**Lean Operations at Alaska Airlines**

Alaska Airlines operates in a land of rugged beauty, crystal clear lakes, spectacular glaciers, majestic mountains, and bright blue skies. But equally awesome is its operating performance. Alaska Airlines consistently provides the industry’s number one overall ranking and best on-time performance. A key ingredient of this excellent performance is Alaska Airlines’ Lean initiative.

With an aggressive implementation of Lean, Ben Minicucci, Executive VP for Operations, is finding ever-increasing levels of performance. He pushes this initiative throughout the company with: (1) a focus on continuous improvement, (2) metrics that measure performance against targets, and (3) making perfor- mance relevant to Alaska Airlines’ empowered employees.

With leadership training that includes a strong focus on participative management, Minicucci has created a seven-person Lean Department. The department provides extensive train- ing in Lean via one-week courses, participative workshops, and two-week classes that train employees to become a Six Sigma Green Belt. Some employees even pursue the next step, Black Belt certification.

A huge part of any airline’s operations is fuel cost, but capital utilization and much of the remaining cost is dependent upon ground equipment and crews that handle aircraft turnaround and maintenance, in-flight services, and customer service.

As John Ladner, Director of Seattle Airport Operations, has observed, “Lean eliminates waste, exposes non-standard work, and is forcing a focus on variations in documented best practices and work time.”

Lean is now part of the Alaska Airlines corporate culture, with some 60 ongoing projects. Kaizen events (called “Accelerated Improvement Workshops” at Alaska Airlines), Gemba Walks (called “waste walks” by Alaska Airlines), and 5S are now a part of every- day conversation at Alaska Airlines. Lean projects have included:

◆ Applying 5S to identify aircraft ground equipment and its location on the tarmac.

◆ Improving preparation for and synchronization of the arrival and departure sequences; time to open the front door after arrival has been reduced from 4.5 to 1 min.

◆ Redefining the disconnect procedure for tow bars used to “push back” aircraft at departure time; planes now depart 2–3 minutes faster.

◆ Revising the deicing process, meaning less time for the plane to be on the tarmac.

◆ Improving pilot staffing, making Alaska’s pilot productivity the highest in the industry. Every 1% improvement in pro- ductivity leads to a $5 million savings on a recurring basis. Alaska Airlines has achieved a 7% productivity improvement over the last five years.

Another current Lean project is passenger unloading and loading. Lean instructor Allison Fletcher calls this “the most unique project I have worked on.” One exciting aspect of deplan- ing is Alaska’s solar-powered “switchback” staircase for unload- ing passengers through the rear door (see photo). Alaska is saving two minutes, or nearly 17%, off previous unloading time with this new process. Alaska Airlines’ Lean culture has made it a leader in the industry.

**Discussion Questions\***

1. **What are the key ingredients of Lean, as identified at Alaska Airlines?**
2. **As an initial phase of a kaizen event, discuss the many ways passengers can be loaded and unloaded from airplanes.**
3. **Document the research that is being done on the aircraft passenger-loading problem.**

\* You may wish to view the video that accompanies this case before addressing these questions.

BOOK SOLUTION: (USE it as guide only don’t copy from it )

Case Studie

LEAN OPERATIONS AT ALASKA AIRLINES

A 5-minute video, filmed specifically for this text and case, is available in MyOMLab.

**1.**   Alaska Airlines’ key ingredients of Lean are the same as those noted in this chapter—supply the customer with exactly what the customer wants, when the customer wants it, without waste, through continuous improvement. Alaska Airlines has, of course, developed its own metrics that measure its Lean performance and make performance relevant to Alaska Airlines employees. Alaska Airlines’ Lean effort is augmented by a focus on participative management, a Lean department, extensive training in Lean, kaizen (Accelerated Improvement Workshops), Gemba Walks (Waste Walks), and Green Belt and Black Belt certification.

**LO 16.1:** Define Lean operations

**AACSB:** Reflective thinking

**2.**    A lively discussion can take place regarding passenger loading and unloading. Alaska Airlines has tried several approaches and found deplaning via a rear “switchback” advantageous. However, the literature is rich with sundry approaches to this time-consuming aspect of airline “turn-a-round.” Other approaches include rear to front, window passengers first, children and infirmed first, as well as dual-door or rear-door access and others as noted below.

**LO 16.2:** Define the seven wastes and the 5Ss

**AACSB:** Reflective thinking

**3.**   Passenger loading and unloading is viewed as a major issue in the airline industry; hence, there has been substantial research. The research includes the following:

* + - * *The Role of Computer Simulation in Reducing Airplane Turn Time*; A comprehensive simulation developed by Boeing Aircraft (see //www.boeing.com/commercial/ aeromagazine/aero\_01/textonly/t01txt.html)
			* *Journal of Air Transport Management* “A New Method for boarding passengers onto an airplane.” 34 (1) (January 2014), R. J. Milne and A. R. Kelly authors. Assigns airline passengers to a specific seat based on the number of bags they carry.
			* *Wired Magazine* (August 28, 2013) Use the rear door
			* *New York Times* (May 23, 2013) United to have passengers line up in groups.
			* *New York Times* (August 1, 2011) Spirit Airlines charging for each carry-on bag.
			* *Wall Street Journal (*July 21, 2011) After a 2-year study American Airlines determined that random assignment to groups was best.
			* Irrgang, Michael E., *Airline Operations Efficiency*, Washington DC: McGraw-Hill/Aviation Week, 2000; Describes the procedure for and importance of airline boarding procedures.

**LO 16.2:** Define the seven wastes and the 5Ss

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