

# Agile Cost & Benefit Analysis

- Costs based on avg. productivity and quality
- Productivity ranged from 4.7 to 5.9 LOC an hour
- Costs were \$588,202 and benefits were \$3,930,631

Metric	Formula	Trad. Testing	Agile Testing
Costs	$(10,000 \div 5.4436 + 3.945 \times 10 \times 100) \times 100$	\$588,202	\$233,152
Benefits	$(10,000 \times 10.51 - 6,666.67 \times 9) \times 100 - \$588,202$	\$3,930,631	\$4,275,681
B/CR	$\$3,930,631 \div \$588,202$	7:1	18:1
ROI	$(\$3,930,631 - \$588,202) \div \$588,202 \times 100\%$	567%	1,734%
NPV	$(\sum_{i=1}^5 (\$3,930,631 \div 5) \div 1.05^i) - \$588,202$	\$2,806,654	\$3,469,140
BEP	$\$588,202 \div (\$4,509,997 \div \$588,202 - 1)$	\$88,220	\$12,710
ROA	$\text{NORMSDIST}(2.24) \times \$3,930,631 - \text{NORMSDIST}(0.85) \times \$588,202 \times \text{EXP}(-5\% \times 5)$	\$3,504,292	\$4,098,159

$$d1 = [\ln(\text{Benefits} \div \text{Costs}) + (\text{Rate} + 0.5 \times \text{Risk}^2) \times \text{Years}] \div \text{Risk} \times \sqrt{\text{Years}}, \quad d2 = d1 - \text{Risk} \times \sqrt{\text{Years}}$$