

Improve your odds with Infosys Predictability



ROI through Performance Testing

by
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Agenda

- Myths on Performance Testing ROI
- Impacts of Performance through the SDLC
- Key Performance Business Drivers
- ROI Measurement Guidelines
- Return on Investments
- A Sample Case Study
- Sample Metrics

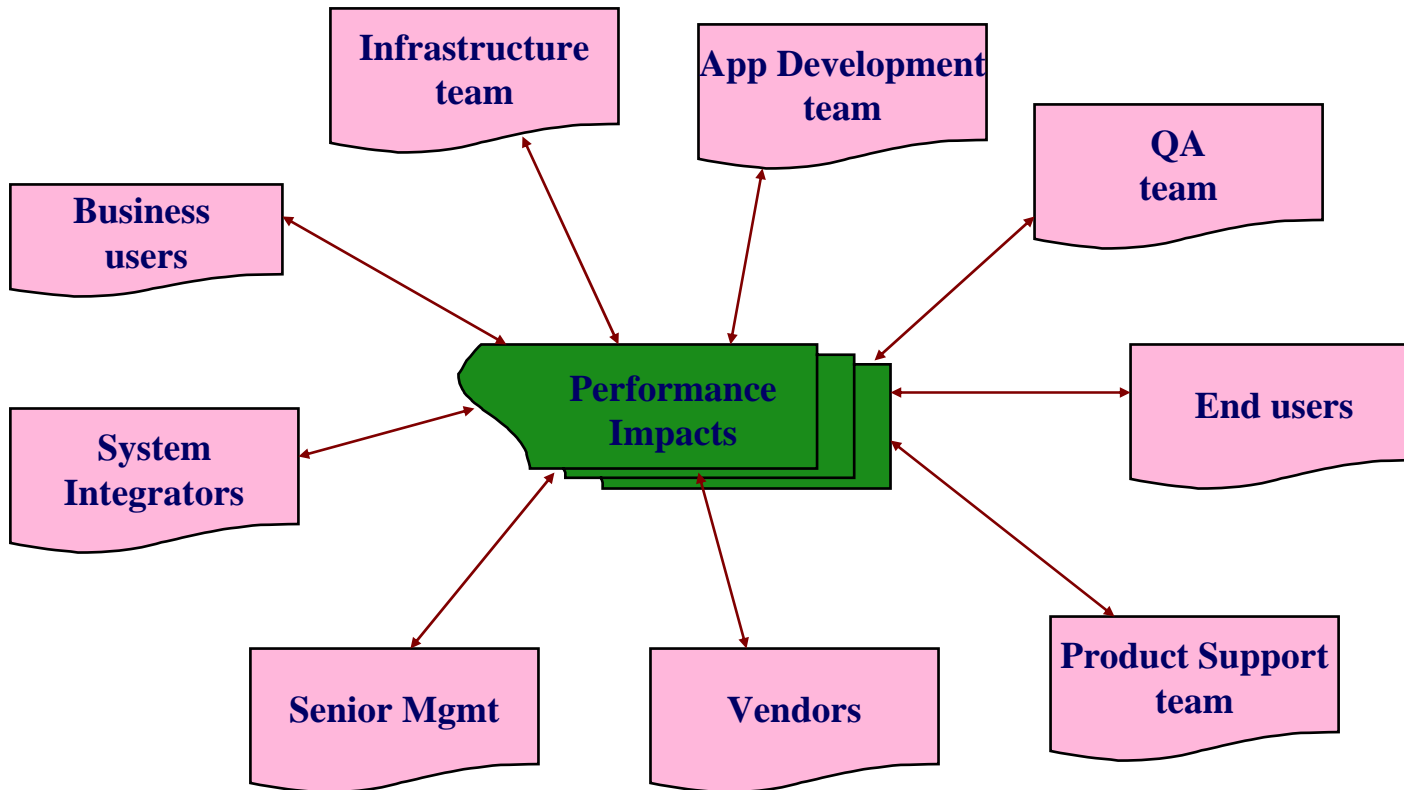
Myths on Performance testing ROI

- Well designed Scalable Architecture
- Good development practices
- Usage of cutting-edge technology!
- Achievable post implementation
- Meets user requirements functionally!
- Increase infrastructure to increase performance
- All about response time & throughput
- Window time not required

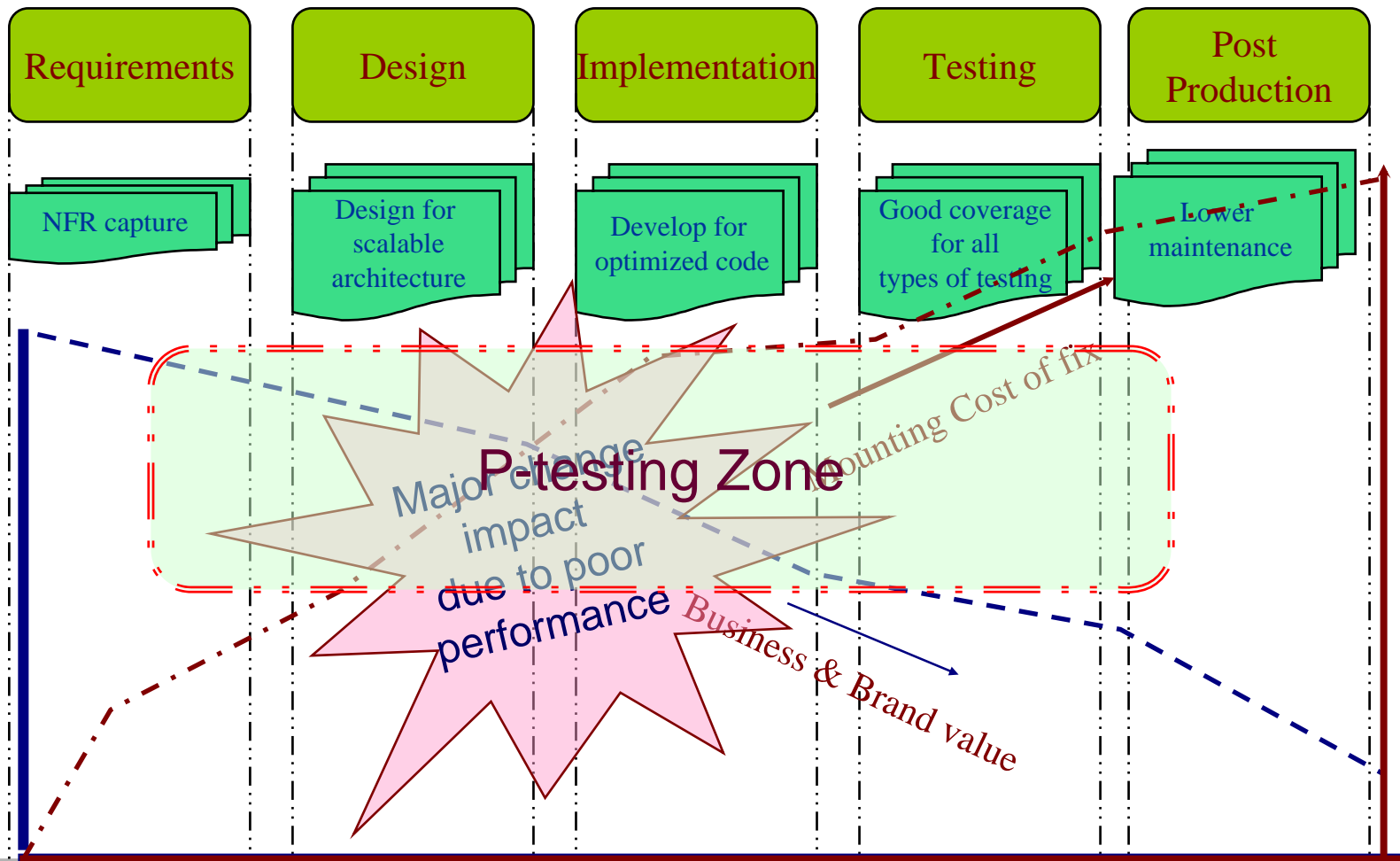
Myths contd...

- Load, Stress, Scalability, Benchmarking, etc. – all same!
- Requires no planning
- Toll-gates?
- Investment – a white elephant
- Any skill sets would do
- Tools - any
- All users require same response times!

Impacted Stakeholders



Impacts through SDLC



Key Performance Drivers in Business

- Application performance is a key driver of customer satisfaction
- To consistently win in the market place, Business must strive to be Best-In-Class both in Performance & Availability
- Performance Predictability
- Availability & Reliability
- Response time & throughput
- Optimum usage of infrastructure – hardware & software
- Optimized bandwidth usage
- Scalability- both for increase user base & future growth
- Performance on the security
- Optimized code deployed
- Ease of use interfaces

Response Time

- Response Time = Service time + Queuing time + Network time
- Increased Response Time - Challenges Business
- Decreased Response Time – Earns more \$\$\$
- Adequate Tuning Measures - Removes Bottlenecks
- Allocate Appropriate Budget – Increases Response Time
- Proper Planning & Setting Key Performance Indicators (KPIs)

Scalability, Availability & Reliability

➤ **Scalability**

- To meet the growth of the business transactions
- To meet the growth of the business users base
- To Increase Performance
- Horizontal & Vertically Scaling

➤ **Availability**

- 24/7 – globally across the year
- Arrival user pattern
- Peak User Rate, Concurrent User Rate
- Addresses Seasonal & holiday fluctuations
- Automatic fail over

➤ **Reliability**

- Page not displayed
- Proper content management
- Capacity Management
- Load Balancing
- Disaster Recovery

Optimized usage of Resources

- Infrastructure – saves \$\$\$ immensely
 - Software licenses
 - Hardware - Configuration of boxes, # of boxes, load balancers, etc.
- Network bandwidth – reduced consumption of bandwidth leading to lesser traffic
- Reduced Data center space
- Reduced maintenance and window time
- Decreased Production downtime
- Reduced Support calls
- Ability to enhance the system with more and better features

ROI Measurement Guidelines

- Define Payback period
 - Ex. Cost of Perf Test efforts is \$300, then we should get yr1-\$100, yr2-\$100, yr3-\$100, etc.
- NPV - Net Present Value
 - Each year make an assessment on NPV
 - Gathering Costs
 - Identify Direct Cost associated with the proposed project
 - Identify Infrastructure Cost associated with the proposed project – existing and future requirements
 - Recurring cost, if any
 - **Cost Categories**
 - Software - Tools, licenses & frameworks
 - Hardware - For scalability and memory for fast processing
 - Personnel - Consulting, SME's, Engineers
 - Training - Training on Technology, Domain, Testing tools, etc.
 - Others - Office space, Pizza, soft drinks, Project party, ☺

ROI Measurement Guidelines

- Gathering Savings
 - Direct Benefits
 - Targeted Benefits
 - Reduced Development and Maintenance Costs
 - Increase in # of Transactions, Orders, Purchase Orders
 - Increase in Customers, Account Receivables, Cash Flow
 - Measure Improved Productivity – Time taken to complete activity
 - Time taken to complete a transaction Before Performance Test
 - Time Taken to complete a transaction After Performance Test
 - Agility and Efficiency in Business Operation
 - Comparison
 - Accounts Receivable Before Performance Test
 - Accounts Receivable After Performance Test
 - Cash Flow Before Performance Test
 - Cash Flow After Performance Test
 - Indirect Benefits
 - Improved Customer Satisfaction
 - Improved Organization Flexibility/Scalability
 - Reduced Risk
 - Brand Name, Brand Value, Word of mouth

Sample case study

- ABC Company
- Order Entry Application
- 100 Employees
 - 10 Minutes per Order Entry Before Performance Testing
 - 5 Minutes per Order Entry After Performance Testing
- Time Saved Per Order Per Employee
- Account Receivables and Payable Before and After
- Cash Flow Before and After
- Maintenance Cost Before and After
- Employee Salary Saving/Spending Before and After
- TCO Before and After (Total Cost of Ownership)
- NPV Before and After (Net Present Value)
- Increase in Customers Before and After
- Increase in Business Before and After

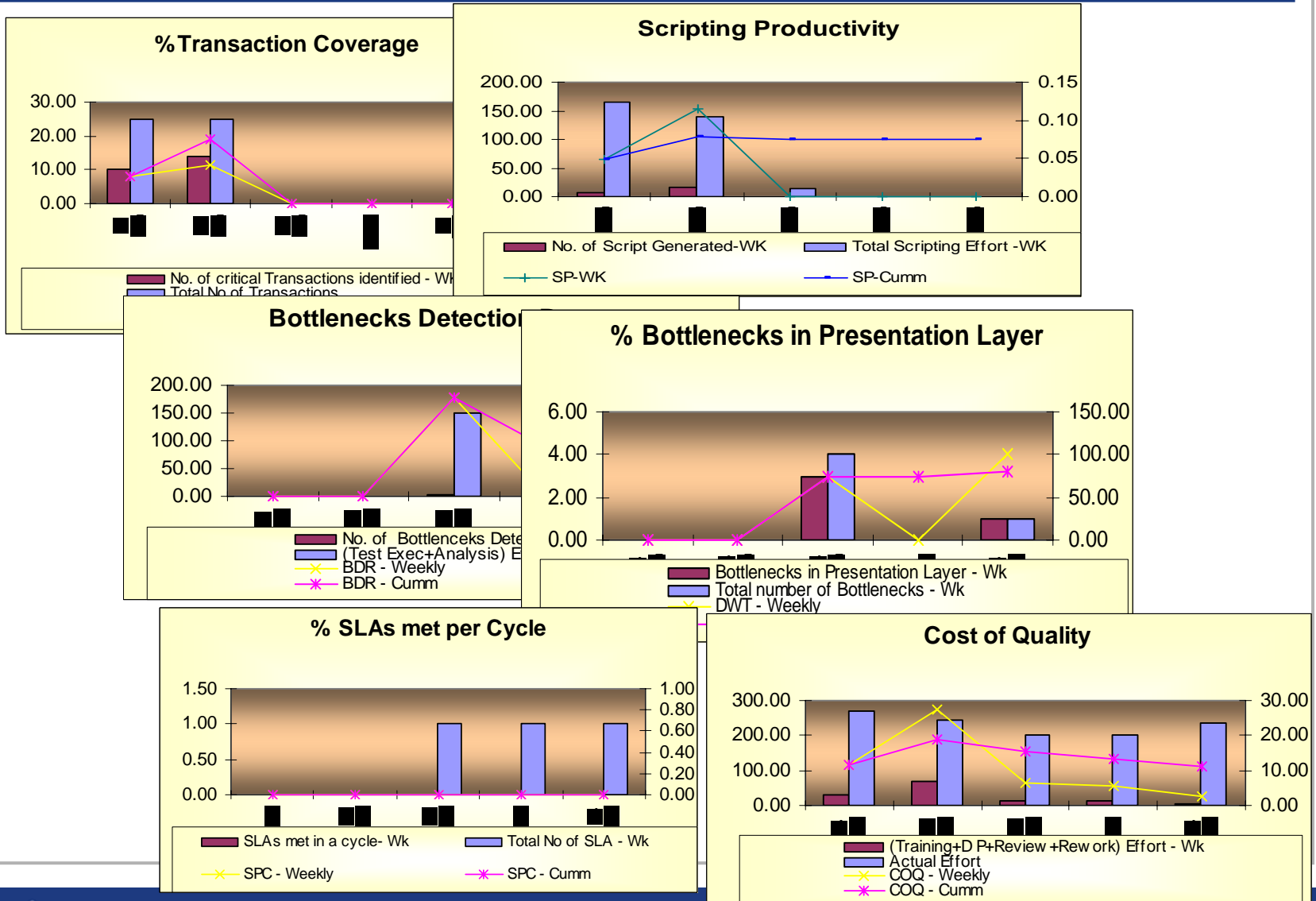
Sample account of Measurement

Category	Items	UOM	Descriptions	Before	After P-testing	Benefits	Year 1	Year 2
Employees								
	Total Employees	No.	Assuming 10% increase	100	100	10	110	
	Time Spent to complete Order Entry	Minutes		10	5	5	5	
	Total Order per hour	Nos	6 orders/hr	600	1200	600	660	
	Total time spent by all employees	Minutes		6000	6000	6000	6600	
	Time Saved	Minutes		0	3000	3000	3600	
	Concurrent Employees	Nos		25	63	38	30	
	Peak User Rate	Nos		50	75	25	25	
Finance								
	Cost of order	\$		\$100	\$100	\$0	\$0	
	Cash Flow	\$		\$6,000	\$12,000	\$6,000	\$6,600	
	Accounts Receivables	\$	30% just for an example. Assuming 10% increase in financial processing in the first year due to Perf Testing	\$300	\$200	\$100	\$100	
	Accounts Payable	\$	40% just for an example. Assuming 10% decrease in financial processing in the first year due to Perf Testing	\$400	\$300	\$100	\$100	
	Maintenance Cost		At the rate 25%	\$100,000	\$75,000	\$25,000	\$25,000	
	CTC		Assuming 10% increase / decrease (+/-) (de-skilling)	\$100,000	\$100,000	\$0	(+/-)\$10000	
Customers								
	Increase in new Customers	Nos	New ones	100	150	50	50	
	Increase in Serviced Customers	Nos	Repeat customer	100	250	150	200	
Systems								
	Decrease in Customer Calls	Nos	per hour	5	1	4	5	
	Decrease \$\$\$ for Customer Calls	\$	\$20 per call	\$100	\$20	\$80	\$100	
	Increase in Load	%	better services	10%	20%	10%	10%	
	Capacity Management	%		10%	20%	10%	10%	
	Increase in Throughput	%		10%	50%	40%	40%	
	Network Utilization	%		30%	20%	10%	10%	
Others								
	Increase in other factors	%		5%	30%	25%	40%	

Return On Investments

- Over 12,000% ROI if involved right from the beginning
- Repeat business & increase in brand loyalty
- Reduced critical application defects that cause capability outages
- Dramatically improve Go-To-Market cycles
 - Competitive Advantage through Efficiencies – Cost, Quality and Productivity Gains
- Increased Capex Investments, Reduced Opex Investments
- Time Reduction in
 - Customer Transactions
 - Vendor business Transactions
- Increased throughput, Speed, Rate of users (peak/concurrent)
- System Resilience in disaster time
- 24/7 Service without any down time
- Maintenance cost is less
- Help to back feed inputs into Business for better planning and investments
- Lesser TCO

Sample Metrics used capture ROI



Questions?

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