Click ‘engage’ to rate sessions and ask questions

Stephen Carver
Senior Lecturer
School of Management
Cranfield University
Challenger

January 28th
1986
The Challenger Crew

Mike Smith     Dick Scobee     Ron McNair

Ellison Onizuka     Christa McAuliffe     Greg Jarvis     Judith Resnik
Apollo 11
“Houston we’ve had a problem”
!!!MARS!!!

But there were problems
Marshall Space Flight Centre
Huntsville Alabama
“For the first time ever it became apparent that cost would need the same considerations as the usual design parameters of weight, safety and performance.”

Sam Beddingford
NASA Development Engineer
Despite the O-Ring problems, and the many other technical problems they faced, the first Shuttle was launched in 1981 with baited breath........
Landing

Safing

Maintenance and Checking

Payload Operations

Pre-launch

Vehicle Assembly

Payloads installed on pad

External Tank delivery

Solid Rocket Booster (SRB) Retrieval

SRB cycle

SRB refurbishment
“When people go in front of Dr. Lucas, they know that if they use words like think or feel or judgement to try to explain something, they will be shot down in flames.

Roger Biosjoly MTI
Chief O Ring Engineer
Icicles hanging off Challenger the day before the fateful launch
Presidential Report on Challenger

Good Technical Skills but...
Too much “Management"
Too little Leadership/Respect
Low Empowerment/Integrity
Poor Communication
Vague Ownership
Fear of Escalation
No “one” Vision
Low Trust Levels
Silo Mentality
Complacency
“Disasters happen when decisions are made by leaders who cannot remember what the consequences were last time”
Space Shuttle Columbia

Feb 2003
“The foam did it”

Official Report into Columbia Disaster
“We didn’t believe that pictures would be useful to us.... we felt there was nothing that we could have done anyway so, we decided not even to take them”

Ron Dittemore
Columbia Programme Manager
“Any reports on the tile damage or are we just crossing our fingers and hoping for the best?”

“It kinda says that it will probably be alright”

Official CAIB Report Columbia Disaster
LeRoy Cain

February 1st 2003
One Vision – One Empowered Team
Big Picture/Strategy/Confidence
More Leadership – less Management
Faster Adaptive Processes/Excellence
Rotation/Mentoring/Partnerships
Listening/Communication Skills
Fierce Conversations/Integrity/Trust
Engage and Challenge
Stories, lunches and fun!
Creativity is easy...

Just get intelligent people together...

and let them have fun!
Failure is only an opportunity to begin again more intelligently.

Henry Ford (1863-1947)
American industrialist, inventor

NASA changed their culture and raised their game...
2 Final Questions:
Who decides?
Would you?
“The trouble is, if you don’t risk anything, you risk even more.”

Erica Jong
Writer