

From Hofstede to Metaphor to Cultural Paradox: Teaching Research in an MBA Class

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Safety, even more than a smooth landing or an active sex life, is what pilots really desire. A boringly smooth and uneventful flight is what pilots crave, no matter where they come from or what language they speak.

Captain Surendra Ratwatte, Emirates Airlines

This exercise is used in a graduate level (MBA) course that focuses on cross-cultural management where the two primary texts are Martin Gannon's *Understanding Global Cultures: Metaphorical Journeys Through 29 Nations, Clusters of Nations, Continents, and Diversity* (2010) and *Paradoxes of Culture and Globalization* (2008). It typically requires one three hour class period with graduate students.

The building of this extended exercise began with an article in the Wall Street Journal on March 18, 1998, entitled "Is Culture a Factor in Air Crashes? Guam Probe May Raise Touchy Issues." The focus of the article was the crash of Korean Air Flight 801 as it approached Agana, Guam. The plane, a Boeing 747, was being flown by the autopilot and was descending too steeply. However, neither the co-pilot nor the flight engineer spoke up, in a forceful manner, to alert the pilot as to a possible problem with the autopilot or to abort the landing approach. Crash investigators speculated as to the possibility that (national) culture was a contributing factor. In particular, some thought was given to the fact that Korea is a high power-distance culture and thus there was no challenge to the authority of the pilot or the autopilot. At the same time, the article noted that others had argued that culture plays only a minor role in air safety.

Student investigation of these conflicting points of view begins with a reading of a study cited in the Wall Street Journal article by Sherman, Helmreich, and Merritt (1997) entitled "National Culture and Flight Deck Automation: Results of a Multination Survey." The article details a 15 statement attitudinal survey administered to pilots from 12 national cultures, including Korea, soliciting their attitudes with regard to automation in the cockpit. Specifically, levels of agreement, in percentage terms, were measured with regard to the 15 statements. The responses reflected significant differences in pilot attitudes across the survey items. Students are asked to quickly perform a simple correlation analysis between a national culture's rankings on each of Hofstede's four dimensions (power distance, individualism versus collectivism, uncertainty avoidance, and masculinity versus femininity) and that culture's level of agreement with each of the 15 statements. They typically identify 19 statistically significant correlations. They are then asked to discuss whether these 19

statistically significant correlations are consistent with the predictions suggested by Hofstede's dimensions.

To begin a specific examination of the attitudes of Korean pilots as compared to their U.S. counterparts I asked students to use Excel to test the hypothesis that the absolute value of the differences between the percentage level of agreement between these two national cultures on the 15 attitudinal statements with regard to automation in the cockpit is statistically significantly different from zero. A simple Student t-test reveals that this is indeed the case. Given this result, they are then asked to explain each of the 15 attitudinal differences in light of the characteristics of the Korean culture as described by Gannon's (2010) metaphor for this culture.

A discussion is then initiated as to possible managerial responses to facilitate greater safety in the cockpit on the part of mixed-culture flight crews. It is in the context of this discussion that an interesting paradox emerges: mixed-culture crews may in fact be safer. The motivation for suggesting this paradox comes from a debate between Ashleigh Merrit, at the time a member of Aerospace Crew Research Project at the University of Texas at Austin and Captain Surendra Raywatte, and Airbus 310 pilot with Emirate Airlines. This debate is published in the Proceedings of the 9th International Symposium on Aviation Psychology (1997).

The discussion begins with some of the ideas in Chapter 7 of Malcolm Gladwell's (2008) book *Outliers: The Story of Success* entitled "The Ethnic History of Plane Crashes." These ideas focus on the need for well-crafted communication procedures and interfaces on the part of interface designers. This then allows for the facilitation of an extended discussion of the evolution of Crew Resource Management (CRM) programs and, in particular, Flight Deck Automation Training. The available literature in this area is rich and summarized in the references below. However, the purpose of this discussion is not to investigate the technical details of such programs as much as to recognize that the optimal design of flight deck automation interfaces may not require a uniform culture. Furthermore, when one discusses cultural diversity in the cockpit, one must acknowledge the impact of *three* cultures: professional, organizational, and national.

The recognition of these three operative cultures allows for the interjection of a concept articulated by Westrum (1993) in the article "Cultures with Requisite Imagination" – the "pathological" culture. Such a culture actively discourages safety initiatives and avoids efforts to build a safety culture (see Helmreich, Wilhelm, Klinec, & Merritt, 2001). In fact, in such cultures, in addition to the efforts of external regulatory agencies, it is the positive aspects of professional and national cultures that are critical. Furthermore, cultural diversity builds a "collective imagination" (Rosness, 2000) which is necessary to manage complex technologies (Weick, 1987, Westrum, 1993).

This then allows the paradox, noted above, to be posed to students. Before distributing a copy of the above debate between Merritt and Ratwatte, I first ask students to reconcile the paradox. Typically, they are able to move beyond the simple statistical analysis they did at the beginning of class (and which supported the notion that mixed-culture crews can be a safety threat) and are able to take a broader perspective that supports the paradoxical point of view that, in fact, mixed-culture crews are safer. By in

large, they are able to discern how a positive professional culture is able to extract the positive benefits of diversity in national cultures. As Ratwatte suggests, "...the same qualities that make a good pilot anywhere also make a good multi-cultural pilot, anywhere."

While CRM is acknowledged to be critically important for cockpit safety it may be the case, as suggested by Ratwatte that pilots operating solely within the confines of their culture become complacent and begin to pay "lip-service" to the discipline of CRM. The expatriate, or outsider, does not have this luxury. For them, CRM is a critical tool for coping with a strange environment and overrides the unspoken assumptions and agreements of one's own culture. Ratwatte further points out, as suggested by Hines (1997), in some cases, airlines in the United States have struggled with issues of complacency, poor checklist usage, and less than optimal adherence to standard operation procedures (SOP). SOPs tend to be extensively used in mixed-culture crews where English is a second language. Such crews recognize that such behavior is critical in an environment where there is the necessity of concise verbalization of intent and requirements – exactly as Gladwell would argue the point.

Ratwatte suggests that the professional culture of pilots promotes "shared conversation." Pilots, especially on long flights, like to talk about aviation. There is a "bartering of information" with regard to insights and experiences. As he says, "...'local knowledge' is invaluable, and is much easier to unearth in a company that recruits from all over the world." I finish this portion of the exercise by highlighting a fact highlighted by Ratwatte: "There is absolutely no statistical evidence to support an assumption that a multi-cultural cockpit is any less safe than a mono-cultural one. While accidents tend to be geographically specific, they are *not* culturally specific." National culture is not synonymous with high mountains, poor infrastructure or relatively crowded skies.

This extended exercise finishes with a discussion of how the issues raised above are operative in an environment besides commercial aviation. The particular example of hospital operating and emergency rooms, as suggested by Helmreich et al. (2001), is utilized. This is a challenging discussion as the hospital operating room is a collection of multiple professional and national culture groups – surgeons, anesthesiologists, nurses, and orderlies. Other examples are also solicited from students.

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