This collection of 18 articles deals with the circumstances that lead to the fatal incident on February 1, 2003 where NASA’s space shuttle Columbia was lost during its re-entry to the earth’s atmosphere. The book chapters discuss the political and organizational conditions that circumscribed NASA throughout the initial preparations and eventual execution of the disastrous space travel where the entire crew dissipated together with the space shuttle itself and important scientific data collected during the orbit. Although the trigger of this entire commotion is a single incident taking place within a relatively short time span, the book chapters delve into matters before, under, and after the event and thus provide a unique opportunity to engage in more detailed analyses of this specific organizational phenomenon in a wider environmental context considering the financial backing, management systems, decision structures, operational processes, etc.

The conditions that permeated the Columbia disaster were characterized by high technology intensity and knowledge-based activities with a high degree of organizational specialization and simultaneous demands on operational quality. Like most businesses NASA’s space exploration activities were conditioned by constraining resource limitations - in this case expressed in terms of explicit public budget allocations. The high complexity of this environmental setting is not unlike the contexts observed in multinational organizations that expand and manage activities internationally (e.g., Rugman, 2000; Zaheer, 1995) and the requirements imposed by changing technologies across functional specialities, information processing, decision structures, etc., in global ‘high velocity’ industries (Bettis and Hitt, 1995; Eisenhardt, 1989; Martin and Salomon, 2003). Hence, many issues addressed in this book resonate with various phenomena that have concerned organization researchers, such as, organizational inertia, managerial cognition, institutionalisation of belief structures, flexible organizations, dynamic capabilities, strategic responsiveness, etc., just to mention a few. In short, this book may provide interesting and useful insights to scholars with general interests in organization studies, international business management, and multinational strategy.

The editors have managed to collect a rather diverse set of articles to enlighten the topic from different angles although there is some overlap in the descriptive sections since all chapters can be read as independent articles. Hence, the book compiles a diverse set of analytical approaches within a single cover that together may be synthesized into a more comprehensive understanding of the essential risk management challenge in complex organizations. A variety of relevant theoretical frameworks are adopted by the authors in their analytical work, such as, the disaster incubation model (Turner, 1978), network and systems approaches (Jervis, 1999), normal accident theory (Perrow, 1999), high-reliability theory (Weick and Sutcliffe, 2001), norm theory (Kahneman and Miller, 1986), normalization of deviance (Vaughan, 1996), analysis of organizational vocabulary, multiple stakeholder influences, etc. Including William Starbuck and Moshe Farjoun, the anthology incorporates contributions from 36 prominent scholars and practitioners with relevant expertise and research interests in this specific topic including, among others, Amy Edmondson, Theresa Lant, Henry McDonald, Sean O’Keefe, Karlene Roberts, Zur Shapira, Diane Vaughan, and Karl Weick.
The anthology is organized as an introductory synopsis and subsequent sections discussing the historical background, decision-making processes preceding the launch and during the orbit before the fatal accident, and various suggestions. The *Columbia* incident occurred with the backdrop of creeping budgetary reductions where previous mishaps and near catastrophes conceivably could have been used to learn and rectify the adverse developments under the financial squeeze (CAIB, 2003). That is, an important element of the historical context was a fading political and budgetary support for the *NASA* programs in the aftermath of the successful *Apollo* missions that landed man on the moon in 1969. The previous success drove an internal ‘can do spirit’ in the *NASA* organization even though there also were numerous setbacks and challenging situations - some of which have been vividly displayed in Hollywood films. The end of the ‘cold war’ reduced the political pressures to pursue space exploration and the re-useable shuttle program became the backbone of ongoing space exploration efforts emphasizing economic efficiencies. This managerial view was enforced by a new management team introduced in 2001 aimed at operating efficiently within the given budgetary limitations.

The analyses reveal that *NASA* experienced an increasing comprehension gap between safety requirements and the indicators used to trace the risk. This situation caused a drift towards higher risk exposures accentuated by the general uncertainty surrounding decisions and imperfect feedback from their consequences. The managerial emphasis on cost efficiency disengaged active risk mitigation efforts, reduced investment in preventive measures, and neglected maintenance of existing defence mechanisms. This development eventually caused ‘latent failure’ as decisions and actions continued to weaken the organizational defence systems. Ways to avoid this could be to impose a stronger risk management culture, introduce better management control systems, encourage continuous learning, e.g., from near failures. However, it is true that ‘near failures’ do not have the same power to change organizations as do full blown disasters. The analyses point toward a need for better communication and integration capabilities to cope with risk exposures in complex organizational settings. Since complex interacting systems are more prone to system failures and accidents, the ability to integrate distributed organizational tasks becomes essential. Poor communication and flawed coordination capabilities in organizations dealing with ‘hazardous technologies’ increase the dangers of partitioning organizational tasks because reintegration is insufficient.

There is clearly a cognitive dimension to the observed problem of ‘latent failure’ as the deteriorating safety efforts were characterized by inertia, decay, lack of attention, and a narrow focus on economic efficiency. Hence, accepted norms and beliefs partially imposed by new managerial priorities differed from the real world and members of the organization began to act as if they were true. From a learning perspective various discrepant events that did occur prior to the *Columbia* disaster provided opportunities to revise belief structures and cognitive models. However, a rigid hierarchy geared towards routine processes and economic efficiency as opposed to a more flexible and responsive organizational structure hampered these opportunities and fostered an over-reliance on ambitious deadlines as coordination mechanism. This constitutes a basic element of the ‘planning fallacy’ where resource needs and time constraints typically are underestimated. By enforcing tight deadlines the associated temporal uncertainties increased and thereby hampered the ability to integrate complex actions across time.

So what are some lessons we may draw from the *Columbia* disaster? Well, the common silo-approach to risk phenomena as practiced by the *NASA* organization clearly failed where adoption of an integrative approach to understand essential interdependencies in a dynamic systems perspective could have changed matters. Such an analytical approach might have put the organization in a better position to learn from discrepant events and thereby avoid potential extreme loss situations, or disasters. By providing space to organizational members for independence to challenge current beliefs it might have been possible to create a fruitful counterweight to the dominant focus on economic efficiency and overly ambitious deadlines. Some ways to achieve this could be to invite constructive involvement in organizational decisions and generate information sources in different parts of the organization to assess the true operational performance. This might also have paved the way for a more adaptive learning organization emphasizing the social structure of the organization in contrast to a singular focus on technologies as seemed to be case. From a managerial perspective there probably should have been more emphasis on how to achieve stated objectives rather than striving to accomplish predetermined outcomes.
The book spells out the lessons in the context of NASA’s particular situation. Whereas these conclusions and recommendations are institution specific, they do outline some generalizable traits, such as, the political influence, the importance of institutionalised beliefs as cause of inertia and inflexible organizations, the need for involved decision-making processes and informal coordination mechanisms based on social structures, etc. In summing up, does this provide the reader with a deeper understanding of disaster risk management in complex organizations – a notoriously under-researched area? Well, don’t wait for the golden egg. Nonetheless, the book provides some potentially powerful perspectives on how to deal with complex organizations around essential risk factors that can affect firms operating in turbulent environments, and how they avoid that risks turn into corporate disasters. I find the book chapters well written and providing a good basis for further reflection ... why not judge for your self.

References


