

Education and Performance in Aviation: Realising and Sustaining Benefits

Presented by AFRAA

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EXECUTIVE SUMMARY

Air traffic is expected to double in the next twenty years. Putting people first is of essence in an increasingly automated sector and appropriate policies should be designed to address the various knowledge and skills gaps.

This AFRAA position paper examines main issues and questions emerging with respect to education and human resource management in the future world of aviation.

1. What are the challenges set by automation and artificial intelligence for the future of aviation education and training?

Aviation provides air services to connect people and supplies logistic support to deliver valuable goods to customers worldwide. Future traffic volumes welcome the effective contribution of both automation and artificial intelligence in the supply chain naturally. However, people will remain the most important asset in the air transport system to ensure that aviation meet and exceed customers' expectations. The forecasted volumes stimulate increasing needs for automation and the use of artificial intelligence to assist operational staff members.

Future operational personnel will still have to learn and acquire operational skills to appreciate, observe, and check the tasks that automation executes; and the training of these categories of air transport workers will also have to secure competencies in safety, security and customer services.

The good news is that youngsters assimilate exposure to the use of technology consistently.

- The first training challenge is to develop further the automation logic in the mind of the youth embracing operational jobs in air transport. This mindset will assist in recognizing any deviation in the outcomes of automated tasks.
- While automation performs well repetitive operational tasks cost-effectively, the second training challenge is how to ensure that trainees master the interpretation of artificial intelligence suggestions to succeed in the enforcement of safety and security in the air transport operations. The proficiency skills acquired through the second challenge shall also ensure that future technical workers in such circumstance, be capable to eventually take-over and perform the tasks manually, as efficiently as possible. The innovation spirit of unlawful passengers will continue to challenge future operation personnel even well-equipped with advanced artificial intelligence. Staff built AVSEC experience coupled with excellent artificial intelligence support will make a great difference.
- Beyond the technical skills, the third training challenge is the need to grant the next aviation generation staff with the knowledge of customer services to create an outstanding travel experience for the travelers. Customer satisfaction is vital to maintain existing clients and attract new ones.

- In a nutshell, for future training to be effective, it must facilitate that the trainees acquired multitasking skills to:
 - Understand, monitor, make use efficiently of the support of automation and artificial intelligence;
 - Take-over and perform professional tasks normally done automatically and ;
 - Interact proficiently with customers to improve their safety, security and exceed their travel experience expectations.

2. How do education and industry dynamics shape the future of industrial relations and human resources management in the aviation sector?

In the regional perspective in Africa, human resource development will be growing fast. Indeed, the industry forecasts that air traffic will continue to grow at around 5% per year in Africa for the next ten years. At this pace of growth, there are promising perspectives for education and training to support aviation human resource development in Africa.

African Development Bank publishes a visa openness index annually among the African States. The 2018 edition of the report indicates that overall, when compared to 2017, Africans do not need a visa to travel to 25% of other African countries (up from 22%); can get visas on arrival in 24% of other African countries (same as the previous year); and need visas to travel to 51% of other African countries (down from 54%).

By the end of February, 49 States signed for the African Continent Free Trade Area (AfCFTA); of which 10 States ratified their commitment to the regional free trade area. The accord implementation requires that 22 States ratify it.

By next decade, AfCFTA implementation together with increased openness among the African States will enhance the regional integration and probably induce a double-digit growth rate of the air traffic.

According to the African Development Bank 2019 economic outlook, Africa needs to create about 12 million new jobs every year to prevent unemployment from rising.

There are actual opportunities for education and training, to develop young human resource and bridge the gaps in the increasing demand for aviation professionals in the Region and beyond.

Based on the three challenges identified to meet multitasking profile of next-generation air transport, academic education could develop soft skills such as leadership, integrity, etc., while aviation training institutions add the relevant technical and operational skills. Technical and operational staff with soft sound skills are those who will achieve great results in automation and artificial intelligence environment. Hence, a smart partnership between academic education institutes and specialized aviation training centers would be way forward to overcome the challenges relating to the training of next-generation aviation professionals.

3. Who will bear the cost of education and training in the aviation sector?

Air transport remains the most suitable mode of transport to support the planned regional integration through trade. Strategically, the development of African economies through industrialization and trade will rely on effective development of affordable air transport. Only well-trained next-generation aviation professionals will manage the effective development of efficient air transport in Africa. Booming African economies will increase the number of middle-class citizens and generate additional air traffics. The financial assistance of the youth in the African perspective triggers a virtuous cycle impacting positively first air transport, then African economies. Strengthened economies generate additional demands for air transport ensuring jobs for the trained youth creating new training need for aviation. Employed youth will clear their financial dues. In case of a slowdown for any reason, professionals will secure employment outside Africa and pay back financial credits for their training.

Therefore, international financial institutions should support the funding of Africa next-generation aviation professionals to ensure that they reach their objectives as economic development champions while triggering and entertaining the virtuous cycle running through the air transport growth and the economic development.