



# AGE OF COMPLEXITY

Robert McMartin

Emuhead  
Consulting

---

# WHAT IS A GOLDEN AGE?

---

---

# **WHAT IS A GOLDEN AGE?**

**A RETROSPECTIVE, HISTORICAL OR MYTHOLOGICAL PERIOD CHARACTERISED BY PEACE, PROSPERITY, STABILITY, AND HIGH CULTURAL OR SCIENTIFIC ACHIEVEMENT.**

---

---

# **THERE HAVE BEEN MANY “GOLDEN AGES” IN HUMAN HISTORY**

**THE GOLDEN AGE OF EXPLORATION (1400 TO 1700)**

**THE GOLDEN AGE OF AIRCRAFT (1919 – 1930)**

**THE GOLDEN AGE OF TECHNOLOGY (1870 TO 1970)**

**THE GOLDEN AGE OF PROJECTS (1900 TO 1970)**

---

---

# **GOLDEN AGE OF PROJECTS**

PANAMA CANAL

EMPIRE STATE BUILDING

HOOVER DAM

MANHATTAN PROJECT

MERCURY, GEMINI AND APOLLO PROJECTS

---

---

# GOLDEN AGE OF PROJECTS

## PANAMA CANAL

The Panama Canal used existing technology to build the canal, steam engines and nitroglycerin, in the process had to deal with Yellow Fever. Side benefit knowledge that yellow fever was caused by mosquitos.



---

# GOLDEN AGE OF PROJECTS

## EMPIRE STATE BUILDING

The Empire State Building the development of the Plan before you build and the prefabrication of each floor, prior to the components being lifted to the designated floor.



---

# GOLDEN AGE OF PROJECTS

## HOOVER DAM

The Hoover Dam a project of massive scale, had never been done before by anyone and the lessons learned found their way into every project since.



---

# GOLDEN AGE OF PROJECTS

## MANHATTAN PROJECT

The Manhattan Project, arguably, the first recognisable complex project. A project that was built on the promise of a simple formula  $E = MC^2$  and not real understanding if the project was possible. For every problem solved, many other problems were spawned.

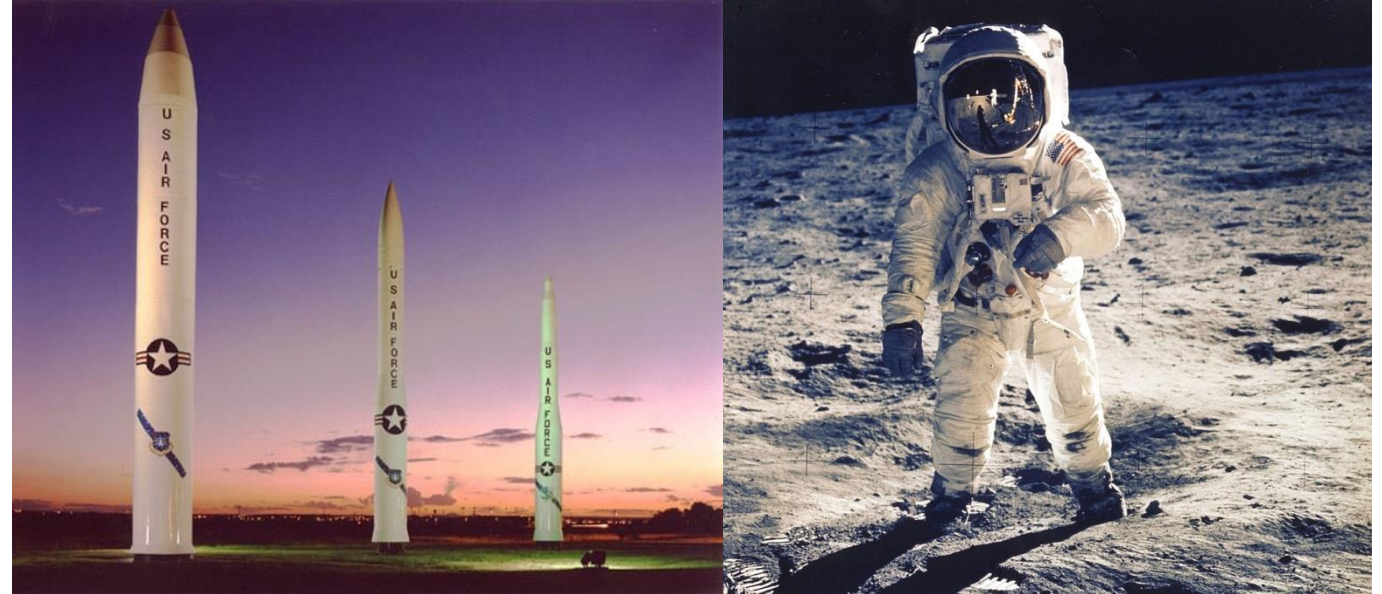


---

# GOLDEN AGE OF PROJECTS

## MINUTEMAN MISSILES AND THE US SPACE PROGRAM

The US Minuteman missile projects and the Mercury, Gemini and Apollo projects were the true birthplace of most of the modern tools used in project management. Modern scheduling grew from this in the form of Critical Path Method (CPM).



---

# THE RISE OF COMPLEXITY, BIRTH OF EMERGENCE

Simplistic methodologies were no longer enough.

Rise of Complexity Theory

Chaos Theory and the Theory of Evolution became important

---

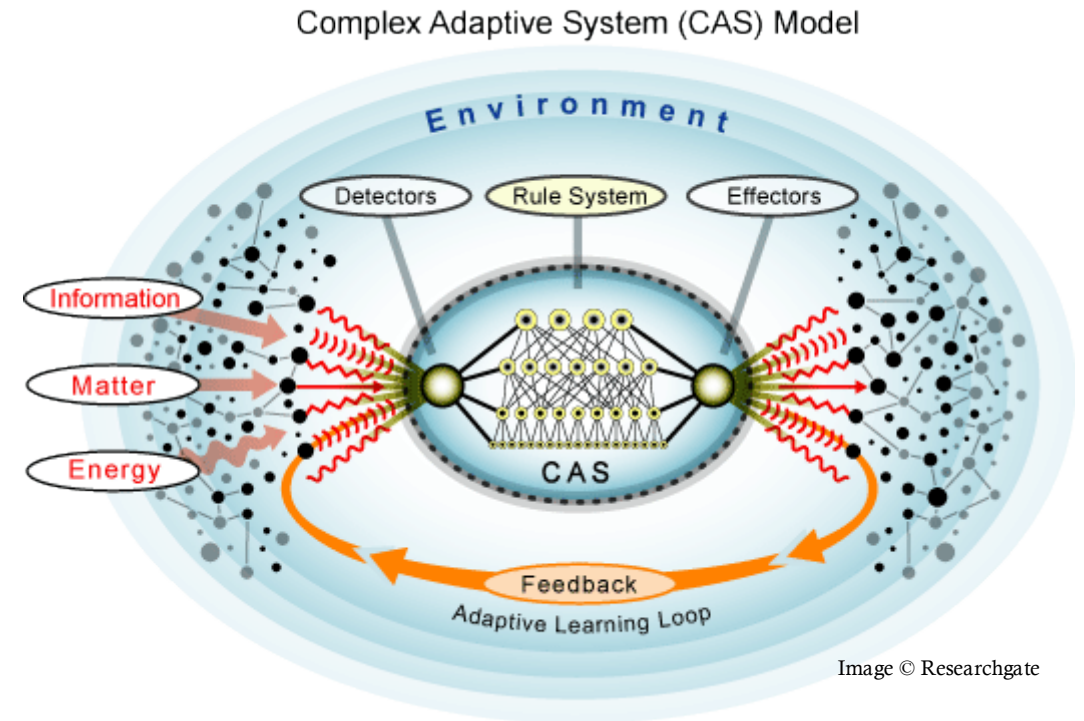
---

# COMPLEX ADAPTIVE SYSTEMS

Simplistic methodologies were no longer enough.

Rise of Complexity Theory

No Chaos Theory and the Theory of Evolution became important

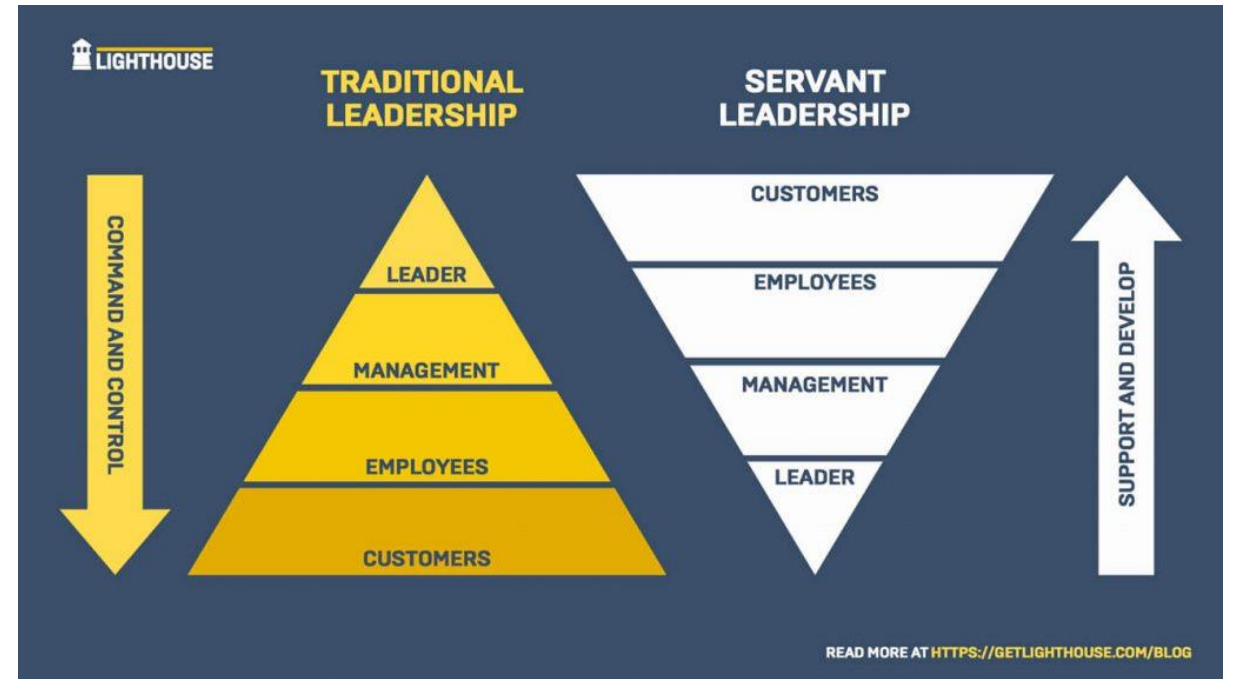


---

# SERVANT LEADERSHIP

The Servant leadership model turns the conventional leadership model on its head.

- The leader, works for the project.
- The Customer facing staff become the most important people.
- Support of the team to do their job

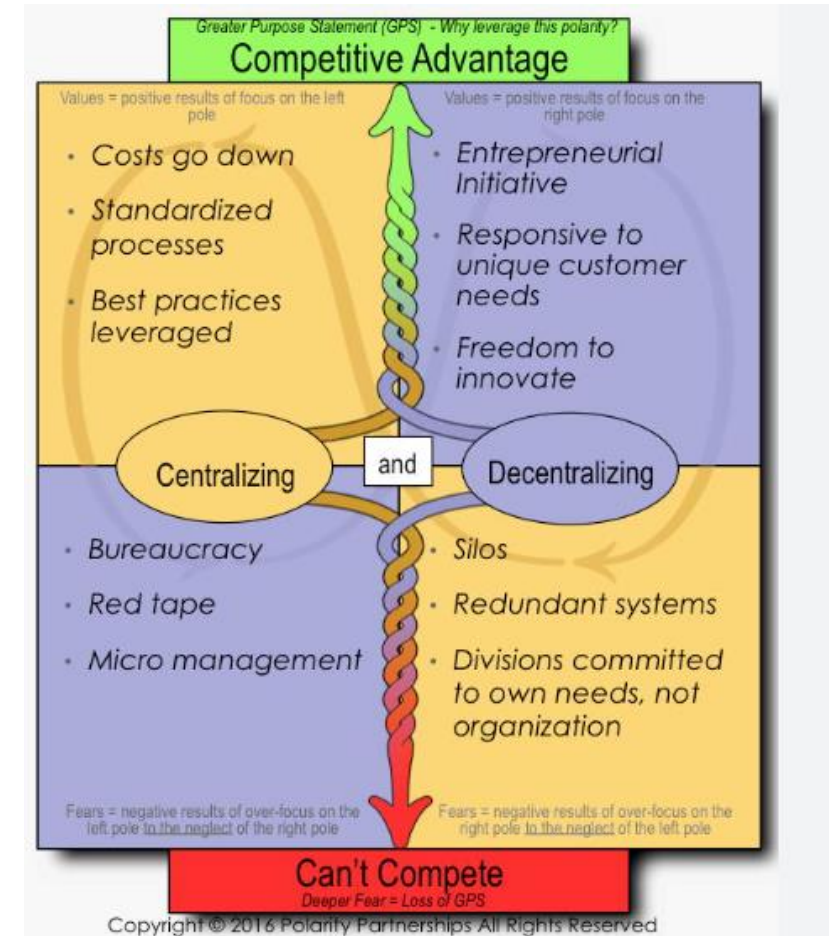


# POLARITY MAPPING RISK MANAGEMENT

Simplistic methodologies were no longer enough.

Rise of Complexity Theory

No Chaos Theory and the Theory of Evolution became important

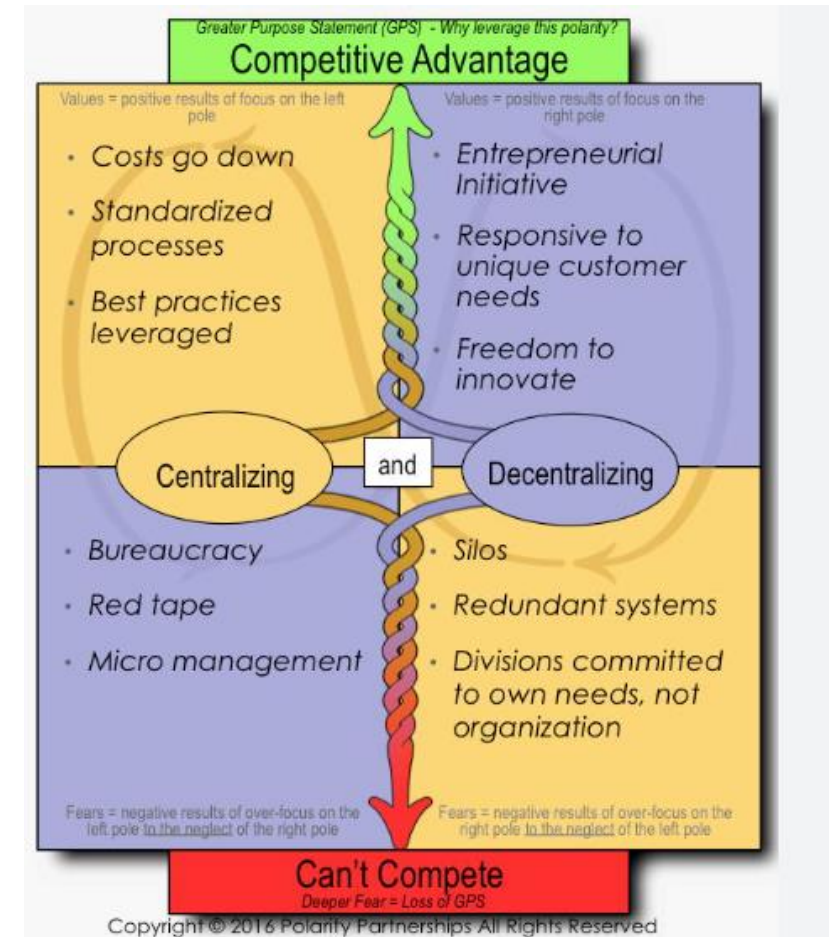


# RELATIONSHIP MANAGEMENT

Simplistic methodologies were no longer enough.

Rise of Complexity Theory

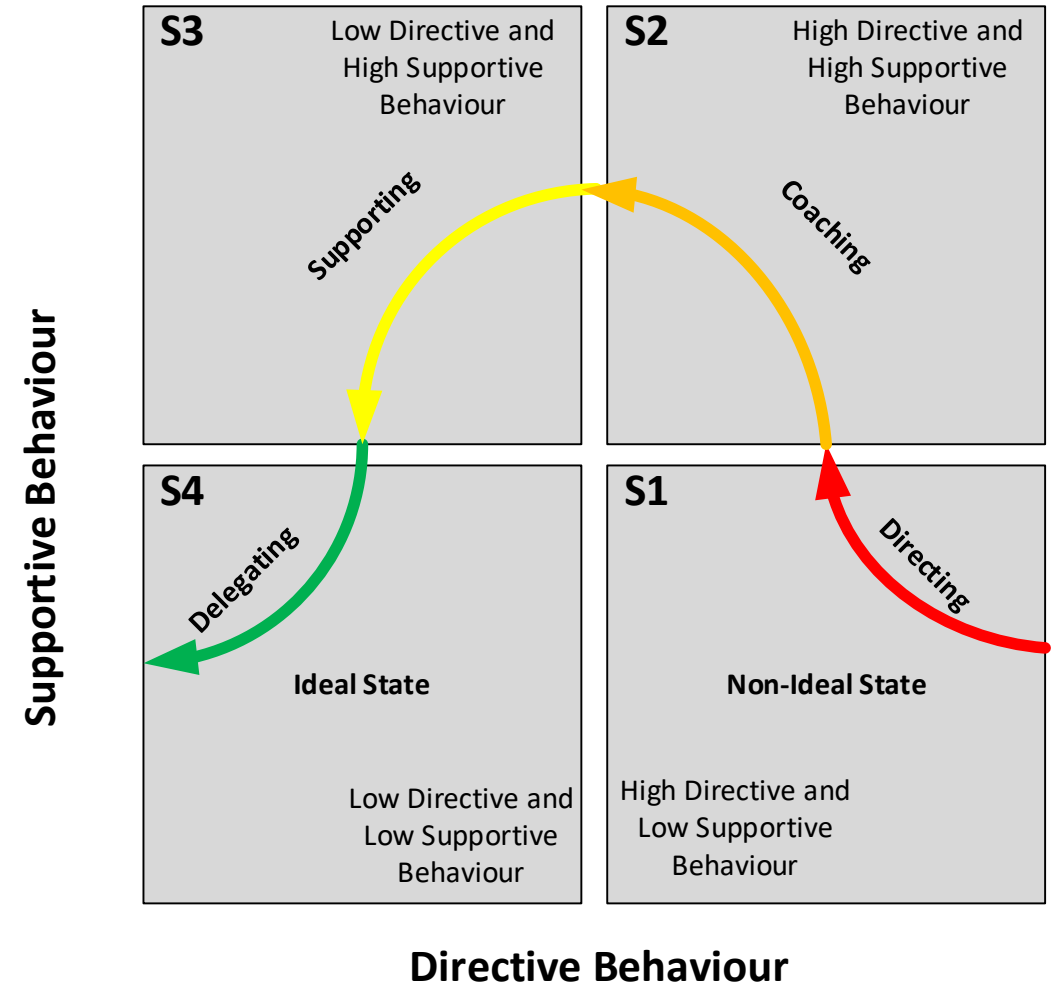
No Chaos Theory and the Theory of Evolution became important



---

# SITUATIONAL LEADERSHIP/MANAGEMENT

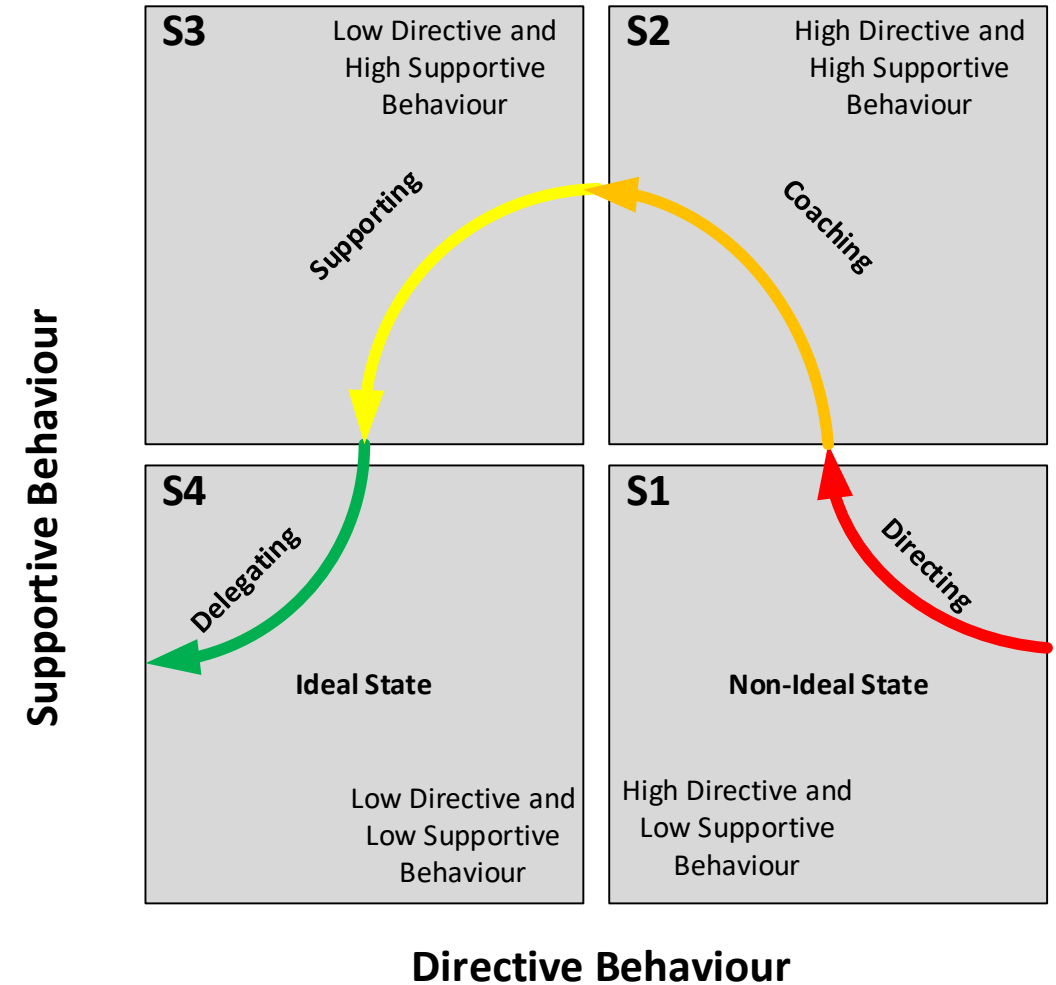
- Adapt the management style directly to the maturity of the organisation.
- Goal is to develop the organisation staff to think for themselves.
- Goal is to have staff develop the solutions and be ready to implement them.



---

# COMPLEX PROJECT REQUIRE COMPLEX SOLUTIONS

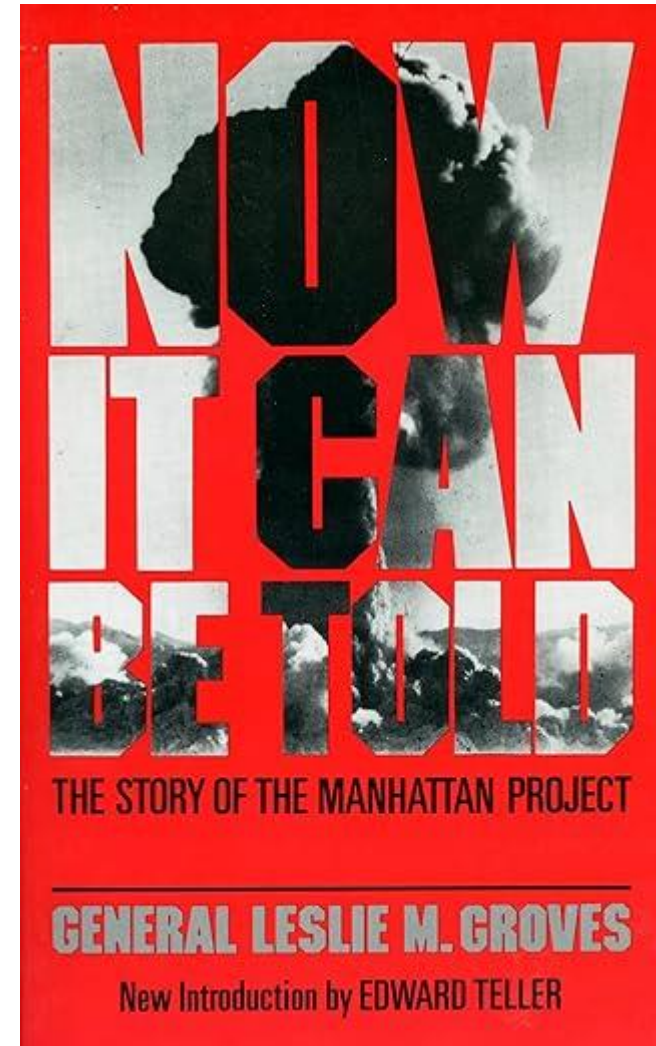
- While it is tempting to think that a project of complexity can be dealt with simple solutions, the truth is that a simple solution only works on one part, the reality is that you cannot deliver a project of complexity with the existing tools, methodologies and frameworks.
- No matter how tempting, no matter what anyone says, there is no simplistic solution.
- It takes effort, training and time.



---

## ADDITIONAL READING

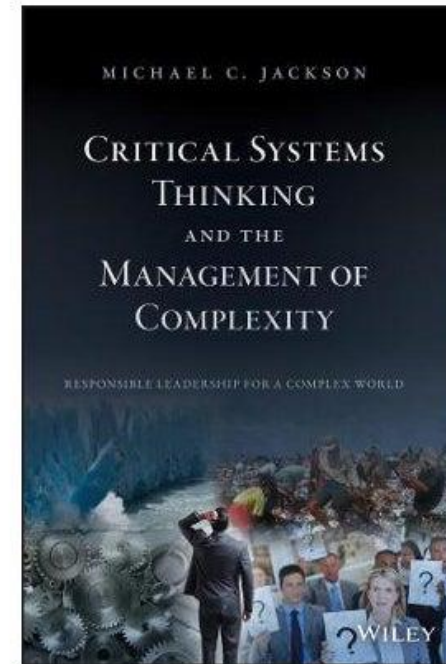
Leslie Groves, Da Capo Press



---

# ADDITIONAL READING

Michael C. Jackson (Wiley)



---

# ADDITIONAL READING



International Centre for Complex Project Management, Managing Risk in Complexity, Special Interest Group  
[www.iccpm.com](http://www.iccpm.com)

---