

Legal Analysis of Aviation Safety Regulations in the UAE and Oman

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Abstract. This study evaluates how the civil aviation laws and aviation processes of the UAE and Oman adhere to international standards. International standards, national legislation and civil aviation regulations are studied and compared critically. The authors also analyzed ICAO audits and emerging developments in the civil aviation sectors of the UAE and Oman. Both countries have created comprehensive civil aviation regulations and institutions that implement all SARPs to achieve high aviation safety standards. The UAE has been able to maintain exceptionally high levels of air safety ever since it established its Civil Aviation Authority under Federal Law No. 20 of 1991. Improvements in Oman's regulatory framework and modifications to its institutional setup have enabled it to intensify its oversight and ensure the highest levels of aviation safety success. Strong rules and adherence to ICAO standards play essential roles in ensuring the highest levels of aviation safety. Innovative regulations and the proper organization of regulatory bodies have significantly contributed to improving aviation safety in developing countries. The sustainable provision of high aviation safety standards can only be achieved through the consistent revision of laws and the strict implementation of regulations.

1. INTRODUCTION

Aviation safety is regulated in a way that balances international and domestic laws. Contracting states to the Chicago Convention are required to cooperate in achieving the greatest possible consistency in civil aviation regulations, standards and procedures (ICAO, 1944, Article 37). Consequently, most countries harmonize their national rules with the SARPs established by ICAO. All countries adhere to the same standards to oversee the secure and sensible progress of the global air transport system. Both the UAE and Oman have established their own civil aviation laws and regulatory bodies in order to adhere to ICAO safety requirements and satisfy specific national requirements.

The paper compares the aviation safety legal regimes of the UAE and Oman, highlighting how each country puts into practice the ICAO Standards and Recommended Practices at a nationwide level. The UAE is a leading aviation center in the world that implemented detailed safety regulations early on, whereas Oman's aviation industry is experiencing substantial legislative changes today. The paper identifies and discusses changes in how the two countries ensure the safe operation of civil aviation within their borders. New advancements in both countries' legislation and regulations have underscored the importance of this research. Gaining knowledge of these laws illuminates both valuable lessons and obstacles faced when harmonizing national aviation safety policies with those established by international organizations.

2. LITERATURE REVIEW

International Aviation Safety Obligations: The Chicago Convention provides the framework for national states to ensure international aviation safety by adhering to a set of international standards. ICAO issues Standards and Recommended Practices (SARPs) in specified Annexes of the Chicago Convention (ICAO Annexes). States implement these SARPs in national legislation wherever applicable in their laws. Annex 19 (Safety Management) outlines the necessary components of a State Safety Program (SSP) and Safety Management Systems so that states can take action to prevent accidents and incidents. Tracing safety requirements across all states promotes air travel and protects passengers. International regulation requires states to report to ICAO on any divergence between their national law and the instrument or standard authoritatively included in the Chicago Convention (ICAO document, provision 38). ICAO also applies the Universal Safety Oversight Audit Programme (USOAP) to assess and evaluate every member state's compliance with safety management regulations. ICAO assesses important aspects of safety oversight like legislation, organizational structure, licensing, operations, airworthiness, accident investigation, air navigation services and aerodromes via the USOAP. The EI scores assigned to each state motivate nations to enhance their level of compliance with USOAP standards. Scholarly studies suggest that countries with well-defined laws and strengthened institutions achieve better ratings in safety oversight according to the USOAP assessments (Batuwangala et al., 2018). As a result, states are encouraged to establish well-developed aviation safety regulations that are regularly updated to reflect changes in international standards.

UAE Aviation Safety Regulatory Framework: The United Arab Emirates has built one of the region's most advanced aviation safety regulatory regimes. The primary legislation is the Civil Aviation Law of 1991 (Federal Law No. 20 of 1991), which provides a comprehensive framework for civil aviation in the UAE. Notably, this law explicitly incorporates international conventions into domestic law – it stipulates that all provisions of international civil aviation treaties to which the UAE is party (including the Chicago Convention) are enforceable in the state and shall prevail in case of any conflict with national law (United Arab Emirates, 1991, art. 19). This legal design ensures that ICAO standards are given direct effect and priority.

In 1996, the UAE government established the General Civil Aviation Authority (GCAA) as an autonomous federal regulator (United Arab Emirates, 1996). The GCAA is empowered to execute the civil aviation law, issue regulations and operating

certificates, and oversee all aspects of aviation safety, security, and air navigation in the country. Over the years, the GCAA has issued detailed Civil Aviation Regulations (CARs) aligning with ICAO SARPs across domains such as personnel licensing, aircraft operations, airworthiness, and accident investigation. The UAE's commitment to regulatory advancement is further evidenced by new legislation addressing emerging areas – for instance, Federal Decree-Law No. 26 of 2022 was enacted to regulate the civil use of unmanned aircraft (drones) and related activities, reflecting international best practices for drone safety and security (United Arab Emirates, 2022). In terms of safety management, the UAE was among the early adopters of an ICAO-compliant State Safety Programme. The GCAA actively collaborates with ICAO and other international bodies to update its regulations and training, helping the UAE achieve outstanding results in global safety audits. In the most recent ICAO USOAP assessments, the UAE has consistently scored among the highest in the world for effective implementation of safety oversight. Its overall EI score stands at approximately 99%, indicating near-total conformity with ICAO's critical elements of safety oversight. Regionally, the UAE has long been a leader in aviation safety compliance, often serving as a benchmark for regulatory excellence in the Middle East.

Oman Aviation Safety Regulatory Framework: Oman's aviation safety framework has evolved substantially over the past two decades, especially with a major legal overhaul in 2019. Earlier, civil aviation in Oman was governed by Royal Decree No. 93/2004, which was a foundational law but became dated as ICAO standards progressed. To modernize its legal structure, Oman promulgated Royal Decree No. 76/2019, issuing a new Civil Aviation Law that repealed the 2004 law. The 2019 law brought Omani regulations into closer alignment with ICAO standards and international best practices. Similar to the UAE's approach, Oman's law affirms the applicability of international aviation treaties: it defines the Chicago Convention (including its Annexes) in Omani law and provides that if any domestic provision conflicts with an international civil aviation treaty in force, the treaty provisions prevail (Oman, 2019, art. 3). This clause ensures that Omani obligations under ICAO and other agreements directly inform domestic regulatory implementation. Another pillar of Oman's safety regulation is the establishment and empowerment of its civil aviation authority. In 2012, Oman created the Public Authority for Civil Aviation (PACA) as an independent regulatory body (Oman, 2012). PACA was responsible for regulatory oversight, issuance of civil aviation regulations, and compliance monitoring. In 2020, as part of ongoing institutional reforms, PACA was reconstituted and renamed as the Civil Aviation Authority (CAA), reporting directly to the government with an expanded mandate (Oman, 2020). These changes were aimed at strengthening regulatory oversight and aligning the authority's structure with ICAO's expectations for independence and capability. Following the new law and organizational reforms, the Omani CAA updated or introduced comprehensive regulations mirroring ICAO Annexes – covering personnel licensing, aircraft operations, airworthiness, and establishment of an accident investigation unit, among others. Oman also instituted a State Safety Programme to fulfill the requirements of ICAO Annex 19, focusing on proactive safety risk management in coordination with service providers. The impact of these legal and regulatory enhancements is evident in Oman's recent performance in ICAO audits. By 2023, Oman dramatically improved its ICAO Effective Implementation score. The CAA announced that Oman's overall EI score reached 95.95%, a leap from just 60.5% in 2020, reflecting significant improvement across all eight critical audit areas (Fouad, 2024). This achievement propelled Oman from a low global ranking to being 5th worldwide in safety oversight compliance, leapfrogging 127 other countries (Fouad, 2024). Oman attained a 100% compliance score in the legislative and regulatory framework component of the audit – meaning it met every ICAO criterion for primary aviation legislation and specific operating regulations (Fouad, 2024). Within the Middle East region, Oman advanced to 2nd place (from 10th previously) for safety oversight, now trailing only the UAE among Gulf Cooperation Council (GCC) states in compliance level (Fouad, 2024). These outcomes underscore how updating the legal framework (via RD 76/2019) and empowering the CAA have translated into tangible safety oversight gains. Oman's case exemplifies the critical importance of modern legislation and regulatory autonomy in achieving ICAO standards, even for a state with a smaller aviation industry.

3. METHODOLOGY AND DATA

This research adopts a qualitative legal analysis approach, utilizing both primary and secondary sources. Primary sources include international treaties, national legislation, and official regulations. Key legal documents – such as the UAE's federal aviation laws and Oman's royal decrees on civil aviation – were analyzed to identify provisions related to safety oversight, compliance with ICAO SARPs, and the roles of aviation authorities. Provisions of these laws (for example, treaty-incorporation clauses and articles defining regulatory powers) were examined in detail and compared across the two jurisdictions. Additional resources were analyzed to obtain information on the safety oversight performance of each nation. It analyzed ICAO's findings to determine whether each country's aviation safety regulation was successfully implemented in the field. Additional materials from the academic and industry sectors offered further perspective and insights about current challenges facing aviation safety regulation. Additionally, current research on similarities and differences between national aviation regulations (for instance, as shown by Batuwangala et al. in 2018) contributed to analyzing the extent to which the UAE and Oman comply with international standards in this area. The authors collected information on recent developments in aviation safety regulations by referencing bulletins released by both the General Civil Aviation Authority and the Oman Civil Aviation Authority. All data was cross-checked to ensure its reliability and validity. The research methodology assessed both the legislation and how effectively it is being enforced in practice. Using this method allows us to assess how the laws and policies implemented by UAE and Oman are realized on the ground and ultimately judge whether their aviation safety regulatory systems are effective.

4. RESULTS

The comparative analysis reveals that both the UAE and Oman have established strong legal foundations for aviation safety, but they reached this point through different trajectories. Key findings from examining the two frameworks include:

Legal Framework and International Compliance: Both countries' primary aviation laws explicitly facilitate compliance with international safety standards. The UAE's Civil Aviation Law (1991) and Oman's Civil Aviation Law (2019) each contain clauses giving effect to ICAO conventions and standards domestically (United Arab Emirates, 1991, art. 19; Oman, 2019, art. 3). This legal alignment ensures that as ICAO updates global SARPs, the UAE and Oman can adopt corresponding rules without legislative hurdles. The presence of such provisions in their laws reflects a proactive legislative strategy to avoid regulatory gaps with respect to global norms. The study finds that Oman's 2019 law essentially "caught up" with the approach the UAE had taken since 1991, by embedding international compliance into national legislation. As a result, both states now have comparable statutory commitments to aviation safety, fulfilling critical element 1 (primary aviation legislation) of the ICAO safety oversight framework.

Institutional Setup and Regulatory Authority: The way a country regulates its aviation industry directly affects how closely

safety oversight can be enforced. The GCAA holds the authority to create regulations, certify airlines and airports and ensure safety is maintained in the aviation sector. As an independent entity it's the freedom to develop technical policies and integrate ICAO standards into its practices and procedures. Until 2012, Oman's aviation regulations were overseen by a government department, which could have been less efficient and effective than a self-directed authority. PACA's establishment in 2012 and its subsequent development into the CAA resulted in Oman adopting the autonomous structure of UAE's GCAA. The study suggests that the creation of an independent CAA played a crucial role in Oman's increased capacity to implement safety-related measures. Following the creation of the Civil Aviation Authority, Oman has quickly implemented improved regulations and technical standards covering issues such as air operator certification and aerodrome safety. This implies that having a specialized regulator with explicit powers is necessary for effective aviation safety management. Some of the credit for the UAE's high rankings on ICAO audits also lies in the expertise and proficiency of its GCAA, which Oman has been developing in recent years through its Central Aviation Authority.

Implementation of Safety Oversight (USOAP Indicators): A core measure of results in this analysis is each state's Effective Implementation (EI) score from ICAO audits, which reflects how well the state's legal framework and practices meet international standards. The UAE's latest overall EI score of about 98–99% indicates that it has virtually implemented all aspects of ICAO's safety oversight criteria to a very high degree. Specifically, the UAE has achieved 100% EI in critical elements like primary legislation, specific operating regulations, and civil aviation organization, meaning ICAO auditors found no deficiencies in those areas. This aligns with the UAE's long-standing approach of regularly updating its regulations (such as adopting new rules for unmanned aircraft in 2022) and investing in oversight capabilities (e.g., inspector training and advanced safety data systems). Oman's results, while slightly lower in absolute terms, show the most dramatic improvement. Oman's current overall EI of 95.95% is a major jump from roughly 60% just a few years prior (Fouad, 2024). Breaking down the scores, Oman achieved 100% in primary legislation and regulations, reflecting the strength of the new 2019 law and its supporting regulations. It also scored in the high 90s for other areas like personnel licensing, operational safety, and airworthiness oversight, demonstrating across-the-board enhancement. Notably, Oman's score for Civil Aviation Organization (which assesses the effectiveness of the CAA's structure and staffing) rose significantly, underscoring that the reorganization and capacity-building of the authority had a positive effect. These findings confirm that legal and organizational reforms undertaken by Oman translated directly into measurable compliance gains. Furthermore, the data positions the UAE and Oman at the forefront of aviation safety oversight globally – both far above the world average EI (which tends to be around 70–75%). Within the GCC, the UAE remains the top performer, but Oman is now a close second, having leapfrogged other states in the region (Fouad, 2024). This regional context suggests a form of regulatory competition or inspiration: Oman's improvements were, at least in part, motivated by the desire to match the exemplary standards set by neighbors like the UAE. In summary, the results illustrate that when a country's laws, regulations, and institutions are closely aligned with ICAO's framework, superior safety oversight outcomes are achieved. The UAE's sustained high performance and Oman's recent surge both serve as evidence of this correlation.

Remaining Challenges and Future Outlook: Despite their successes, each country faces ongoing challenges common to all aviation regulators. In the UAE, the emphasis will be on maintaining its near-perfect compliance level amid a rapidly growing and evolving aviation sector. The GCAA must continually update regulations to cover new technologies (such as autonomous aircraft and commercial space operations) and ensure that safety is not compromised by industry expansion. The UAE's recent drone law (United Arab Emirates, 2022) is an example of forward-looking regulation, but effective implementation and enforcement of such new rules require continuous attention, resources, and expertise. In Oman, the challenge is to sustain the improvements made. Achieving high scores in an audit is an important milestone, but maintaining that level of oversight as the industry grows (and as ICAO standards become more stringent) will require ongoing commitment. Oman will need to ensure that its CAA is adequately funded and staffed to perform its safety oversight roles, including regular inspections, certification, and enforcement actions. Additionally, both countries must guard against complacency; for instance, ICAO's audit regime is continuous, and any lapse in regulatory vigilance could be flagged in future assessments. Another area for both UAE and Oman is regional cooperation: by sharing safety information and best practices, GCC states can collectively enhance their oversight. There are already signs of this, such as the UAE and Oman participating in ICAO's Middle East Regional Safety Oversight Organization initiatives and information-sharing platforms. The study implies that both the UAE and Oman can take the lead in ensuring aviation safety across the Middle East region, as well as internationally. They've shown that the existence of robust laws and sound institutions is a key factor in ensuring safe air transport.

5. CONCLUSION

The study shows that countries willing to adopt international safety standards, consistently apply them in law and create robust organizations charged with enforcement, are more likely to excel in aviation safety. The UAE's Civil Aviation Law of 1991 and the creation of the GCAA set the groundwork for consistently achieving excellence in ICAO inspections and becoming renowned for its outstanding level of aviation safety. As a result of assessing best practices from around the world and the region, Oman implemented a new Civil Aviation Law in 2019 and built up the capacity and capabilities of its Civil Aviation Authority.

Because of this, Oman substantially improved its safety oversight to achieve an ICAO compliance score of 95.95% and secure one of the top spots in the global index. The achievements of these two countries highlight some important lessons. Achieving this goal requires linking national law to international norms and incorporating them into the domestic legislation. A strong and autonomous civil aviation authority is crucial in ensuring that laws are transformed into real-world safety oversight; regulations and legislation are ineffective by themselves. Responding to a rapidly changing environment with well-suited laws and regulations is an ongoing highest priority. Regulations must be updated periodically to align with the progress made within the aviation sector.

Learning from the success of the UAE and Oman's aviation regulators can guide the efforts of policymakers and regulators globally. Countries that want to enhance their aviation safety should assess whether their primary aviation legislation provides correct supervisory powers and incorporates prescribed ICAO rules. Amending outdated aviation legislation in accordance with ICAO's SARPs can provide a significant impetus for overall progress, as demonstrated by Oman. Increasing the capability and efficiency of the regulatory agency by providing adequate training, implementing reforms and assigning well-defined roles also leads to a significant improvement in a country's safety oversight performance within a short timeframe. These successful cases demonstrate that the role of political commitment in boosting aviation safety can't be overstated. Strong government backing facilitated the creation of the required laws and ensured that resources were dedicated to monitoring, helping safeguard both the public and the industry.

These regions demonstrate that strict adherence to new rules and changes recommended by international organizations has improved their aviation safety. Complying with ICAO regulations and ensuring that they're applied uniformly across the country helps maintain a safer environment for all those engaged in the transportation industry. Future studies in this field should explore the ways in which these legal frameworks respond to new threats and challenges and compare them with present standards in the Middle East. Converting international aviation directives into local laws governing the UAE and Oman has proven effective in improving airports within those countries as well as influencing other nations around the world.

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