# Human/AI decision making

## How is the world changing?

**Professor Jenny George**
**Dean, Melbourne Business School**


AI can save lives.
AI could make us worse at saving lives.

THE CONTEXT

# How Australians use AI at work (2025)

**57%**

don’t check the answers

**59%**

have made a mistake at work because of it

**48%**

have used it against the rules

**70%**

don’t know if their workplaces have an AI policy

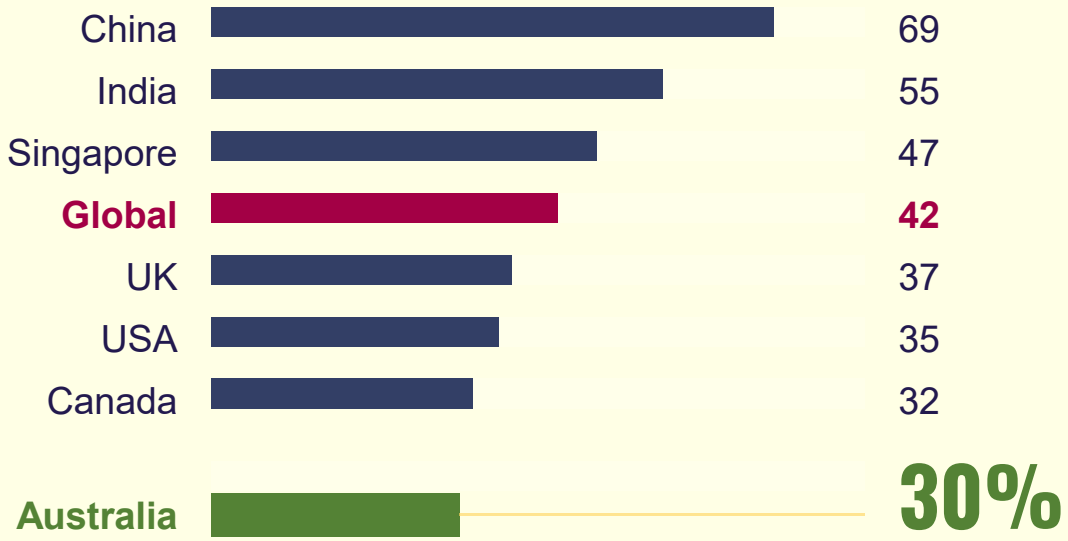
Gillespie, Lockey et al. · University of Melbourne & KPMG · Australian workforce · 2025

THE CONTEXT

# Australians use AI more than we trust it

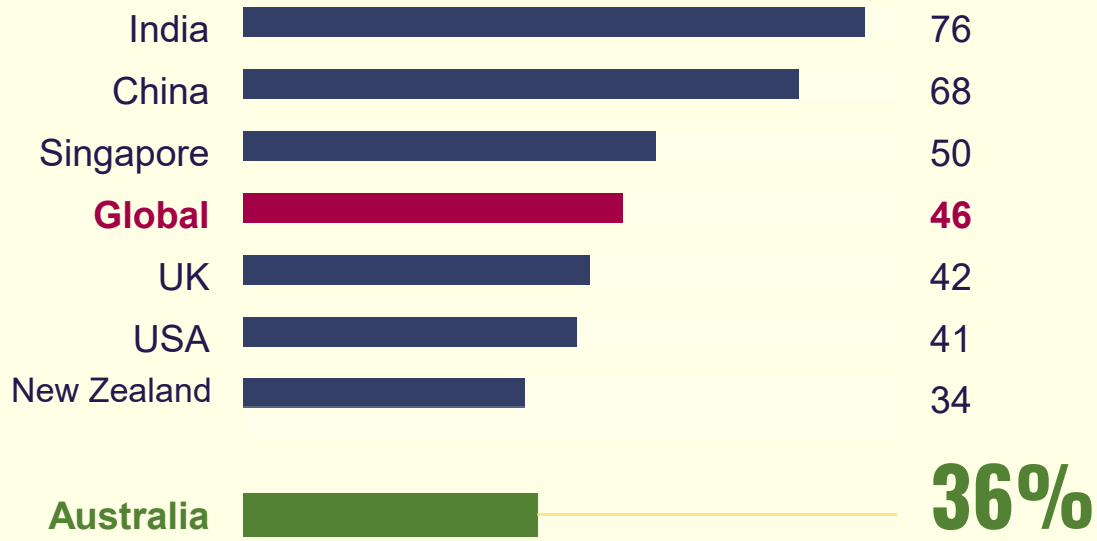
## Benefits outweigh the risks

% who agree




## Willing to trust AI

% willing



THE EVIDENCE · WHAT IS SETTLED

# AI is already making early warning better

**90%**

GraphCast beat the leading supercomputer forecast on 90% of tests — in under a minute.

SCIENCE · 2023

**700m**

People now covered by Google Flood Hub, across 100+ countries.

NATURE · 2024

**6×**

Disaster deaths roughly six times lower with good early warning. A 24-hour warning cuts damage ~30%.

WMO / UNDRR · 2025

# It's already underway



FIRE

## Fire spread modelling

CSIRO Spark

AMBULANCE

## Cardiac-arrest detection on calls

Ambulance Victoria

FLOOD / SES

## AI flood sensing

NSW SES · trial

AERIAL

## Satellites and drones

FireSat

# Human in the loop: theory vs reality

**MODEL VS DISPATCHER**

**85% vs 77%**

AI ahead of highly trained dispatchers

**DISPATCHERS WITH AI VS WITHOUT**

**93% vs 90%**

**Not statistically significant**

Copenhagen · randomised trial · 5,242 emergency calls · JAMA Network Open, 2021



ORGANISATIONAL DESIGN

# Centre, or edge?

## Centre

## Edge

CONTROL ROOM

FIELD

**Cloud dashboards**
pull decisions inward

**On-truck, body-cam, drone AI**
push decisions outward



SKILL ATROPHY

# When the screen does the thinking



# Skill atrophy:

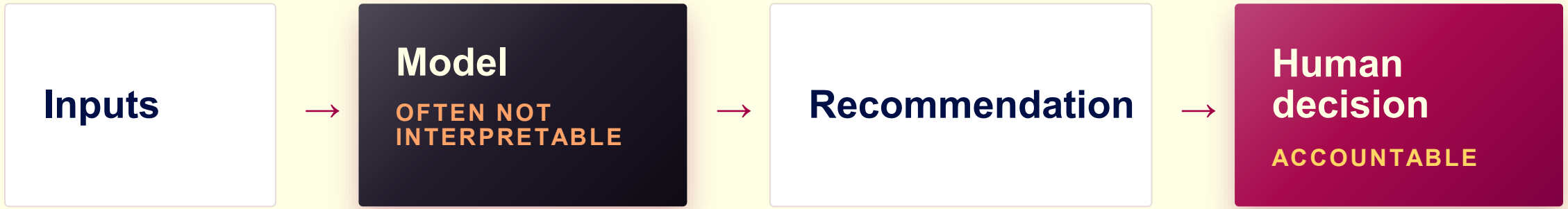
# The lesson from aviation

The first loss is not manual skill.

It is situational awareness.

Parasuraman & Manzey 2010 · Casner et al. 2014

# The Black Box problem



INCLUSION

# Models learn from the world as it *was*

Leaders decide whether that is the world they want to reproduce.



YOUR EXISTING DISCIPLINE

# Stress-test AI where it is most likely to fail

- Rare populations
- Rare incidents
- Rare conditions

The way you already stress-test a crisis plan.



A PRACTICAL DESIGN PRINCIPLE

# Design for options, confidence and dissent

Do not design one answer that becomes *the* answer.

## HOW TO ASK THE MACHINE

| | |
|---|---|
| BEST ESTIMATE | the recommendation |
| CONFIDENCE | how much weight it carries |
| WHY IT'S WRONG | the case against |
| ALTERNATE VIEW | the other option |


In 20 years, where will human judgement reside?