Lessons in Leadership in Testing
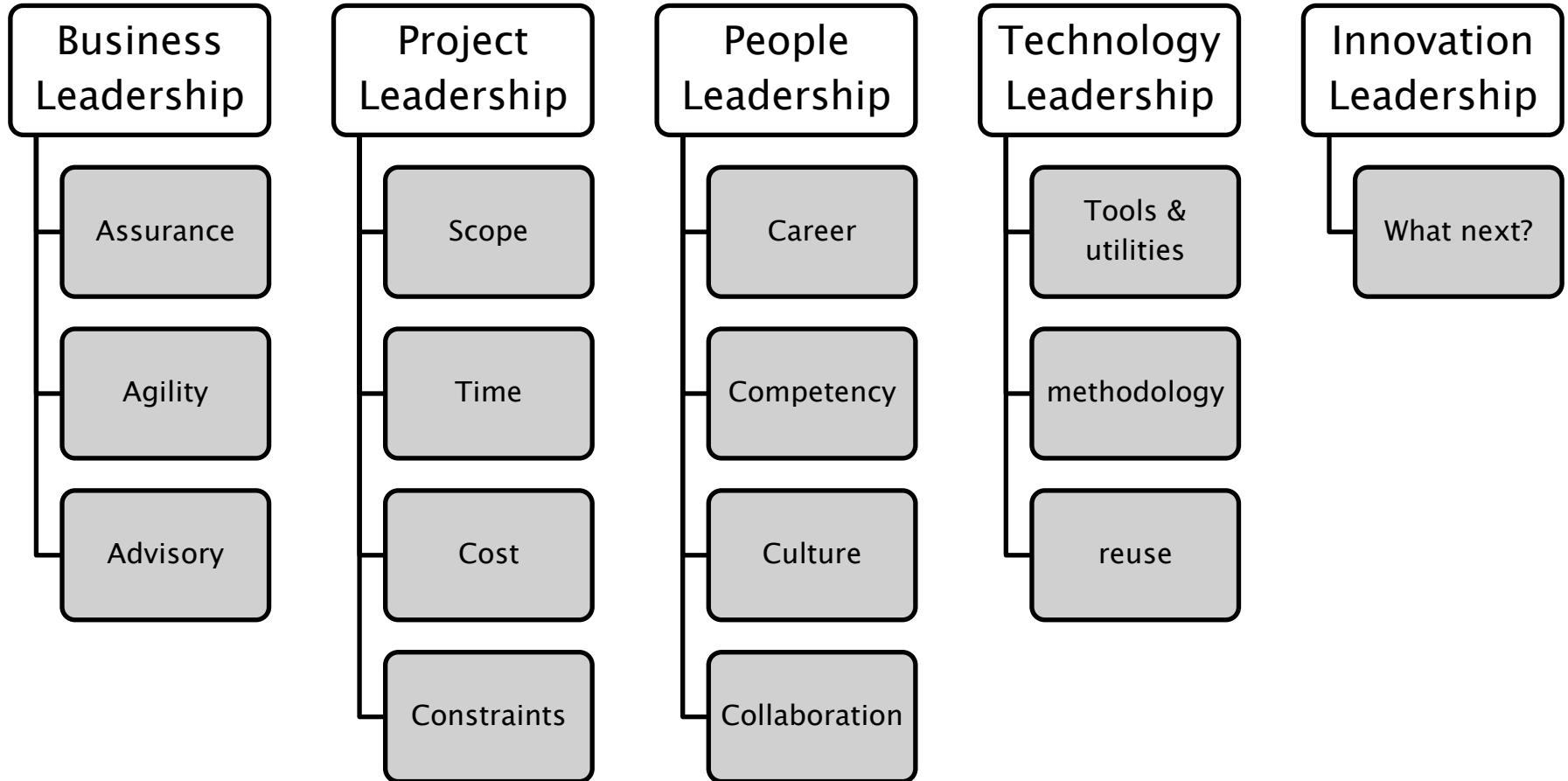
A multi-dimensional perspective

Mahesh Venkataraman

Innovation Center, Testing Services

WIPRO
Applying Thought

The changing face of testing

Then…	Now
Testing….	Assurance
A phased in lifecycle….	Business Outcome
An activity….	Business function
Process compliance…	Business realistic
Defect analysis….	Risk analysis
Test completion…	Purpose readiness
Reporting…	Advisory
Budget enabled…	Constraints based trade offs
Size driven effort	Risk driven; accelerator powered
Productivity	'Directivity'

Leadership Dimensions

Business Leadership	Project Leadership	People Leadership	Technology Leadership	Innovation Leadership
Assurance	Scope	Career	Tools & utilities	What next?
Agility	Time	Competency	methodology	
Advisory	Cost	Culture	reuse	
	Constraints	Collaboration		

Assurance

- Scope definition
- Assurance of readiness
  - Market launch
  - Compliance
  - Regulatory
  - Production deployment
  - Service
- Risk based
- Business constraints bounded

Change Table

Then…	Now
Testing….	Assurance
Budget enabled…	Constraints based trade offs
Test completion…	Purpose readiness

Agility

- The reality
  - upstream delays
  - Compressed deadlines
  - Reduced budget
  - Re-runs

- Reduce size impact
  - Risk driven
  - Constraints based trade offs
  - Reuse
  - Accelerator powered

Change Table

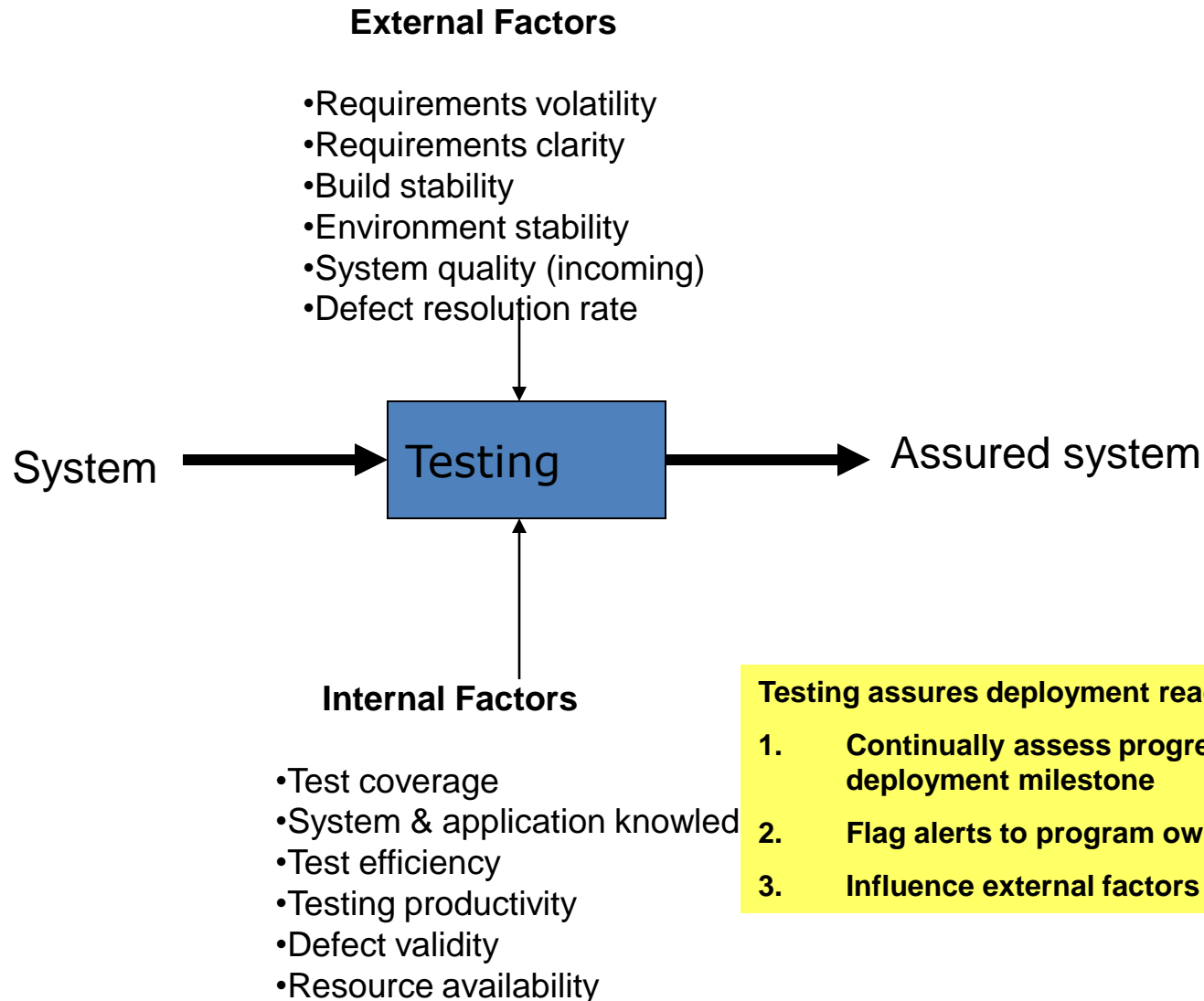| Then…	Now
Defect analysis….	Risk analysis
Test completion…	Purpose readiness
Budget enabled…	Constraints based trade offs
Size driven effort	Risk led; accelerator powered

Advisory

- **Navigation towards readiness milestone**
  - Risk analysis
  - Mitigation
  - Issue recovery

- **Trade off assessments**
- **Business impact assessments**
- **Decision support**

Change Table

Then…	Now
Defect analysis….	Risk analysis
Test completion…	Purpose readiness
Budget enabled…	Constraints based trade offs

Project Leadership

External Factors

- Requirements volatility
- Requirements clarity
- Build stability
- Environment stability
- System quality (incoming)
- Defect resolution rate

System → Testing → Assured system

Internal Factors

- Test coverage
- System & application knowled
- Test efficiency
- Testing productivity
- Defect validity
- Resource availability

Testing assures deployment readiness

1. **Continually assess progress towards deployment milestone**

2. **Flag alerts to program owners**

3. **Influence external factors**

Sizing considerations

System size

- No. of applications to be tested
- Business processes
- No. of interfaces
- Application sizing
  - Number of screens
  - Business functions
  - Modules
  - Use cases
- Testing types
- Test artifact definition

Test size

- No of test cases
- Type of testing
- Retest/ rerun %
- Test artifact definition

Project Leadership

- Trade off negotiation
- Constraints management
- Progress management
- Regression suite selection
- Metrics correlation
- Rule based program alerts
- Dependency analysis

Change Table

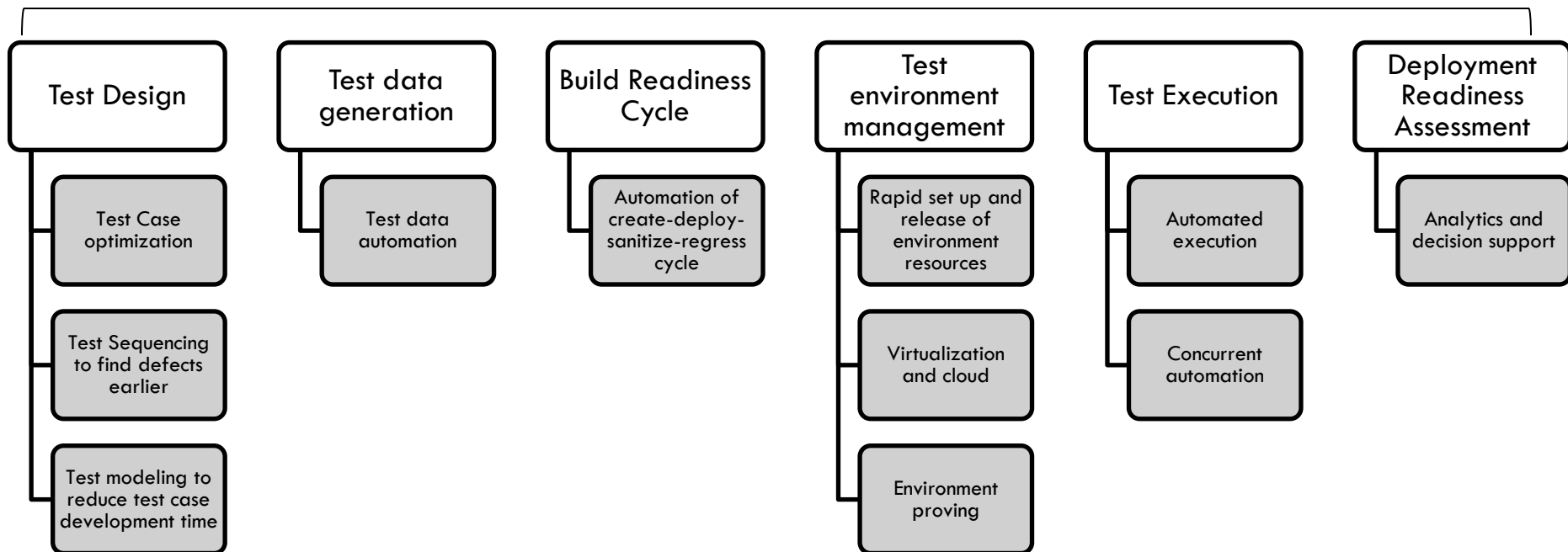| Then…	Now
Defect analysis….	Risk analysis
Test completion…	Purpose readiness
Reporting…	Advisory
Budget enabled…	Constraints based trade offs
Size driven effort	Risk driven; accelerator powered
Productivity	'Directivity'

People Leadership

- Career
  - Path in
  - Path out
- Competency
- Culture
  - Curiosity, critical thinking & creativity
- Collaboration

Technology Leadership

- Test lifecycle technologies
- Open source tools

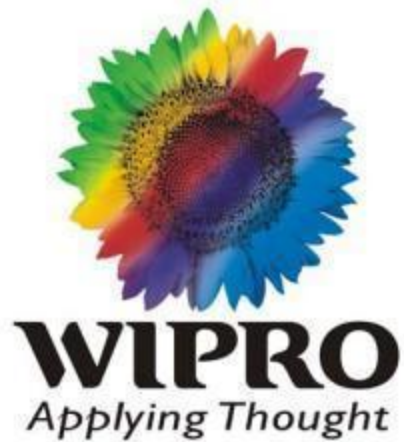| Test Lifecycle Management	Rapid Transition and on-boarding

Test Design	Test data generation	Build Readiness Cycle	Test environment management	Test Execution	Deployment Readiness Assessment
Test Case optimization	Test data automation	Automation of create-deploy-sanitize-regress cycle	Rapid set up and release of environment resources	Automated execution	Analytics and decision support
Test Sequencing to find defects earlier			Virtualization and cloud	Concurrent automation	
Test modeling to reduce test case development time			Environment proving		

Innovation Leadership

What next in testing?

- Model driven test design – behavior, component, architecture…
- Policy driven test strategy and management
- Algorithmic testing
- Agile /Concurrent automation
- Platform independent automation
- Automated Rule Based Testing
- Business driven test analytics
- Hosted services
- Testing for cloud services
- Offering on-demand, high available test infrastructure on cloud
- Collaborative and concurrent testing powered by social media
- Business Process testing
- Architecture and design validation
- Domain specific Test Description Language
- Domain specific test case generators

Thank You

Mahesh Venkataraman

General Manager, Innovation Center, Testing Services

mahesh.venkat@wipro.com