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Demands and Prospects for Aviation Administration and Supervision Staff

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The Aviation Industry presents strong growth

Years	Pass. Numbers in mn	Revenues in \$bn**	Net profit in \$bn
2013	3,143	720	10.7
2014	3,326	767	13.8
2015	3,565	721	36.0
2016	3,815	709	34.2
2017	4,093	755	37.7
2018*	4,343	821	32.3
2019*	4,588	885	35.5

* 2018 data are estimated and 2019 forecasted

**Total revenues (incl. passengers revenues, cargo, etc.)

Source:IATA Facts & Figures



The contribution of the Asean-Pacific region to this growth is significant



Traffic Results														
System-wide commercial airlines														
	Passenger traffic (RPK), % Year-on-year							Passenger capacity (ASK), %Year-on-year						
	2013	2014	2015	2016	2017	2018	2019	2013	2014	2015	2016	2017	2018	2019
Global	5.8	6.3	6.9	7.5	8.0	6.5	6.0	5.4	6.1	6.1	7.4	6.6	6.0	5.8
Regions														
North America	2.6	3.0	4.3	4.0	3.9	5.0	4.5	2.3	2.8	4.1	4.7	3.8	4.8	4.3
Europe	4.7	6.5	5.8	5.3	8.9	6.4	5.5	3.4	5.8	4.5	5.3	6.6	5.7	6.1
Asia-Pacific	8.0	7.8	9.6	11.1	10.9	8.5	7.5	7.9	8.1	7.5	10.1	9.1	7.6	7.1
Middle East	11.5	11.9	9.9	11.4	6.8	4.6	5.5	12.3	10.9	12.6	13.2	6.7	4.7	4.1
Latin America	6.3	6.3	6.7	4.5	7.3	6.0	6.0	4.7	4.3	6.5	3.3	5.5	6.5	5.9
Africa	5.0	0.6	3.4	7.3	7.3	3.6	5.0	5.0	3.5	2.4	6.9	4.0	1.4	4.9
* 2018 data are forecasted and 2019 estimated														
Source and note: IATA, includes domestic and international traffic, and all commercial airlines														



IATA long-term forecasts (1)



- The passengers numbers could double to 8.2 billion in 2037.
- The center of gravity of the industry will shift Eastwards (Asia-Pacific region). The region will drive the biggest growth with more than half the total number of new passengers over the next 20 years coming from these markets. This growth is being driven by a combination of continued robust economic growth, improvements in household incomes and favourable population and demographic profiles.
- China will displace the US as the world's largest aviation market in the mid-2020s. The rebalancing of China's economy towards consumption will support strong passenger demand over the long term.



IATA long-term forecasts (2)



05/25

- India will take 3rd place after the US, surpassing the UK around 2024.
- Indonesia is forecast to be a standout performer, climbing from the world's 10th largest aviation market in 2017 to the 4th largest by 2030.
- Thailand is expected to enter the top 10 markets in 2030, replacing Italy.
- A doubling of air passengers in the next 20 years could support 100 million jobs globally.



IATA long-term forecasts (3)



- The fastest growing aviation markets in terms of annual additional O-D passengers from 2017 to 2037 will be:
 - 1) China: 1 billion new passengers for a total of 1.6 billion.
 - 2) US: 481 million new passengers for a total of 1.3 billion.
 - 3) India: 414 million new passengers for a total of 572 million.
 - 4) Indonesia: 282 million new passengers for a total of 411 million.
 - 5) Thailand: 116 million new passengers for a total of 214 million.





IATA long-term forecasts (4)

To achieve this growth the industry needs:

- a) Maximum liberalization, as this contributes to air-connectivity.
- b) Cooperation between governments and the industry to develop efficient infrastructure (as airports and air traffic control will not be able to handle demand).
- c) To cut CO2 emissions to half 2005 levels by 2050.



Aviation employment (1)

- The aviation industry supports 65.5 million jobs in the global basis.
- 10.2 million direct aviation jobs.
- 10.8 million indirect jobs (include those who work in suppliers to the industry, such as aviation fuel suppliers; construction companies that build airport facilities; suppliers of sub-components used in aircraft; manufacturers of goods sold in airport retail outlets; and a wide variety of activities in the business services sector (ie call centres, IT and accountancy staff)).



Aviation employment (2)

- 7.8 million induced jobs – these jobs are supported through employees in the air transport industry (whether direct or indirect) using their income to purchase goods and services for their own consumption.
- 36.7 million jobs in tourism (the world's largest industry)

Source: [www. Aviationbenefits.org/economic-growth/employment/](http://www.Aviationbenefits.org/economic-growth/employment/)



Aviation direct employment

- **From the 10.2 million direct jobs**
- Airport operators: 525,000
- Other on-airport: 5.6 million (flight and cabin crews, executives, ground services, check-in, training, maintenance staff)
- Civil aerospace: 1.2 million (engineers and designers of civil aircrafts, engines, and components)
- Air navigation service providers: 233,000 (air traffic controllers, executives)

Oxford Economics pointed out that these jobs are, on average, around 4.4 times more productive than average jobs around the world.

Source: [www. Aviationbenefits.org/economic-growth/employment/](http://www.Aviationbenefits.org/economic-growth/employment/)



According to IATA's survey, there are the following 5 key issues concerning the aviation employees:

1. Significant growth in jobs is forecasted in the short – and long –term driven by a strong increase in passenger numbers. Three job roles will have the highest anticipated growth in demand: a) Ground operations, b) Customer service, c) Cabin crew.
2. Finding new talent is a much bigger challenge than dealing with retirements.
3. Current training initiative are not too effective – salary, training and career development opportunities are most important – only 28% of HR professionals say that current training is very effective – many organisations report that they need increased help from external partners to improve the effectiveness of training.
4. Providing training in safety and customer service skills are higher priorities than IT and digital skills.
5. Technology is changing, not replacing, the customer service role.



Our study offered us useful insights - conclusions (1)

1. The establishment of a postgraduate aviation program is proposed by all respondents
2. This program should offer two basic specializations: aviation management and operational issues
3. Curriculum and the teaching staff are the most important factors that will contribute to the quality of the program
4. The close co-operation of the program with aviation professionals and organizations is important
5. The accreditation of some operational subjects by HCAA and international organisations, such as EASA and ICAO, is necessary



Our study offered us useful insights - conclusions (2)

6. Exploiting the advantages that Greece has to offer may attract international students
7. The co-operation with a foreign university, well known in aviation education, should be considered, as the academic and aviation reputation are important factors for the attractiveness of such aviation program
8. The establishment of an undergraduate aviation program is not supported by all respondents
9. Finally, the provision of e-learning aviation courses for aviation professionals is strongly supported by all respondents



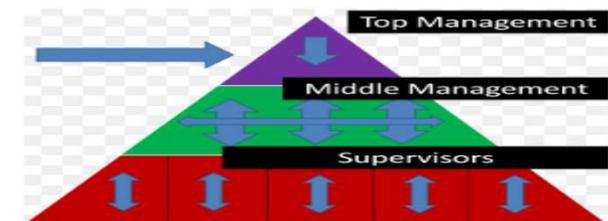
Source: Malagas, K.N., Fragoudaki, A., Kourousis, K.I. and Nikitakos, N. (2017). The Prospects of the Higher Education Aviation Programs in Greece: A Missed Opportunity or a Challenge to Meet? Journal of Aerospace technology and Management, 9(4), 510-518. DOI: 10.5028/jatm.v9i4.888.

The role of middle-managers and supervisors in aviation:

- Researchers now agree that those have an important role in industry and their actions are a valuable asset for organisations and key to pursuing key organisational outcomes.
- They have close contact with the passengers.
- They can easily collect the necessary information and provide feedback to the top management, “detecting, handling and filtering information between the different organisational layers” (Gallari, Bieber and Kirwan, 2019).
- They convert the objectives and broad strategic plans to operational daily tasks.



BH1



BH1

I propose to add on a conclusion:

This is well known in management science that management requires skills and competences

Authorities, who have to administer and supervise aviation have to think about that their organization is in line with recent findings in management science and that staff is educated for management

Bernd Hamacher, 13/04/2019

What the middle-managers and supervisors should have:

- Rich knowledge of the subject.
- This is acquired by education and training before the entrance to the industry and during to the working life.



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BH2

Slide 15

BH2

I would skip the last paragraph as we discuss university education and might open the door for a misleading discussion

But maybe you can remark here that in Europe there are specific Master-courses on public administration covering the specific situation on authorities and non-profit organisations

Bernd Hamacher, 13/04/2019

**To respond to the aviation growth, EFFICIENT AVIATION TRAINING IS REQUIRED in order to prepare qualified and competent personnel.
Why this training is necessary?**

- The new technologies have changed the work practices.
- New regulations.
- New procedures.



Who are the providers of aviation education and training:

- Higher Education Institutions (HEI) (Universities, Technical Universities) dedicated departments to aviation, offer first and postgraduate degrees and relevant research
- Private schools and colleges mainly offer pilot, customer service, airline management and airport management courses and a large part of education and training of aviation personnel traditionally takes place in these schools.



Aviation industry: HEIs vs private schools

- **HEIs** are better equipped than any other institution to produce the knowledge needed to arrive at effective solutions and to prepare highly educated people to carry them out...(Bok, 1990).
- **HEIs** have more resources, more knowledge which is based on the relevant research, more trust from the public, the international organisations and other members of the industry (airlines, airports) compared to the **private schools**. Safety and security are primary issues for aviation and all are very sensitive trusting Universities on these.
- **Private schools** are more flexible and provide training and education for jobs that the market requires (pilots, engineers, ground operations).



HEIs vs private schools for aviation and supervision staff.

Universities have richer knowledge of the subject which has been acquired by the: i) relevant research, and ii) teaching other supportive subjects to supervision and aviation management such as human resources, management, marketing.



Challenges for HEIs that offer aviation courses

- HEIs are in advantageous position compared to private schools in supervision and aviation management subject.
- If HEIs want to offer courses in operation (pilot, Air Traffic Control, some ground services) should invest to the high expensive necessary infrastructure (training aircrafts, use of airport facilities, simulators).
- HEIs face the competition from private schools, which offer flight training courses and have the required infrastructure and their attract students further to operational courses.

Therefore, HEIs based on their strong points (extensive research, image, cooperation of aviation department with other departments within the HEI) should differentiate to outperform private schools.



Factors that affect students for choosing a 4-year Aviation Program are:

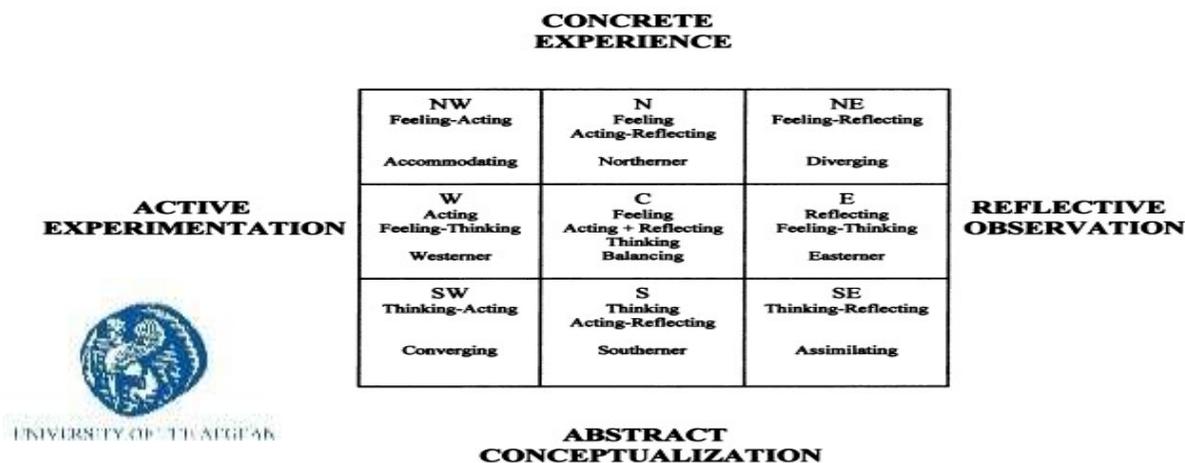
- According to Clark (2004) these are: program educational quality, university reputation, condition of equipment, institutional educational quality, location of institution.
- According to Steckel, Lercel & Matsuo (2010) these are: aviation reputation, university reputation, obtaining job at graduation, quality of the curriculum, campus visit, graduation rate, quality of the faculty, employee value, classroom facilities, degree accreditation, university location, class size, information on the web, aircraft maintenance, scholarships availability, and campus life.



Our educational approach (1)

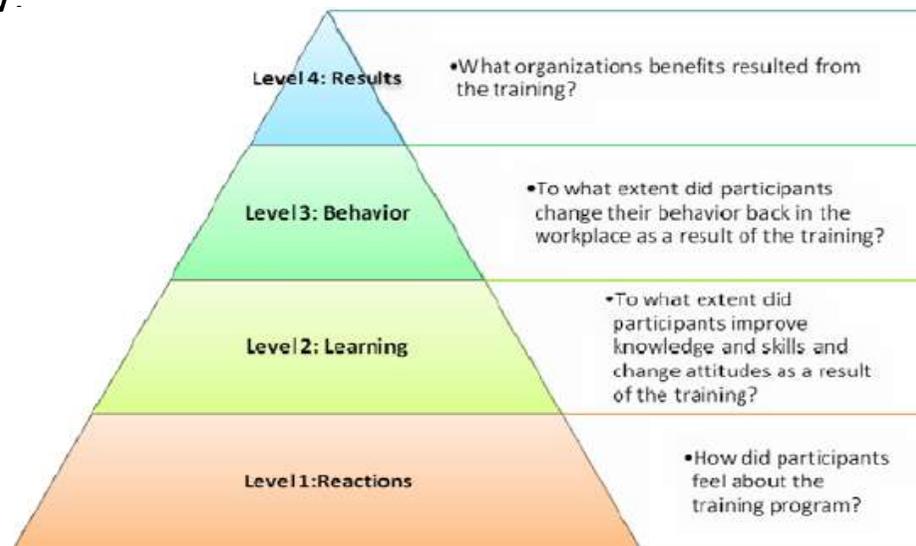
- We apply “the four stages learning circle” suggested by Kolb (1984) in our programs, as we have many students that work in parallel.
- In particular, Kolb supports that required abilities for successful adults learning are: A) Concrete experience (awakening), B) Reflective observation (observing), C) Abstract conceptualization (practicing), D) Active experimentation (applying).

Kolb’s nine region learning styles grid.



Our educational approach (2)

- We evaluate the Programs and the Kirkpatrick model, the best known model for analyzing and evaluating the results of training and educational programs, is widely used in our Department. The model is presented below:



Our objective

- Is to contribute to our Country aviation increased demand, offering high level education and training.
- We emphasize both to first time students and employees-students.
- We emphasize to the aviation research.
- Our graduates can employee in middle management and supervisors positions in aviation organisations.
- Our example can be imitated by other countries that have similar characteristics with Greece (high tourist figures, key geographical position, strong aviation demand, etc).





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Thank you!

*We are available to cooperate in order to
promote the aviation industry*

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