

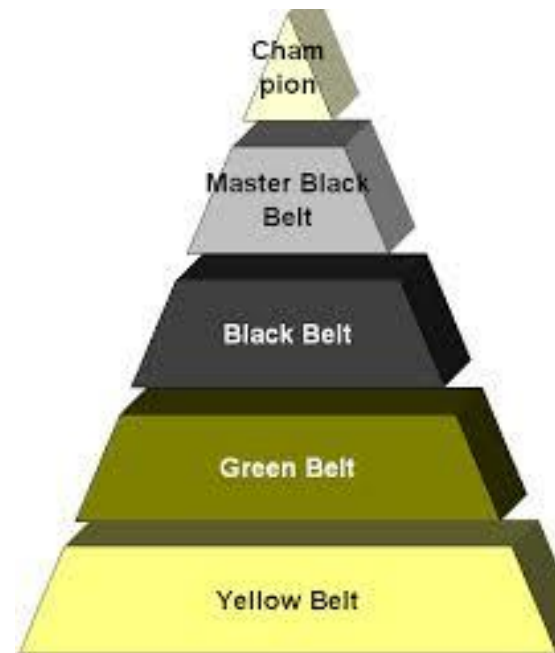


L5 – Manufacturing Design & Technology

Richard Morgan
School of Engineering

The Bigger Picture

6σ
Six Sigma



The Bigger Picture

Sigma level	Sigma (with 1.5 σ shift)	DPMO	Percent defective	Percentage yield
1	-0.5	691,462	69%	31%
2	0.5	308,538	31%	69%
3	1.5	66,807	6.7%	93.3%
4	2.5	6,210	0.62%	99.38%
5	3.5	233	0.023%	99.977%
6	4.5	3.4	0.00034%	99.99966%
7	5.5	0.019	0.0000019%	99.9999981%

The Primary Driver - What does 99.9% Quality Mean?



One hour of unsafe drinking water per year

The Primary Driver - What does 99.9% Quality Mean?

- 291 incorrect pacemaker operations per year

■ 500 incorrect surgical operations performed each week

108 SHOP liquid dish washer.



SUPER
CLEAN



The Primary Driver - What does 99.9% Quality Mean?



12 babies given to the wrong parent each day

The Primary Driver - What does 99.9% Quality Mean?

2 unsafe landings at Gatwick Airport per day



The Primary Driver - What does 99.9% Quality Mean?



The Primary Driver - What does 99.9% Quality Mean?



6,000 lost pieces of mail per hour

The Primary Driver - What does 99.9% Quality Mean?

20,000 incorrect drug prescriptions per year



The Primary Driver - What does 99.9% Quality Mean?

107 incorrect medical procedures performed daily



The Primary Driver - What does 99.9% Quality Mean?



14,208 defective personal computers shipped each year

The Primary Driver - What does 99.9% Quality Mean?

268,500 defective tires shipped per year



The Primary Driver - What does 99.9% Quality Mean?

880,000 credit card magnetic strips with the wrong information



The Primary Driver - What does 99.9% Quality Mean?

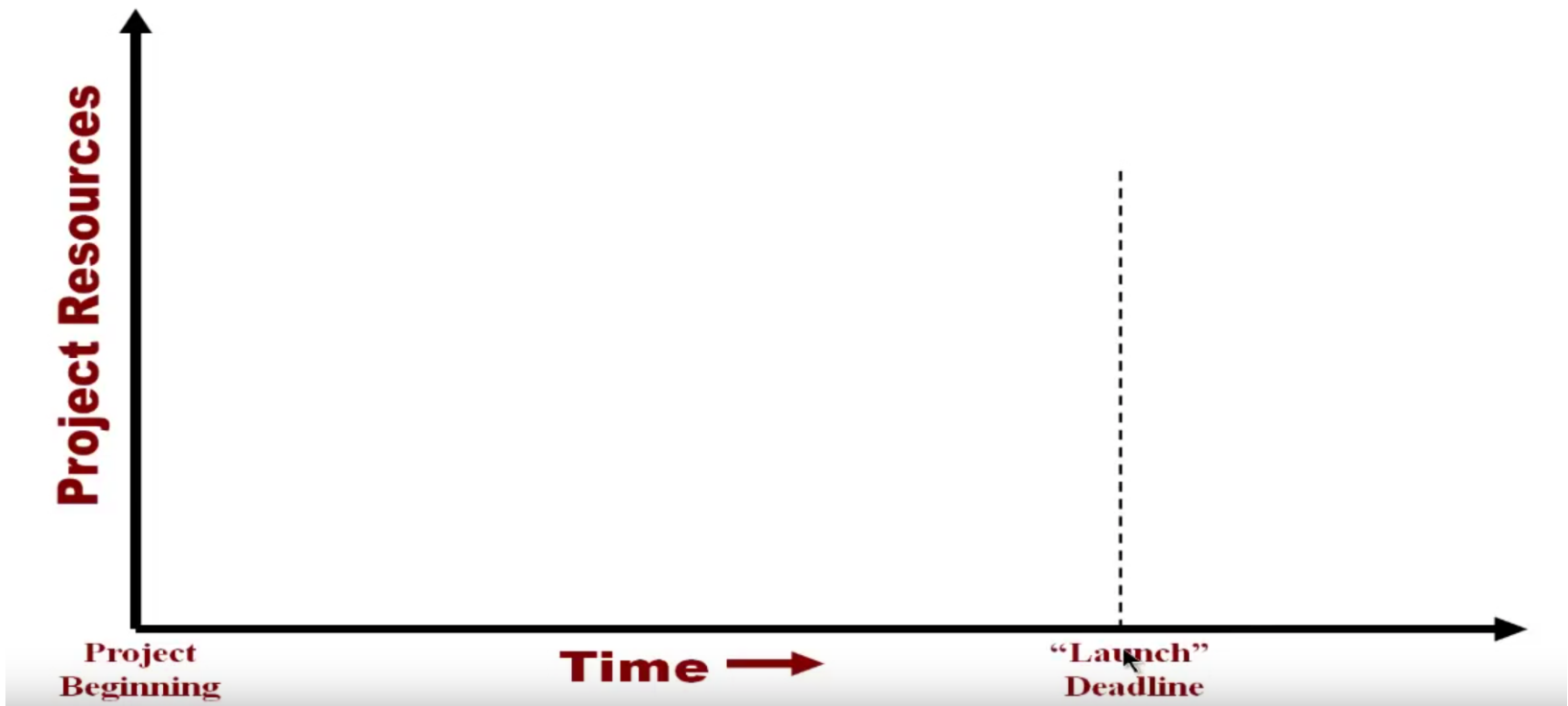
19,000 newborn babies dropped at birth by doctors each year

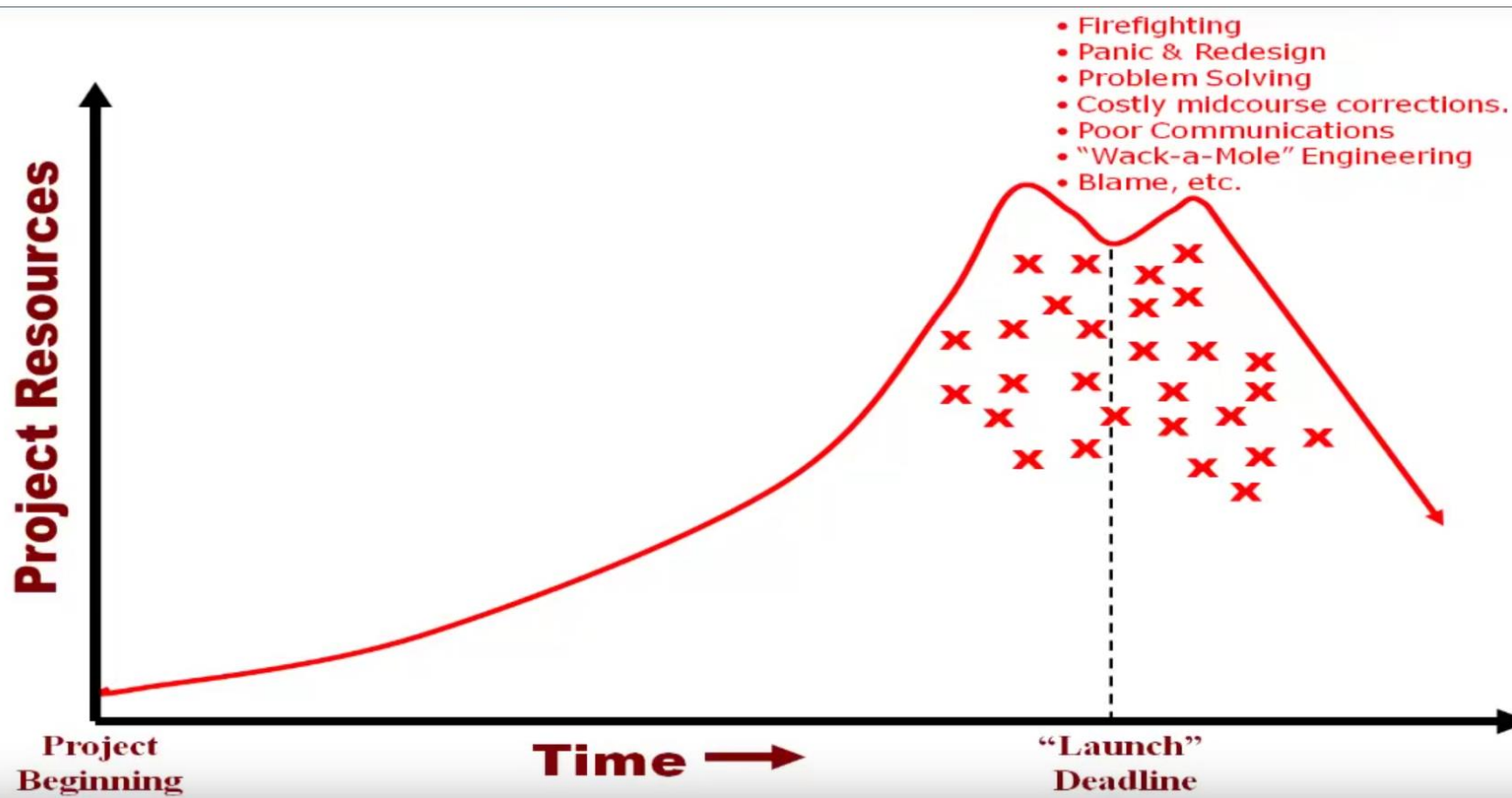


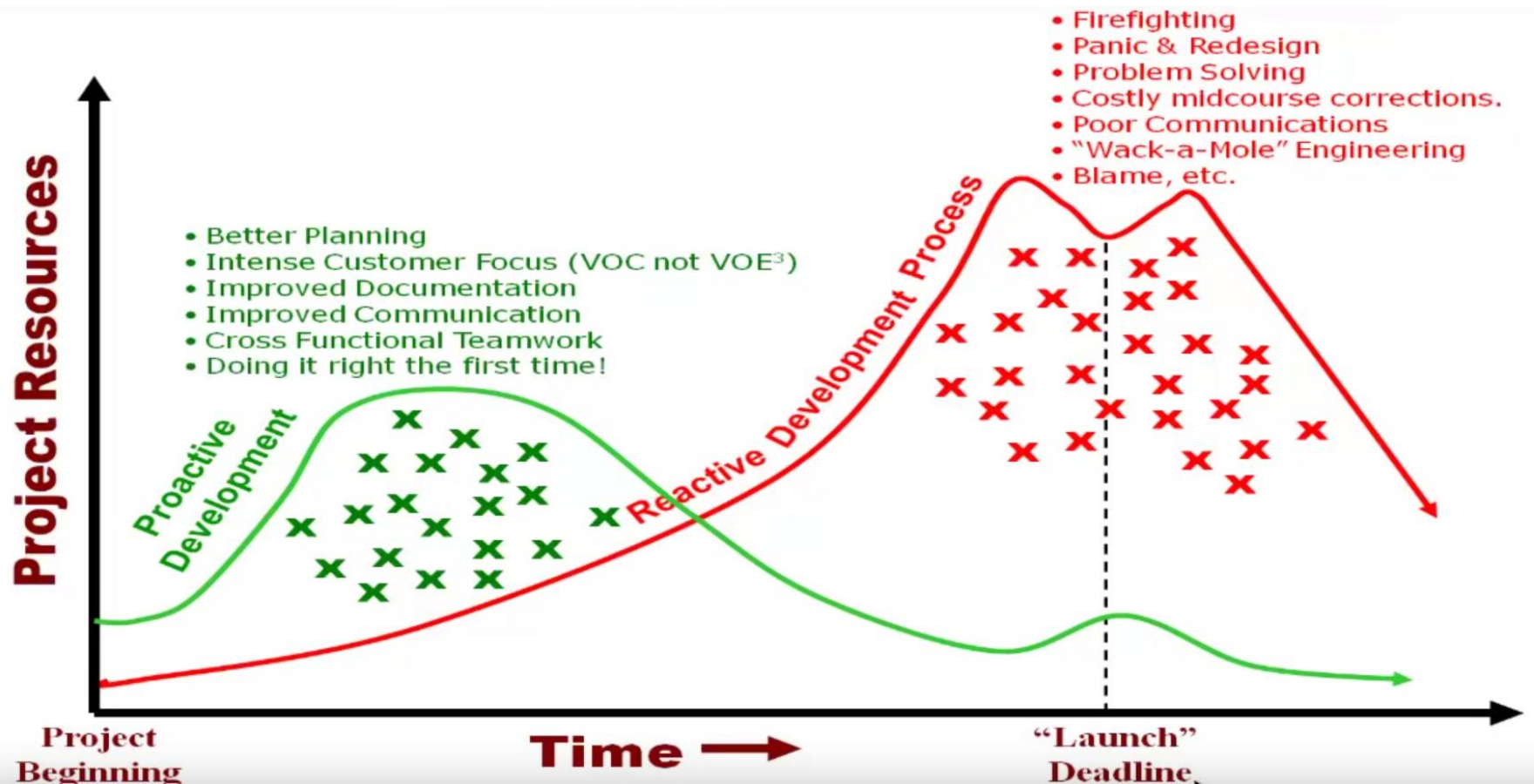
The Primary Driver - What does 99.9% Quality Mean?



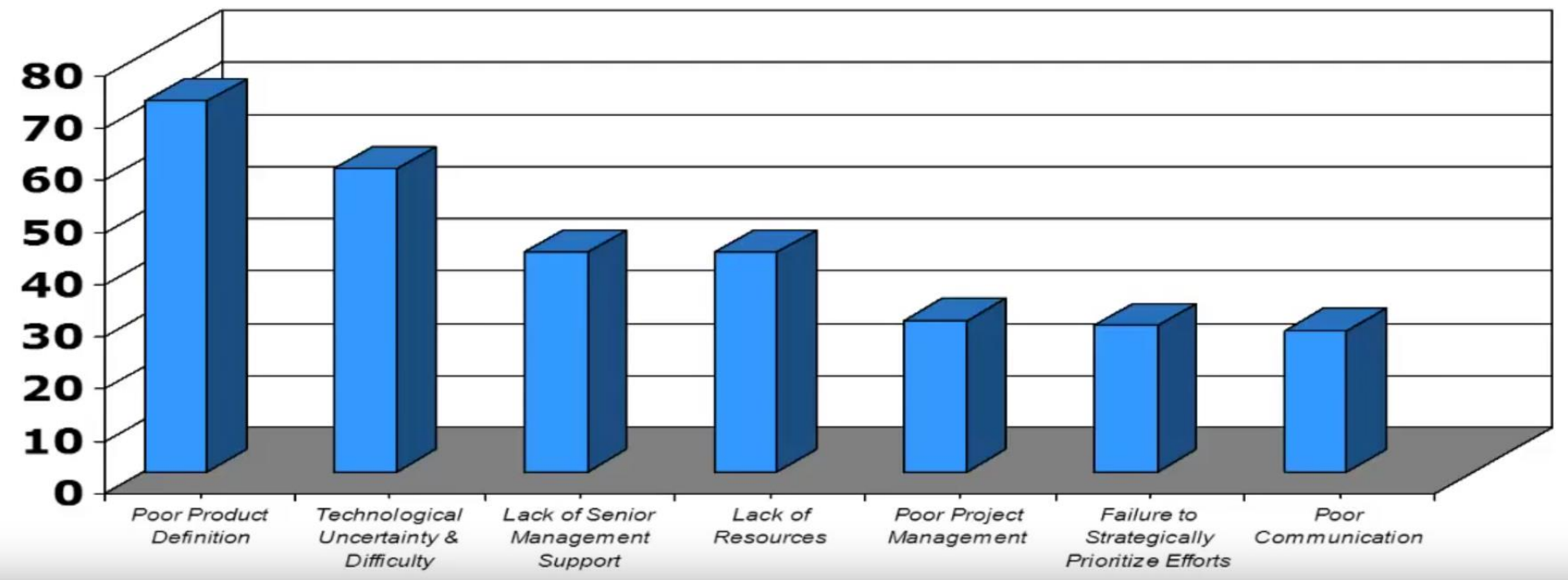
22,000 checks deducted from the wrong account each hour







Top reasons reported for Product/Project Delays and Failures



Top reasons reported for Product/Project Delays and Failures

Which factors can QFD help with?

