



**OUTLIERS
PROJECT**

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10 - AP Seminar

CHAPTER 7

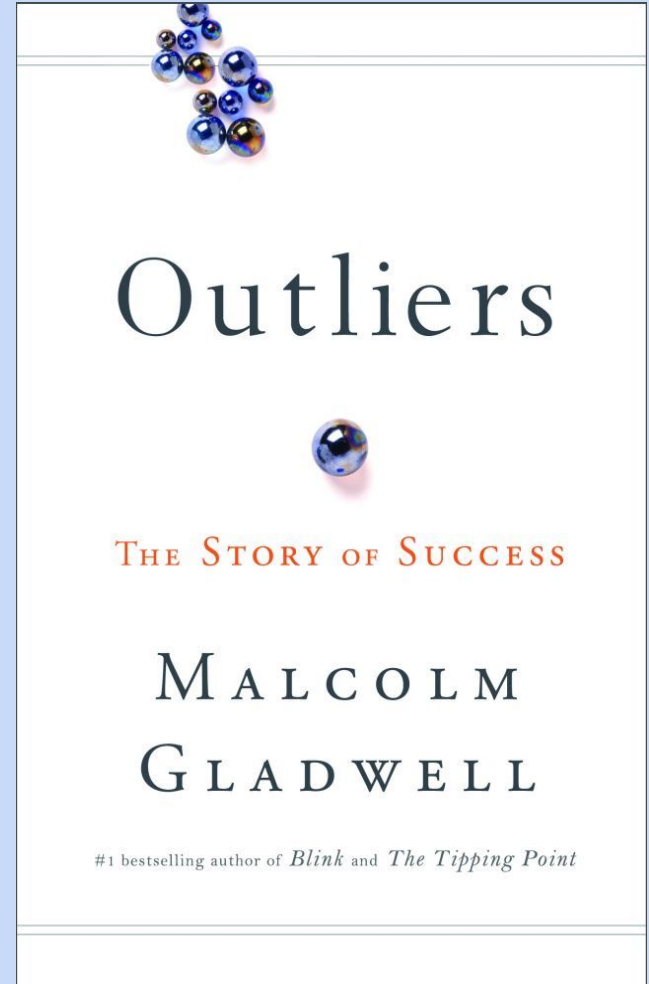
THE ETHNIC THEORY OF PLANE CRASHES

PART A:

<https://docs.google.com/document/d/11n6t4MVlaXq8Ieq-P6sKK1nPS7KithQhLYJWTzQ8zbk/edit>

MAIN ARGUMENT


Cultural characteristics,
more specifically the
power-distance index,
greatly influence the
dynamic aboard the cockpit
of an airplane and thus
**plays a major role in flight
safety.**



THE SETUP

United Airlines:
0.27 per 1,000,000 dep.

Korean Air:
4.79 per 1,000,000 dep.



**LOSS RATE
1988-1998**

Why does Korean Air loose so many flights?

FOCUS

Korean Air 801 (1997)



https://www.wikiwand.com/en/Korean_Air_Flight_801

Avianca Airline 052 (1990)



https://es.wikipedia.org/wiki/Vuelo_52_de_Avianca

WHY DO AIRPLANES CRASH?



<https://pngriver.com/download-communication-png-images-105148/>

communication?

<https://es-la.facebook.com/DeNoordpole/photos/due-to-technical-difficulties-with-our-website-you-wont-receive-the-newsletter-1/1517885851656370/>



DIFFICULTIES?



<https://co.pinterest.com/pin/391461392613220924/>

KNOWLEDGE?

Suren Ratwatte

AVIANCA FLIGHT 052

<https://twitter.com/avianca052>



GOOD COMMUNICATION

=

SUCCESS
(IN MOST CASES)

SPEECH MITIGATION

It means to
downplay the
meaning of what is
being said.

It often happens
when copilots talk
to pilots and/or
when copilots talk
to ATCs

ATCs = Air Traffic Controllers

Levels of mitigation in aviation:

Command: "turn thirty degrees right." -zero mitigation;
direct statement

Crew Obligation Statement: "I think we need to deviate
right about now" -much less specific; softer; usage of 'we'.

Crew Suggestion: "Let's go around the weather" -implies
'we are in this together'

Query: "Which direction would you like to deviate?"
-speaker concedes he is not in charge

Preference: "I think it would be wise to turn left or right."

Hint: "That return at twenty-five miles looks mean." -most
mitigated statement

FIRST OFFICER TO CAPTAIN

Air Florida 90 crash (1982):

First officer **tries** to tell the captain that the plane had dangerous amounts of ice on its wings.

“Look how the ice is just hanging on his, ah, back, there, see that?”

“See all those icicles on the back there and everything?”

“Boy, this is a losing battle here on trying to de-ice those things, it gives you a false feeling of security, that’s all that does.”



FIRST OFFICER TO CAPTAIN

Korean Air 801 crash (1997):

Both first officer and flight engineer **hinted** the captain about his poor decision making and the terrible situation they're involved in.

“Don't you think it rains more? In this area, here?”

“Captain, the weather radar has helped us a lot”



FLIGHT crew TO atc'S

Avianca Airlines 052 (1990):

First officer **tries** to tell the ATC that they're about to run out of fuel.

"That's right to one-eight-zero on the heading and, ah, we'll try once again. We're running out of fuel."

"Climb and maintain three thousand and, ah, we're running out of fuel, sir."

ATC: "And Avianca 052 heavy, ah, I'm gonna bring you about fifteen miles northeast and then turn you back onto the approach. Is that okay with you and your fuel?"

First officer: "I guess so. Thank you very much."

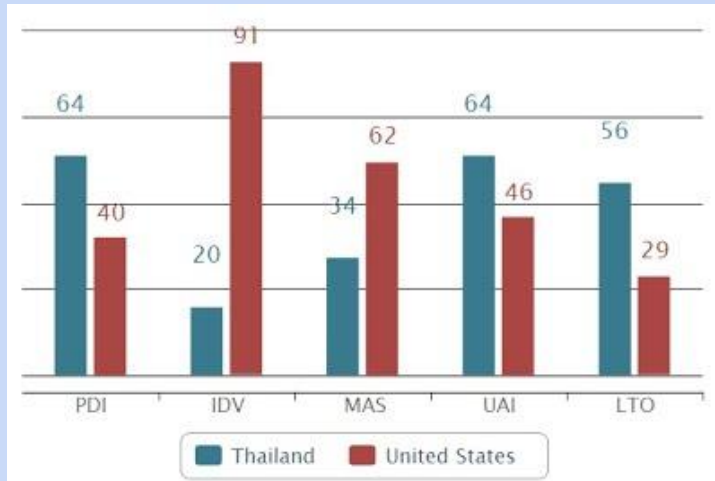


But why do they mitigate their speech?

POWER DISTANCE INDEX (PDI)

Index that measures **how much** a country's population **respects authority**.

- High PDI = too much respect
- Low PDI = too little respect

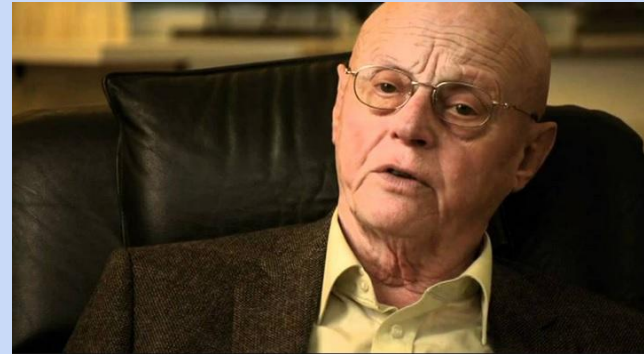


AVIANCA 052:

- United States: low PDI
- Colombia: high PDI

KOREAN AIR 801:

- South Korea: second highest PDI



HOW DID Korean air FIX THIS PROBLEM?

Korean language is built on hierarchy. The ways the language is used are dictated by the power dynamic in the conversation.

This harms the dynamic in the cockpit; where all crew should be *equals* or *almost equals*.

By changing the official language to english, Korean Air managed to *break* the hierarchical barriers made by their language; reducing the PDI in the cockpit.

conclusion

“We have a way to make successes out of the unsuccessful.”

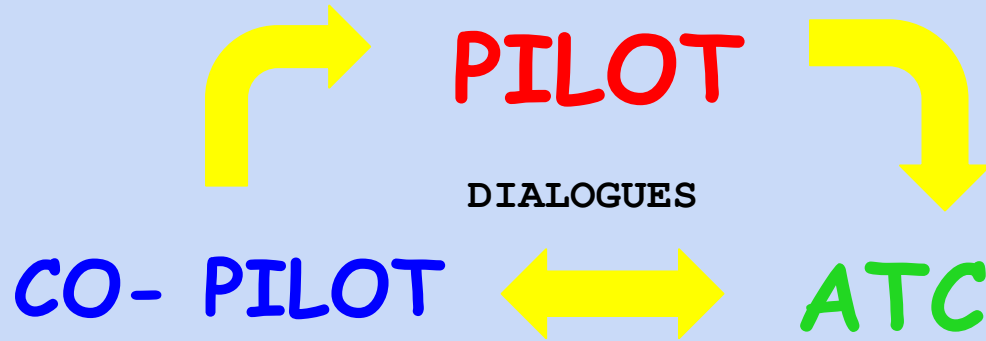
EVIDENCE EFFECTIVENESS: FIRST HAND ACCOUNTS

His evidence is very credible because of the experience of the people he included in his argument:

- Veteran pilot and “human factors” analyst (Suren Ratwatte)
- Linguists (Ute Fischer, Judith Orasanu)
- Psychologist (Geert Hofstede)
- NTSB leading black box specialist and PhD psychologist (Malcolm Brenner)
- Former leader of Korean Air’s flight operations (David Greenberg)



BLACKBOX TRANSCRIPTS



https://www.freepik.com/free-icon/businessmen-trading-communication_722594.htm



<https://pannulawyers.com.au/recording-conversation-without-consent/>

Sources:

Ambrose, K. (2012, January 13). The 30 year anniversary of the crash of Air Florida Flight 90. Retrieved September 02, 2020, from https://www.washingtonpost.com/blogs/capital-weather-gang/post/the-30-year-anniversary-of-the-crash-of-air-florida-flight-90/2012/01/11/gIQAEVH4tP_blog.html

Korean Air Flight 801. (2020, August 23). Retrieved September 02, 2020, from https://en.wikipedia.org/wiki/Korean_Air_Flight_801

Vuelo 52 de Avianca. (2020, August 28). Retrieved September 02, 2020, from https://es.wikipedia.org/wiki/Vuelo_52_de_Avianca

(www.dw.com), D. (n.d.). How does a black box work?: DW: 09.01.2020. Retrieved September 02, 2020, from <https://www.dw.com/en/how-does-a-black-box-work/a-17907283>

4) Compare and Contrast - USA and Thailand. (n.d.). Retrieved September 02, 2020, from <https://sites.google.com/site/icbc201project/compare-and-contrast>

Ceolevel. (2017, July 03). Las 5 Dimensiones culturales de Hofstede. Retrieved September 02, 2020, from <http://www.ceolevel.com/las-5-dimensiones-culturales-de-hofstede>