

# E-LEARNING FOR FLIGHT CREW IN REGIONAL AIRLINES: STRATEGIES AND SOLUTIONS

**Flight crews' knowledge, skills, and attitude play an important role in improving the safety and efficiency of airlines operation. These knowledge, skills, and attitude effectively can be developed through appropriate training processes. Nevertheless, the challenge of providing high quality training programs is always present in many airlines. Strict regulations and business downturn have forced airlines to provide the most efficient training programs, yet more effective.**

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The emergence of e-learning has brought some new opportunities for airlines to reduce training costs, while, at the same time, improving training effectiveness. Some major airlines that have already implemented e-learning claim that e-learning is the future of flight crew trainings. However, developing e-learning in regional airlines might face different challenges as these carriers have different operational and organizational characteristics.

Using a case study of Merpati Nusantara Airlines, a state-owned regional airline in Indonesia, this thesis attempts to explore the opportunity of e-learning in regional airlines. A survey study has been conducted to assess flight crews' perception on traditional classroom training and the role of computer and internet in training processes. There are 82 pilots who answered the questionnaire. The majority of respondents are between 31 to 40 years old, which counts for 41.5% of total respondents, followed by the group of 20 to 30 years old with 35.4% (44% of them are captains and the other 56% are first officer).

## **Flight Crews' Perception and the Role of IT in the training.**

The findings of the survey shows that flight crews have a high motivation on learning. They are willing to update and to expand their knowledge, from the specific one (e.g. aircraft system and operation) to the broader one (e.g. aviation science and management). As they gain more experiences, they could integrate those experiences in the learning process and thus, the presence of instructors in the advanced learning would be less important. However, the findings in the paper show that learning and training is not the same. Even though they found the current training has already been effective, most flight crews still see training

as a way to help them in passing the test, rather than as an opportunity to polish the faded skills, to exchange experiences, and to explore new knowledge.

Flight crews' perception on the role of computer and internet in training processes depends on their computer and internet experiences. In general, flight crews in regional airlines are relatively younger than those of major carriers. As most literature pointed out, young people are more ready to adapt themselves with new technologies than the old people do. The survey supports this opinion by showing the fact that flight crews in regional airlines have already had a good level of computer and internet skills. The majority of respondents also believe that the use of computer and internet in training processes would increase the effectiveness of the training processes. Therefore, the acceptance level of e-learning in regional airlines is very high. However, before airlines could benefit from e-learning, there are some obstacles that must be taken into account. Firstly,

the growth rate of having computer amongst flight crews is decreasing overtime. Secondly, most flight crews use narrow band connection for the internet access, which would be a problem in downloading the multimedia training contents. Thirdly, flight crews are not familiar with the synchronous internet collaboration. Ethical issues might become a problem when users do not have any experience on such collaboration. Finally yet importantly, airlines must take into account the fact that there are some flight crews who do not have any computer or internet experiences at all.

The findings of the survey show that training would be more effective when the training method is more authentic (represents the real working conditions) and enables flight crews to perform simulations under various conditions. Based on the results of the survey, the most effective learning style is the simulation, followed subsequently by practicing in a real setting, computer animation, video, reading a manual, and listening to instructors. Nevertheless, each flight crews have their own preferred learning style. Integration of multimedia into computer and internet would enable training centers to provide training method, which is more authentic and customized to individual learning style.

## **Benefits of e-learning for Flight Crew Training.**

Based on the survey, costs analysis, and interviews with some experts from the industry, this thesis also exposes some benefits of e-learning for regional airlines. The first benefit (and the major concern of many airlines) is the cost efficiency. Even though the development costs of e-learning courseware might be six to ten times of the

classroom one, e-learning has much lower overall costs than classroom training. The biggest saving comes from the opportunity costs of the flight crews.

The sensitivity analysis showed that the efficiency would vary depend on several factors, such as the number of flight crew, the level of salary, flight crews' productivity, and number of aircraft types. Airlines would gain high benefits of e-learning when they have high number of flight crews, high level of flight crews' salary, high level of flight crews' productivity, and few number of aircraft types. Regional airlines would enjoy more or less the same level of benefits of e-learning as major carriers since they normally have higher level of flight crew's productivity, fewer number of aircraft types (but lower level of flight crews' salary and relatively less number of flight crews).

Apart from financial benefits, regional airlines would also gain several intangible benefits, such as: Reduced Learning Time, Anytime, anywhere, Flight crews available on the job, Increase training effectiveness, Provide authentic training environment, Standard training product, Content is more timely, Better training records and monitoring, Leverage the intellectual capital (see figure 1) and transfer of knowledge and experiences.

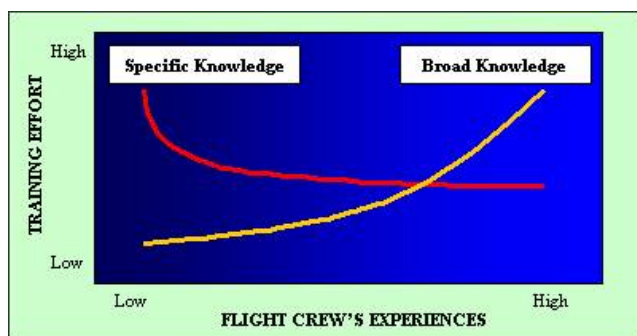


Figure 1: Flight Crews' Experiences vs. Company's Training Effort

In general, regional airlines would have the same level of intangible benefits of e-learning as major carriers. However, one of the most important benefits of e-learning for regional airlines is improving the transfer of knowledge and experiences amongst flight crews since they have relatively high turn over of flight crews.

### Strategies for e-learning Development.

Providing solutions through e-learning must go beyond "why do it". Many organizations have failed in taking the most benefits of e-learning due to lack of sound strategies. Derived from the comprehensive SWOT analysis and the best-in-class benchmarking, this thesis proposes seventeen recommendations for e-learning development.

1. Get executives commitment;
2. Review current training philosophy;
3. Get users involvement since the very beginning;
4. Incentives for users to purchase (and use!) computer;
5. Provide computer trainings for employees;
6. Use blended training method (see figure 2);

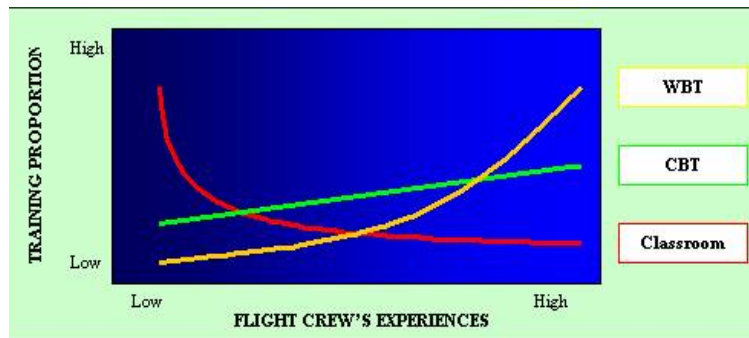


Figure 2: The Blended Training Approach

7. Provide individual feedback to trainees, both in the beginning and at the end of the training session;
8. Provide choices for trainees to learn on the most preferred learning style;
9. Use standard authoring tools and platform;
10. Maintain face-to-face interaction in each training session (see figure 3);

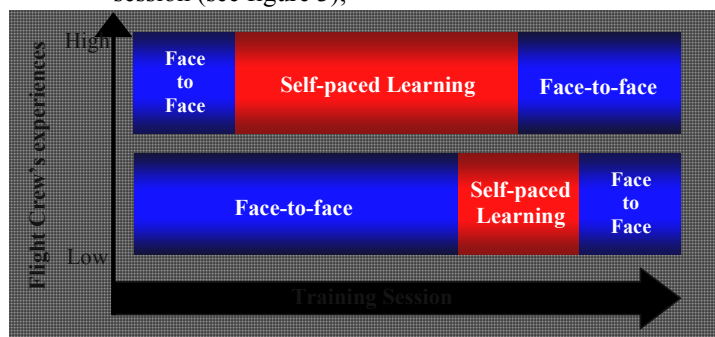


Figure 3: Sandwich Approach for Training Session

11. Be efficient on the design;
12. Go beyond click and read;
13. Use the language that are understood by all trainees;
14. Provide good e-learning infrastructure;
15. Outsource funding and courseware development;
16. Promote e-learning to other airlines or aviation related industries;
17. e for evolution (see figure 4);

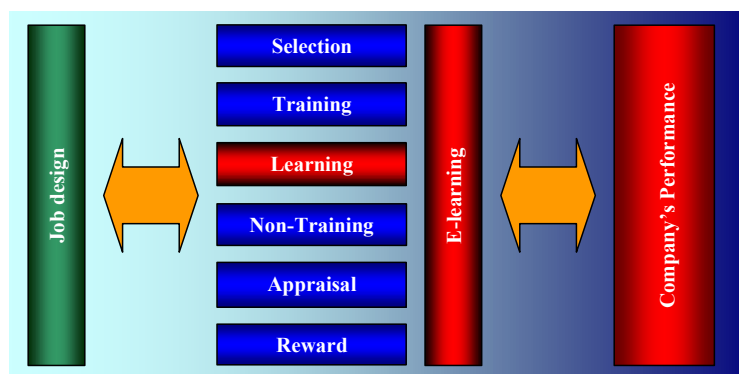


Figure 4: The Enhanced Company's Performance Through E-learning

It is believed that these recommendations could increase the likelihood of the success of e-learning implementation in most airlines, mainly in regional carriers. It should be kept in mind that the strategies proposed in this thesis are somewhat general and therefore should be tailored to the environment of each training division.