. Explicit and tacit knowledge identification facilitates Knowledge Transfer and learning sharing between the two sectors while organisational learning strategies and methods from the aviation map to comparable characteristics in hospitality.

Context

Civil aviation is a global industry that facilitates travelling, links people and cultures, provides trade connections, and is the main contributor to the economy worldwide and the wider air transport sector (ATAG & Oxford Economics, 2018). Being a system of systems, the safety of the system relies on everyone involved in the process of producing the service. The most visible parts of the system are the flying crew and cabin crew. Safety of passenger, cargo and mail carried is the goal of others involved in the process. Aircraft maintenance personnel, Air Traffic Control Officers, and aircraft handling staff perform their duties around and concerning aircraft adding value for the benefit of successful completion of each flight.

High-Reliability Organisations and airlines are just one example of them because they manage a huge amount of energy that is usually under control and used for the benefit of humanity (Rijpma, 1997). Unfortunately, at times even those systems fail, and disaster happens (e.g. Three Mile Island nuclear accident (US Government Printing Office, 1979), Bhopal chemical plant disaster (Broughton, 2005), or Deepwater Horizon Oil Rig Accident (Bp, 2010)). Participation in a more extensive civil aviation system makes our inputs in the system just a part of the mix. The system’s output combines other inputs and different pathways through other airports, maintenance or flight operations participants. Hence the crisis can be created without any intention from our side (Leveson, 2011. cited in Grant et al. 2018)). Therefore, it is not wise to discard the option that any type of crisis might occur in our system.

This book chapter discusses how hospitality can learn from aviation-related experience to surviving and managing crises. We are aware that there are no two similar organisations or industries, but we have specific types whose features define behaviour and needs in any given situation. The features related to industry specifics that define Knowledge Transfer (KT) need to involve employees, managers, information management, information technology (Government of New Brunswick, 2010). At the same time, Dixon (2000) acknowledges that on the receiving side, in our case hospitality, we need to assure the similarity of task and context of work. Service industry segments of contemporary economies are growing faster than

industrial, agriculture, and other economic segments. Wittmer and Bieger acknowledge that civil aviation “... exhibits all the typical characteristics of service industries: the intangibility and perishability of the product and the high importance of personal contact to the customer.” (2011, p. 62). Service nature of both aviation and hospitality, confirms this critical premise for the effective KT. Features that are critical for the hospitality industry’s success map well to the aviation and the way it creates, delivers and consumes the product (i.e. service).

There is human involvement in creating and consuming service on both sides. The globalisation of the world economy has driven a need for service industries to distinguish themselves in their respective fields (Wensveen, 2011). Prosumption, initially defined by Toffler (Southerton & Jurgenson, 2014) results in the fact that co-creation and co-producing service experience can not be avoided even in a crisis. Human involvement in the design, creation and operation of both systems depends on the level of professionalisation. Due to its nature, aviation has many very visible highly trained and professional employees holding extensive professional certification and graduate degrees. At the same time in both industries, the majority of the workforce is more fluctuating with a high level of turnover. It does not get the same level of education or training when joining an equally challenging environment. With less recognisable training standards, qualifications, or career paths, they usually find high labour-intensive and very specialised service industries environment even more challenging. In line with Redundancy Theory (Frederickson & LaPorte, 2002), human operators are just another fallible element. It has been quoted very often that that human contribution to aviation accidents is more than 66%. Having stated this, we need to acknowledge that the very same human can minimise crisis effects in some cases (Brown et al., 2018).

British Standards Institution (BSI) states that a crisis is “...an inherently abnormal, unstable and complex situation that represents a threat to the strategic objectives, reputation or existence of an organisation [society, school].” (2011, p. 1). While different authors agree on crisis development phases, there are few exceptions and differences when referring to CM. As a member of the CM team handling one of the first HRO industrial accidents in Three Mile Island in Pennsylvania, USA, Fink defined them, as shown in Figure 1 (Kamei, 2019). Building on Fink’s framework Mitroff (1988) added stages of recovery and learning moving closer to what has proven to be more effective in the end. Affected organisations or communities suffer from a devastating effect, especially when they are not prepared to deal with the crisis. Reasoning like this follows Aliperti et al. (2019) pointing to Faulkner’s (2001) initial definition of disaster as an event where managers could not apply any control. More than a decade later, Al Battat & Som (2014) identified this position in the hospitality and tourism industry’s specific literature suggesting the state of crisis preparedness as reactive.

Faulkner’s theory is beneficial because it sheds insight into the difficult problem of managing crisis. Identifying High-Reliability Theory as a basis for safe operations in High Reliability (or Risk) Industries including aviation, Paraskevas et al. (2013) point that proactive actions offer a better answer to situations where the initial disruption has gone beyond the local capacity to handle it.

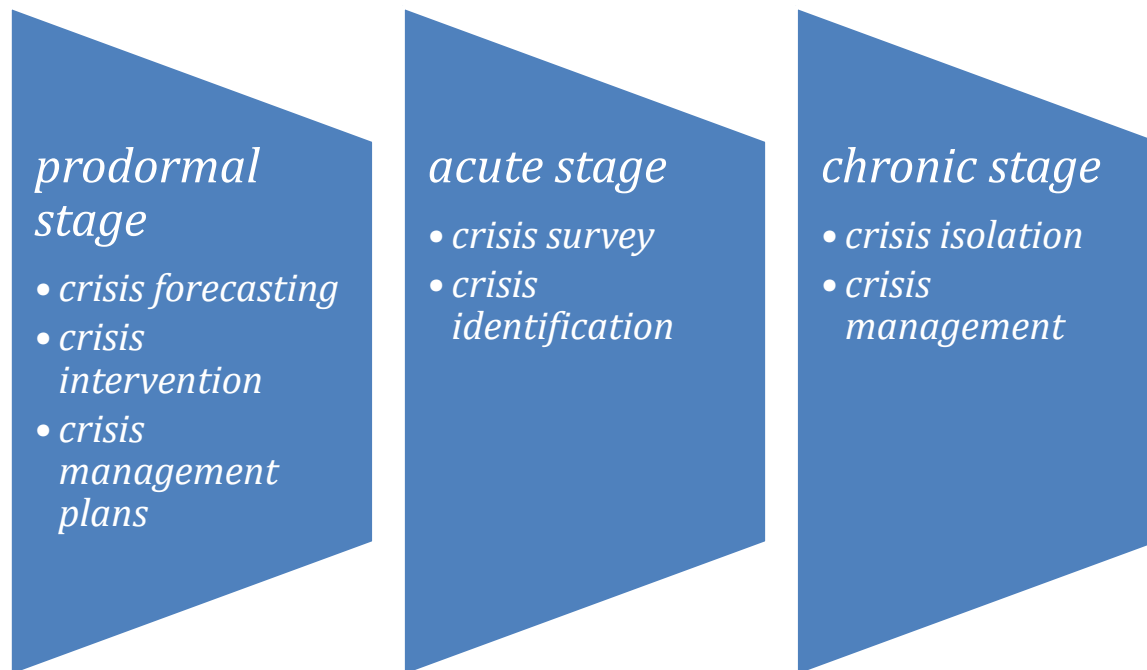


Figure 1 Crisis Management by Fink (1986) adapted by the author

Unlike the general reactive approach to finding the causes of problems or crisis, aviation has realised that once the equipment used's technical capabilities have become reasonably safe; the research aimed to capture and understand the potential origins of the problem. This discussion is aligned with regulatory requirements in the Safety Management System (SMS) that calls for managing risks "...at or below an acceptable level" (ICAO, 2013, pp. 1–2). Aviation statistics demonstrate this process's effectiveness when annual safety reports show a decline in Accident Rates and Onboard Fatalities year to year (see Figure 2.).

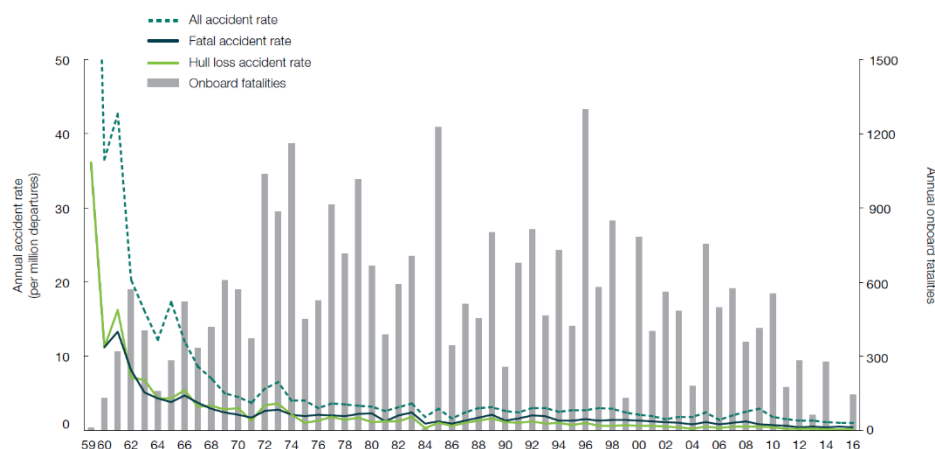


Figure 2 Accident Rates and Onboard Fatalities by Year (1959-2016) (Boeing, 2017 p.16)

Some authors argue that “published aviation safety statistics and industry practice refer mainly to safety outcome indicators” (Kaspers et al. 2016, p. 9). Nevertheless, in the text that follows, we argue about the theory related to aviation that is supposed to help achieve the best possible outcome despite the industry’s high-risk nature. Once this has been done, we present related aviation solutions for which we see a potential application in hospitality CM. Identification of those two sets of information is intended to ease decisions where to go before the moment crisis arises and demands the organisation’s full attention.

Theories to Apply to Aviation, Crisis and Knowledge Management

A formal definition of knowledge as “the meaningful link that people make in their minds between information and its application in a specific setting” (Dawes and Lens, 2007) can be adapted when discussing aviation and hospitality crisis knowledge by replacing people with organisations. Although not in the same position concerning perceived risk exposure hospitality and aviation can exchange CM knowledge. Understanding the setting where they operate and essential characteristics of organisations involved (e.g. service nature of the product, human involvement in emitting and receiving position, and the workforce structure), as discussed earlier, allows for this KT transaction. More precisely and for the sake of managing our discussion related to KT, we will adopt a more granular position that knowledge can be further defined as tacit and explicit (Polanyi, 1966). Furthermore, Paraskevas et al. (2013) argue that the unpredictable nature of crisis calls for the more precise definition of crisis knowledge as “procedural, behavioural, third party knowledge and ‘learned ignorance’.

Presenting crisis in a variant of a Bow-Tie diagram (Duijm, 2009), we can distinguish the time before the event and after the event (see Figure 3).

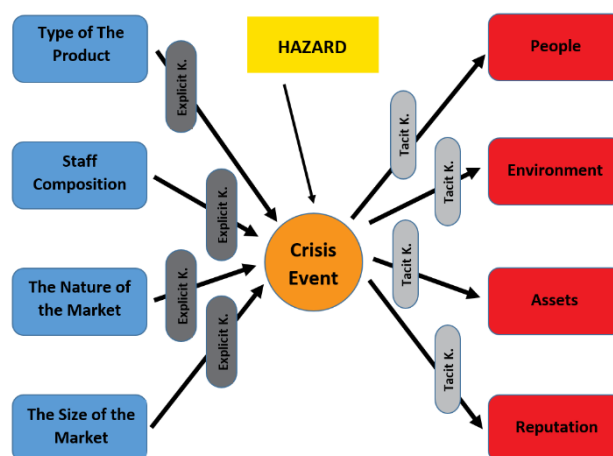


Figure 3 Version of Bow - Tie Diagram Related to Crisis Management Knowledge ((SKYBRARY, n.d.) adapted by the author

A crisis is an event positioned in the middle of the diagram. Progressing from the left side of the diagram we can see several elements that describe the organisation (e.g. type of the product, staff description, the nature and the size of the market, speed of the product delivery). When a crisis happens the effect of the crisis projects on the other side in terms of the areas affected by the crisis. From the risk management literature, those can be but are not limited to: people, environment, assets, and reputation. Once the crisis has started, we are unsure how fast and in what direction it will develop.

In aviation, we observe that the most effective efforts in CM usually happen at the stage before the crisis called “preparedness and planning” (Ritchie and Jiang, 2019). Therefore in between the organisation’s characteristics and the crisis we have elements of the explicit knowledge that allows for the proactive minimising the potential of the crisis to happen and maximising the response’s effectiveness if it happens after all. Stages of “response and recovery” as well as “resolution and reflection” inform our tacit knowledge or “simple rules” and “knowledge of no-knowledge” as Paraskevas *et al.* (2013) call them. Hence, in between crisis and affected areas, we can position elements of the tacit knowledge originating from previous crises in this particular organisation or industry.

Explicit knowledge about the crisis in aviation originates in information about the phenomena in focus. Experience from the crisis in the form of data has been sorted and analysed to be communicated. That codification effort aims to share the most effective approach and raise organisations’ performance in crisis (Wyatt, 2001). Various modes of explicit knowledge exist. These modes include spoken language, graphic displays, tools (processes and guidelines) and numeric tables (Dawes and Lens, 2007). Explicit knowledge is a subject to become outdated over time and needs to be checked and updated if needed. Explicit procedural aviation knowledge related to CM and Emergency Planning is contained in government, regulatory, and academic/ scientific material covering related general basis and principles. They serve well the need for the ready-made and immediately available CM information applicable to hospitality as argued recently by Ritchie and Jiang (2019).

When discussing potential tacit KT, we need to stress that it would be challenging to directly reapply this type of knowledge between two industries. Acknowledging Dixon (2000) that argues about many different ways to transfer knowledge, there is still a benefit in addressing how aviation is acquiring and managing tacit knowledge. That discussion can inform or inspire hospitality practitioners to apply comparable methods in their industry with a due note that each industry, and even organisation, will probably have its variant that meets its needs (Government of New Brunswick, 2010).

Applicable Explicit Knowledge and the Way to Harvest Tacit Knowledge Generating Methods from Aviation

Corporate governance and compliance should include the development and maintenance of CM capability. Essential knowledge that facilitates CM in aviation has been developing over many years. Originating from the '50s when aviation started to be used more often in civilian tasks it has followed reshaping the awareness about the causality of accidents and incidents and the effectiveness of means employed to meet their challenges (see Figure 4). Following the shift of thinking in terms of safety, aviation has modified its approach to CM.

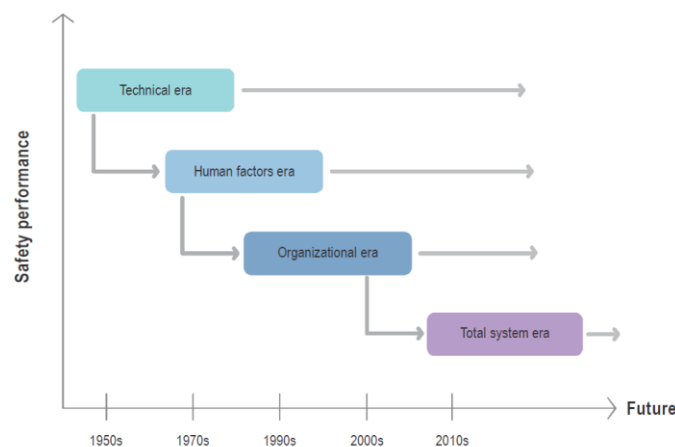


Figure 4 Transition of Focus in Aviation Safety (International Civil Aviation Organization, 2012, pp. 2–2)

Human Factors (HF)

Explicit Knowledge

We mentioned previously that both aviation and hospitality are very much reliant on their employees when producing the product they sell, i.e. service. Aviation has been keeping track of the share of Human Factors (HF) caused incidents compared to the rest. It varies from 66% to more than 80% depending on which section of aviation we consider and the time considered. It is a common knowledge in aviation that most of those “human factors” events are avoidable when considered in hindsight. Table 1 shows a selection of some of the most famous aircraft accidents involving HF.

Tab. 1 Selection of Aviation Human Factors Accidents

| Human Factor Causation | Aircraft Accident |
|------------------------|-------------------|
| | |

| | |
|--|---|
| Failure to follow company policy | — British Airways Flight 5390 (Air Accidents Investigation Branch, 1992) |
| The flight crew distracted by the nose gear indication light | — Eastern Air Lines Flight 401 (National Transportation Safety Board, 1973) |
| The flight crew recovered damaged aircraft and landed | — 2003 Baghdad DHL attempted shootdown incident (Aviation Safety Network., 2013) |

HF, as a science, study human capabilities and limitations in the workplace and system's performance. They study the personnel's interaction, the equipment they use, the written and verbal procedures and rules they follow, and any system's environmental conditions. HF aims to optimise the relationship between the staff and systems to improve safety, efficiency, and well-being. Aviation realised very early that HF are essential for its safety and CM. A crisis can be aggravated or alleviated if designers, manufacturers, policymakers, managers, and operational staff consider HF. These might vary from an elementary knowledge of getting enough sleep or quality food to very detailed fatigue measurements relevant to long-haul flights or night shift work.

Formal documentation relevant to HF in aviation is generally widely applicable to any other industry that has people working in similar conditions: shifts, long hours, or procedurally prescribed work. That is true regardless of whether we refer to either highly specialised staff (e.g. pilots (Maurino et al., 1995), maintenance engineers) or groups with less focused and broader education background (CAA, 2002). Considering HF can help the hospitality industry prevent and manage crisis originating in different HF-related areas (see Tab. 2).

Tab. 2 Human Factors area of influence

| Human Factors Area | Organisation/ Mission Considerations |
|---------------------------------|--|
| Human Physiology | Front Desk staff/ Pilots & Cabin Crew Maintenance Staff Managerial Staff |
| Human Psychology | Perception Cognition Memory Social Interaction |
| Work Place Design | Stress Fatigue Workload Sleep Ergonomics |
| Environmental Conditions | Temperature Noise Outdoor/ Indoor |

Tacit Knowledge

Crisis originates in daily operations at different levels in the organisation. Mitroff (1988) stated that signals about a crisis could be observed long before it happens. As Paraskevas et al. (2013) argue, this emergent tacit knowledge enables crisis managers to develop specific knowledge exploitation strategy depending on the type of knowledge itself. Similarly, in aviation, we have a requirement to report and record aviation safety related information. Governments prescribe the minimal set of reportable information as Mandatory Occurrence Reports (MOR) (e.g. Confidential Human Factors Incident Reporting Programme (CHIRP) in the UK (CAA, 2002), Aviation Safety Reporting System (ASRS) in the US (Salmon et al., 2010), or European Co-ordination Centre for Aviation Incident Reporting Systems (ECCAIRS) in European Union (Nisula, 2015)).

Some organisations require even more extensive reporting in the form of, e.g. Air Safety Reports, Ground Occurrence Reports, or Cabin Safety Reports. As Dixon (2000) argues, cultivating and rewarding regular reports helps foster learning culture and makes Knowledge Management (KM) effort successful and this individual's knowledge is embedded in organisational routines or procedures. This tacit knowledge can be captured at different levels. In aviation, it is done by pilots, aircraft maintenance engineers, cabin crew, and

anyone else when available channel for the reporting exists (paper or electronic). Once captured, as Senge (1992) argued, leaders of the organisation have “just” to provide means to disseminate lessons learnt.

Latent Conditions

Explicit Knowledge

It is very difficult to expect that we will ever remove all human error in systems that rely on their human operators. Authors in aviation have formalised this burden in a term called latent factors (Reason, 2016). When an operator at the so-called “sharp-end” of the organisation (e.g. pilots or air traffic controls officers in case of aviation) makes a mistake that mistake is visible immediately or very soon after and is called a human (active) error. On the contrary, if an engine designer or manager created faulty procedure defining the context of work for staff or misses to check calculation done by their colleague, this mistake stays dormant to the moment when it resurfaces and creates a problem.

These latent conditions, usually introduced unconsciously with good intentions and based on the best available information, may have been present for years without causing an accident. Later on, after not a definite amount of time combined with, or causing, active failures, they produce an accident. The Accident Causation Model, often called the Swiss Cheese model, in Figure 5, is a graphic depiction of this accident causation understanding. The same logic can be applied in hospitality for the front desk or hotel kitchen staff. Slices of the cheese are not necessarily related to aviation. They can be substituted with corresponding hospitality areas for the model to help to prepare for and to help manage a possible crisis when this need arises.

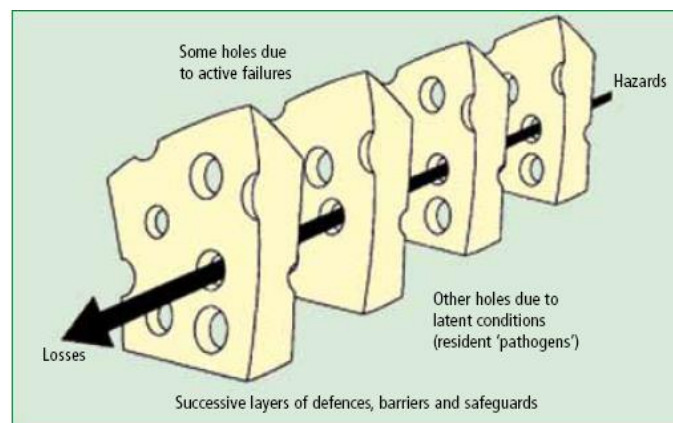


Figure 5 “Swiss - Cheese” Model of James Reason (Shields, 2011)

The latent conditions exist because of issues such as poor: design, gaps in supervision, undetected defects or maintenance failures, unworkable procedures, inadequate training, or conflicting goals and objectives. Table 3 presents a selection of some of the significant aviation accidents related to Latent Factors causation.

Tab. 3 Aviation Accidents and Crisis Related to Latent Conditions

| Latent Conditions | Aircraft Accident |
|--------------------------------------|---|
| Causation | |
| Faulty Maintenance Procedure Applied | — Japan Airlines Flight 123 (Aircraft Accident Investigation Commission Ministry of Transport, 1987) |
| Missed Structural Repair Completion | — Aloha Airlines Flight 243 (National Transportation Safety Board, 1989) |
| Faulty Maintenance Procedure Applied | — China Airlines Flight CI611 (Aviation Safety Council, 2002) |

Tacit Knowledge

The nature of aviation with a fast-developing technology and systems defines the nature of the industry's KM demands. The threshold of the 20th century has commanded a new approach to understand accident causation. Initiatives from the late 1990s have given aviation a mandate to adapt and move in SMS direction (ICAO, 2013). Industry initiatives such as Aviation Risk Management Solutions (ARMS) have originated in aviation to facilitate the harnessing of operationally generated organisational tacit knowledge for the benefit of the industry as a whole (ARMS Working Group, 2010). Along the lines of the single and double loop, organisational learning approach for the benefit of crisis (and safety management (SM)) (Blackman et al., 2011) ARMS established two phases approach when considering any safety event. Working group has introduced Event Risk Classification (ERC) as a single, and Safety Issue Risk Assessment (SIRA) as double loop extension of the process.

Regardless of the size of the organisation ARMS approach allows for smaller organisations to manage the influx of useful safety, and we would argue crisis, data. Acknowledging the difference between the immediate threats and potential signals of crisis coming this approach is in line with the argument of (Ritchie & Jiang, 2019) about learning from past experiences and based on what has come close to be an accident. SIRA as a KT tool moves organisational learning before the resolution phase where it has been discussed to happen in the hospitality industry at the moment most often (Ritchie & Jiang, 2019) allowing for future changes in safety or CM potentially.

Safety Management System

Explicit Knowledge

Aviation progression from awareness of human (active) errors through HF (latent) considerations has evolved and lead to the introduction of the view that safety has to be managed by addressing organisational factors. Accidents and disasters from Tab. 4 represent a selection of cases where seemingly unrelated causes have developed to significant disasters due to inefficient safety management.

Tab. 4 Safety Management Trigger Events

| Safety Management Causation | Aircraft Accident |
|---|---|
| Inability to learn from past incidents and confusing operating procedures | — Three Mile Island accident (US. Government Printing Office, 1979) |
| Groupthink defining the action | — Space Shuttle Challenger disaster (NASA, 1986) |
| Seemingly unrelated aircraft fault resulting in the accident | — Air Ontario Flight 1363 in Dryden, ON, Canada (Moshansky, 1992) |

Therefore, in the early 1990s, the SMS approach has been mandated by the International Civil Aviation Organisation (ICAO). The transition from a prescriptive understanding of safety to a collaborative performance-based one has not been easy. The period of the first few years has been challenging for all: regulators as well as organisations. Formal requirements and stipulations for SMS originated in separate ICAO documents initially. Building on the applicable content ICAO published Safety Management Manual (SMM) Doc 9859 initially (ICAO, 2012) that after several revisions have served as a basis for ICAO Annex 19 covering SMS knowledge and guidance (ICAO, 2013).

Four pillars of the SMS defined in SMM were transferred to the Annex also. They correspond to a Total Quality Management's phases of "Plan-Do-Act-Check" circle from the late 1980s (Swuste et al., 2020). SMS pillars are Safety Policy and Objectives, Safety Risk Management, Safety Assurance, and Safety Promotion. When we consider knowledge about either safety or crisis SMS structure, and intended function corresponds to a functional and practical KM system (Government of New Brunswick, 2010). Even more than that, the organisation's ability to manage crisis knowledge as discussed by Paraskevas *et al.* (2013) is

related to organisational factors such as organisational leadership and structure, crisis culture and communication. If one replaces crisis with safety, we have an almost perfect fit to before mentioned pillars that aviation has in its SMS (see Figure 6).

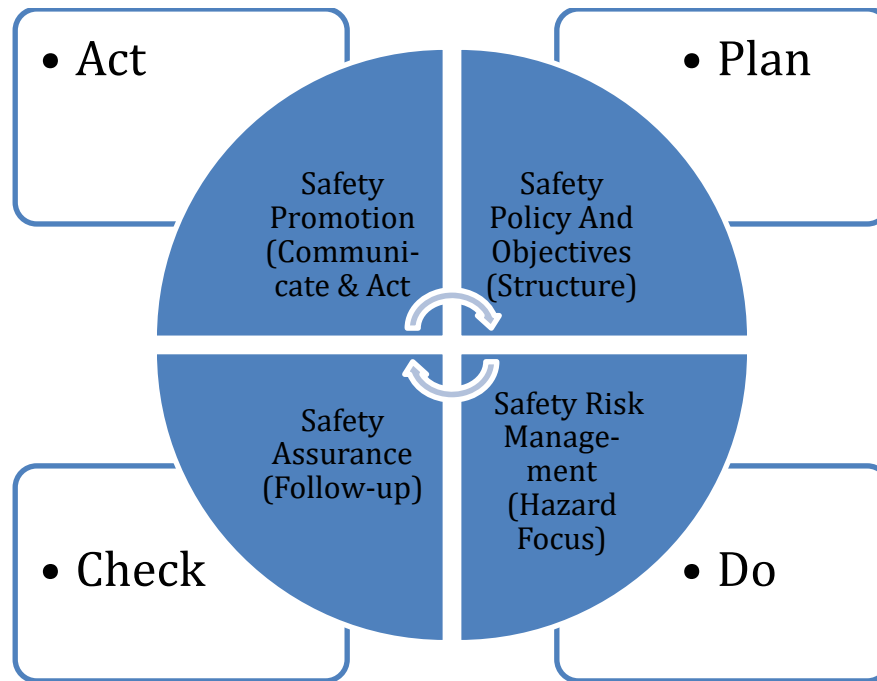


Figure 6 Safety Management and Total Quality Management Connection (adapted from Li and Guldenmund, 2018 p. 109)

Tacit Knowledge

Aviation has had its share of reactive organisations and approach that corresponded to what Beeton (2001) stated when claiming that hospitality risk management is usually reactive after a severe incident or accident. Learning from the crisis recovery stage mentioned by Aliperti *et al.* (2019) matches what authors in HRO literature would call “a bureaucratic” (Parker et al., 2006, p. 554) organisation. Classifying organisations in this way do not relate to either size or origin of the organisation at all. What is more important for a proactive nature of an organisation, compared to features just mentioned, are its resilience-building drive that encompasses: constant learning, flexibility, adaptation and evaluation (Brown et al., 2018).

Proactive behaviour in aviation safety, and CM, starts with a clear leadership (indicated in the Safety Policy of SMS). Safety Risk Management and Safety Assurance enable the inclusion of different stakeholders in the organisation and a broader level (e.g. country or even global aviation industry in the form of State Safety Programme (ICAO, 2013) or Global Strategy for Aviation Safety). This knowledge movement within and between organisations using Safety Promotion enables sharing applicable types of safety knowledge building even more solid SMS. A shared sense of purpose called very often “safety culture” (Parker, Lawrie

and Hudson, 2006, p. 552) in the safety field, nurtures proactive attitude identifying “what could possibly be” instead of just “what is” or where it is coming from (Paraskevas & Altinay, 2013, p. 168).

Safety-II

Progression of safety thinking, presented in Figure 4. before, identified a systemic approach as the latest iteration in the effort to match the nature of the aviation system with methods that suit current times. SM approach through centralised control, called “Safety-I”, aimed to centrally determine what is safe and communicate it to the employees. Opposite to this approach, we observe recent efforts to promote and apply “Safety-II” to empower employees and organisation to safely adapt to situations and conditions as they develop (Provan et al., 2020). Effort in creating and cultivating resilience skills through “Safety-II” has not stopped at aviation only. Other organisations take positive advantage of their employees also (e.g. Son et al. (2019) mentioned this could be observed in the Emergency Department in health care also).

If that is the case for the fast-paced environment of an operating theatre, an aircraft cockpit, or Air Traffic Operator’s console why not to take advantage of it in situations such as a high paced kitchen (Health and Safety Executive, 2006) or equally demanding front desk of a busy hotel (not necessarily five stars rated). The reality of human operator, faced with a myriad of systems and variability of tasks in either aviation or hospitality is a fertile ground to reach out for “Safety-II” and its promise to “ensure that as many things as possible go right” (Shorrock et al., 2018). They also stress that while we have had a significant focus on the human (active) error, we are reconsidering humans’ role as a quality addition to systems’ flexibility and resilience. While (Brown et al., 2018) acknowledge that resilience-building is an ongoing process it is important to stress that aviation’s explicit knowledge presented here can serve as a starting point or an inspiration to think of, reuse if possible, or to build similar documents that can serve hospitality well when thinking of CM.

Conclusions

Although rare, crises have been more frequent in aviation, resulting in the proficiency of dealing with them. Answering the call for more holistic Crisis Management in hospitality recently, this chapter aimed to identify and elaborate on CM elements observed in aviation and their relevance for hospitality organisations based on non-apparent, i.e. hidden, links. Aviation and hospitality are two seemingly non-comparable industries. Aviation is more technology-intensive, high-risk, and essential for the global economy’s everyday functioning. On the other hand, hospitality is dependant on nature and its provision, non-essential but nice to have for the healthy and balanced personal life-style, and generally less financially challenged than aviation. Nevertheless, when a crisis struck, several critical similar features reveal themselves. Catering for many people away from their natural habitat and high visibility in the global media requires emphatic, effective and efficient handling of the crisis in both industries.

Heavy reliance on human involvement, relative rarity and the speed of crises development, and varying sizes of organisations are hidden links that inspired us to look into Organisational Learning practices in aviation and their potential for application in hospitality. Some identified aviation content offers a remedy and a boost to answer a perceived lack of comparable material and methods in hospitality. Explicit Human Factors knowledge; the awareness of related Latent Conditions; Safety Management System; and recent “Safety-II” notions can inspire hospitality practitioner when answering challenges related to either workforce or workplace. Tacit knowledge creation methods and practices (e.g. reporting systems, collecting relevant incidents’ data) demonstrate a proactive approach in building awareness and responses to potentially new and emerging types of crises. Finally, codification, transformation, and preserving of tacit to more widely useful explicit knowledge through a model such as SIRA in ARMS offer ways to enable knowledge creation and transfer within aviation and hospitality alike. We argue that tacit knowledge is essential to tip the crisis outcome scales in any organisation positively. That is precisely the final hidden link between our two industries when discussing CM. In both aviation and hospitality, explicit knowledge allows organisations to operate normally and occasionally in abnormal times. However, tacit knowledge saves the day at all times.

References

- Air Accidents Investigation Branch. (1992). *AIRCRAFT ACCIDENT REPORT 1/92*.
- Aliperti, G., Sandholz, S., Hagenlocher, M., Rizzi, F., Frey, M., & Garschagen, M. (2019). Tourism, Crisis, Disaster: an Interdisciplinary Approach. *Annals of Tourism Research*, 79(October). <https://bit.ly/2MMwy2u>
- ARMS Working Group. (2010). The ARMS Methodology for Operational Risk Assessment in Aviation Organisations. Retrieved October 26, 2020, from <https://bit.ly/3i7ype6>
- ATAG, & Oxford Economics. (2018). Powering global economic growth, employment, trade links, tourism and support for sustainable development through air transport. *Aviation Benefits Beyond Borders*, 88.
- Beeton, S. (2001). Horseback tourism in Victoria, Australia: Cooperative, proactive crisis management. *Current Issues in Tourism*, 4(5), 422–439. <https://bit.ly/38C2ijA>
- Blackman, D., Kennedy, M., & Ritchie, B. (2011). Knowledge management: The missing link in DMO crisis management? *Current Issues in Tourism*, 14(4), 337–354. <https://bit.ly/3i6pt8Q>
- Boeing. (2017). *Statsum*. Retrieved from <https://bit.ly/39pxKR4>
- Bp. (2010). Deepwater Horizon Accident Investigation Report. *Internal BP Report*.
- British Standards Institution. (2011). Crisis management - Guidance and good practice. London: Cabinet Office. Retrieved from www.bsigroup.com
- Broughton, E. (2005). The Bhopal disaster and its aftermath: a review. *Environmental Health*, 4(6). Retrieved from <https://bit.ly/3qaVoYf>
- Brown, N. A., Orchiston, C., Rovins, J. E., Feldmann-Jensen, S., & Johnston, D. (2018). An integrative framework for investigating disaster resilience within the hotel sector. *Journal of Hospitality and Tourism Management*, 36(January), 67–75. <https://bit.ly/38BuaUO>
- CAA. (2002). *An Introduction to Aircraft Maintenance Engineering Human Factors for JAR 66. Human Factors*.
- Dawes, M., & Lens, M. (2007). Knowledge Transfer in Surgery: Skills, Process and Evaluation. *The Annals of The Royal College of Surgeons of England*, 89(8), 749–753.
- Dixon, N. M. (2000). Common Knowledge: How Companies Thrive by Sharing What They Know. *Rainmaking and Development*, 63–64.
- Duijm, N. J. (2009). Safety-barrier diagrams as a safety management tool. *Reliability Engineering and*

- System Safety*. <https://bit.ly/3i63EWP>
- Frederickson, H. G., & LaPorte, T. R. (2002). Airport Security, High Reliability, and the Problem of Rationality. *Public Administration Review*, 62(s1), 33–43. <https://bit.ly/2Xu88gv>
- Garg, A. (2010). Terrorism - A threat to endurance of Tourism and Hospitality Industry in Indian Sub-Continent Region. *Researchgate*.
- Government of New Brunswick. (2010). GNB Knowledge Transfer Guide. *Book*, (December), 24. Retrieved from <https://bit.ly/3nCtpyW>
- Health and Safety Executive. (2006). Kitchen related accidents. Retrieved from <https://bit.ly/3oBuOaw>
- ICAO. (2012). Safety Management Manual (SMM). Retrieved from <https://bit.ly/3oBuMiU>
- ICAO. (2013). Annex 19 Safety management. *Safety Management in Small and Medium Sized Enterprises (SMEs)*. <https://bit.ly/2XwrVvI>
- Kamei, K. (2019). Crisis management. In K. Y. Abe S., Ozawa M. (Ed.), *Science of Societal Safety* (pp. 141–150). Singapore: Springer. <https://bit.ly/3i5wBII>
- Kaspers, S. E., Karanikas, N., Roelen, A., Piric, S. & Boer, R. J. (2016). Review of existing aviation safety metrics. <https://bit.ly/3btFzIf>
- Leveson, N. G. (2011). Applying systems thinking to analyse and learn from events. *Safety Science*, 49(January 2011), 55–64. <https://bit.ly/3rUmt32>
- Li, Y., & Guldenmund, F. W. (2018). Safety management systems: A broad overview of the literature. *Safety Science*, 103(May 2017), 94–123. <https://bit.ly/2LexnAZ>
- Mitroff, I. I. (1988). Crisis management: cutting through the confusion. *Sloan Management Review*, 15–20.
- National Transportation Safety Board. (2010). Loss of Thrust in Both Engines After Encountering a Flock of Birds and Subsequent Ditching on the Hudson River US Airways Flight 1549 Airbus A320-214, N106US. *Accident Report*.
- Nisula, J. M. (2015). Modern approach for integrating safety events in a risk management process, 3551–3559.
- Paraskevas, A., & Altinay, L. (2013). Signal detection as the first line of defence in tourism crisis management. *Tourism Management*, 34, 158–171. <https://bit.ly/2LojYpV>
- Paraskevas, A., Altinay, L., McLean, J., & Cooper, C. (2013). Crisis knowledge in tourism: Types, flows and governance. *Annals of Tourism Research*, 41, 130–152. <https://bit.ly/3i4MpVF>
- Parker, D., Lawrie, M., & Hudson, P. (2006). A framework for understanding the development of organisational safety culture. *Safety Science*, 44(6), 551–562. <https://bit.ly/3nyZIin>
- Polanyi, M. (1966). *The tacit dimension*. Routledge.
- Provan, D. J., Woods, D. D., Dekker, S. W. A., & Rae, A. J. (2020). Safety II professionals: How resilience engineering can transform safety practice. *Reliability Engineering and System Safety*. <https://bit.ly/35xwrhN>
- Reason, J. (2016). *Managing the risks of organisational accidents. Managing the Risks of Organisational Accidents*. <https://bit.ly/38zsTxo>
- Rijpmma, J. A. (1997). Complexity, Tight Coupling and Reliability: Connecting Normal Accidents Theory and High Reliability Theory. *Journal of Contingencies and Crisis Management*, 5(March), 15–45.
- Ritchie, B. W., & Jiang, Y. (2019). A review of research on tourism risk, crisis and disaster management: Launching the annals of tourism research curated collection on tourism risk, crisis and disaster management. *Annals of Tourism Research*, 79(November), 1–15. <https://bit.ly/2XvWcL1>
- Salmon, P. M., Lenné, M. G., Stanton, N. A., Jenkins, D. P., & Walker, G. H. (2010). Managing error on the open road: The contribution of human error models and methods. *Safety Science*, 48(10), 1225–1235. <https://bit.ly/39ryYv6>
- Senge, P. (1992). *Systems thinking: A language for learning and acting*. Innovation Associates
- Shields, A. (2011). Paramedic non-technical skills: aviation style behavioural rating systems. *Journal of Paramedic Practice*, 3(12), 676–680. <https://bit.ly/3nxZEPT>
- Shorrock, S., Leonhardt, J., Licu, T., Peters, C., & EUROCONTROL. (2018). Systems Thinking for Safety Ten Principles A White Paper Moving Towards Safety II. *Skyaero*. Retrieved from <https://bit.ly/3oAUMef>
- SKYBRARY. (n.d.). Bow Tie Risk Management Methodology. Retrieved October 27, 2020, from <https://bit.ly/2MQ3uHn>
- Son, C., Sasangohar, F., Rao, A. H., Larsen, E. P., & Neville, T. (2019). Resilient performance of emergency department: Patterns, models and strategies. *Safety Science*. <https://bit.ly/3oBtGni>

- Southerton, D., & Jurgenson, N. (2014). Prosumption. In *Encyclopedia of Consumer Culture*.
<https://bit.ly/3bw6pPJ>
- Swuste, P., van Gulijk, C., Groeneweg, J., Guldenmund, F., Zwaard, W., & Lemkowitz, S. (2020). Occupational safety and safety management between 1988 and 2010: Review of safety literature in English and Dutch language scientific literature. *Safety Science*, 121(June), 303–318.
<https://bit.ly/2XuNOeG>
- US Government Printing Office. (1979). *Report of the President's Commission on the Accident at Three Mile Island* (Vol. 0).
- Wensveen, J. G. (2011). *Air transportation: A management perspective, seventh edition. Air Transportation: A Management Perspective, Seventh Edition*.
- Wittmer, A., & Bieger, T. (2011). Fundamentals and Structure of Aviation Systems BT - Aviation Systems: Management of the Integrated Aviation Value Chain. In A. Wittmer, T. Bieger, & R. Müller (Eds.) (pp. 5–38). Springer Berlin Heidelberg. <https://bit.ly/2ZgCWSF>
- World Travel and Tourism Council. (2017). Economic impact analysis. Retrieved October 26, 2020, from <https://bit.ly/3rUkvQc>
- Wyatt, J. C. (2001). 10. Management of explicit and tacit knowledge. *Journal of the Royal Society of Medicine*, 94(1), 6–9. <https://bit.ly/2K6EPor>