BYTE-CODE
Technology Solutions

SIMPLE SOLUTION = HIGH VALUE

OPEN SOURCE - ENTERPRISE - UPSTREAM - BE VISIBLE - INNOVATION

Test Automation Assessment

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Why Performing an Assessment?

Establish a relationship with the customer +

Gain stakeholders' understanding and support +

Communicate success +

Identify new business opportunities =

✓Ensure project success

✓Foster change

✓Increase sales

Test Automation Assessment

- What benefit test automation has provided?

14% no benefit at all

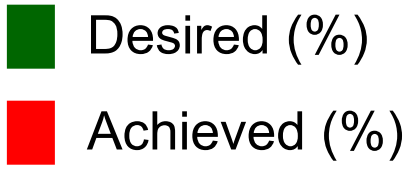
18% little benefit

41% some benefit

27% significant benefit

The Promise of Test Automation [1]

- Consistent repeatable testing (80 / 45)
- Run tests unattended (75 / 50)
- Find regression bugs (70 / 40)
- Run tests more often (70 / 50)
- Better quality software (60 / 30)
- Test more thoroughly (55 / 25)
- Increase confidence in software quality (50 / 30)
- Test more software (50 / 20)
- Increase user confidence (40 / 15)
- Reduce cost of testing (35 / 10)
- Find more bugs (35 / 15)
- Test on different operating systems (25 / 20)
- Earlier time to market / run tests more quickly (25 / 10)
- Improve tester morale (25 / 10)
- No benefits achieved (yet) (25)



Common Problems of Test Automation

- Unrealistic expectations
- Application characteristics
- Poor testing practice
- Budget constraints
- Technical problems
- Inadequate test planning
- Learning curve to steep
- Poor test automation architecture
- Lack of control on the data suite
- Poorly designed test cases
- Cost of maintenance to high
- Lack of standards
- Automation not integrated with testing processes
- Organizational issues
- False sense of security

Test Automation Assessment Benefits

- Assessment of your readiness for automation
- Assessment of your application's fit for automation
- Tool evaluation against your application
- Define a credible test automation rollout plan with realistic expectations and goals
- Identify prioritised improvement opportunities
- Staff skills assessment and training plan
- Recommendations on what to automate
- Advice on test planning and test case design
- Recommendations on testing architecture
- Foundations for metrics programme
- Define and improve the test automation process
- Visibility of value of test automation

Case Study

- Web-enabled, mission critical business application for the management of life policies
- Available in 5000+ Unicredit branches (retail, private and corporate) in Italy
- Complex Java application with 2500+ classes, interfacing with mainframe and calling external webservices
- Tough market concurrency requires short development cycles
- Not enough time and resources to fully regression test the application

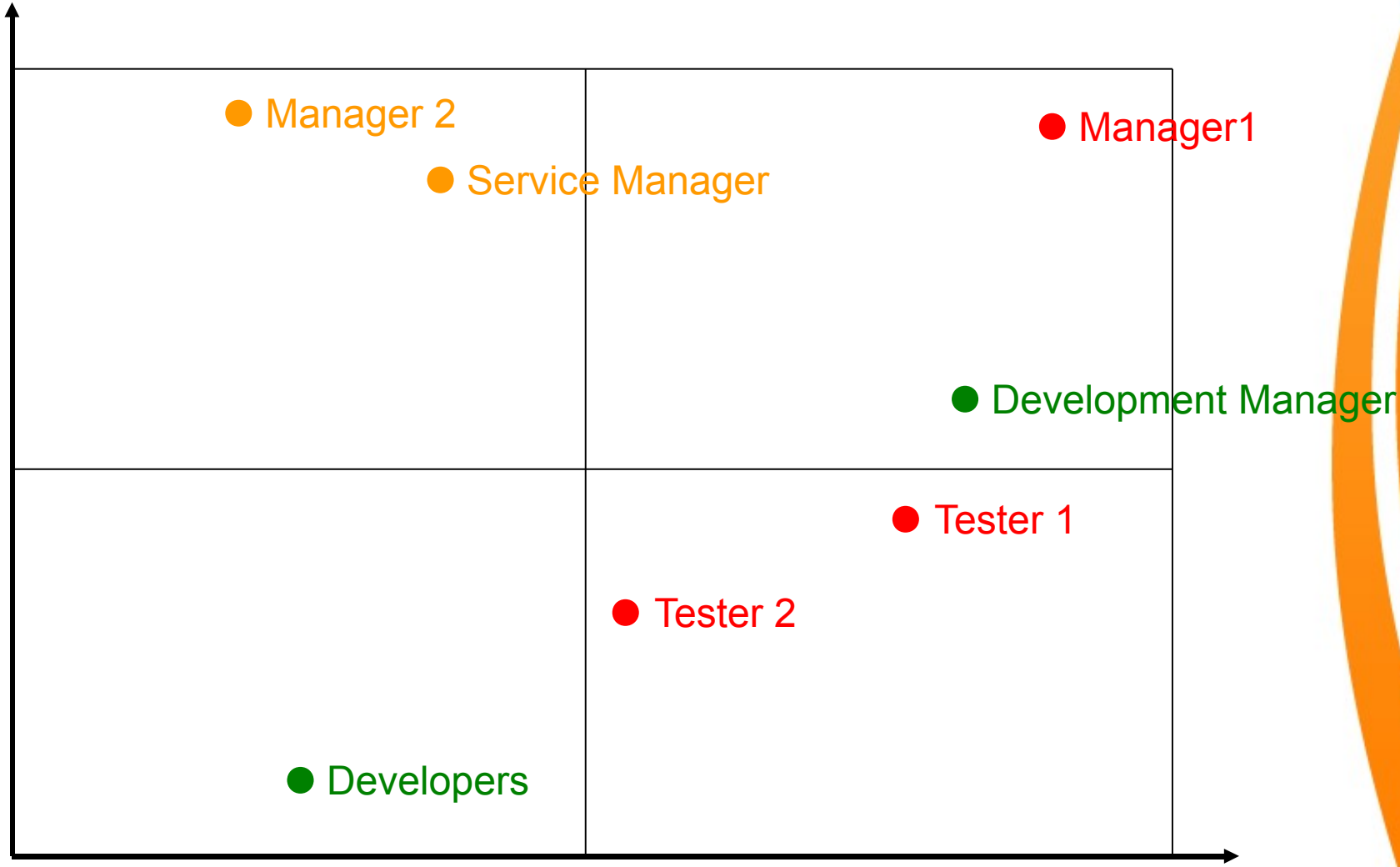
Assessment Model

- Assessment goals:
  - Baseline the current situation
  - How current test automation practice can be improved?
  - Provide a list of quick wins and a longer term strategy
- Stakeholders analysis
  - Understand the stakeholders and gain support
  - Engage the right people in the right way
- Force field analysis
  - Help visualize that may work in the favour or against change initiatives

Stakeholders Analysis [1]

- Goal: win support from key stakeholders
- Steps
  - Identify you stakeholders
  - Prioritize your stakeholders
  - Understand your key stakeholders: ask questions
- Summarize the understanding on the stakeholder map
  - Blockers and critics
  - Advocates and supporters
- Develop a stakeholders communication plan

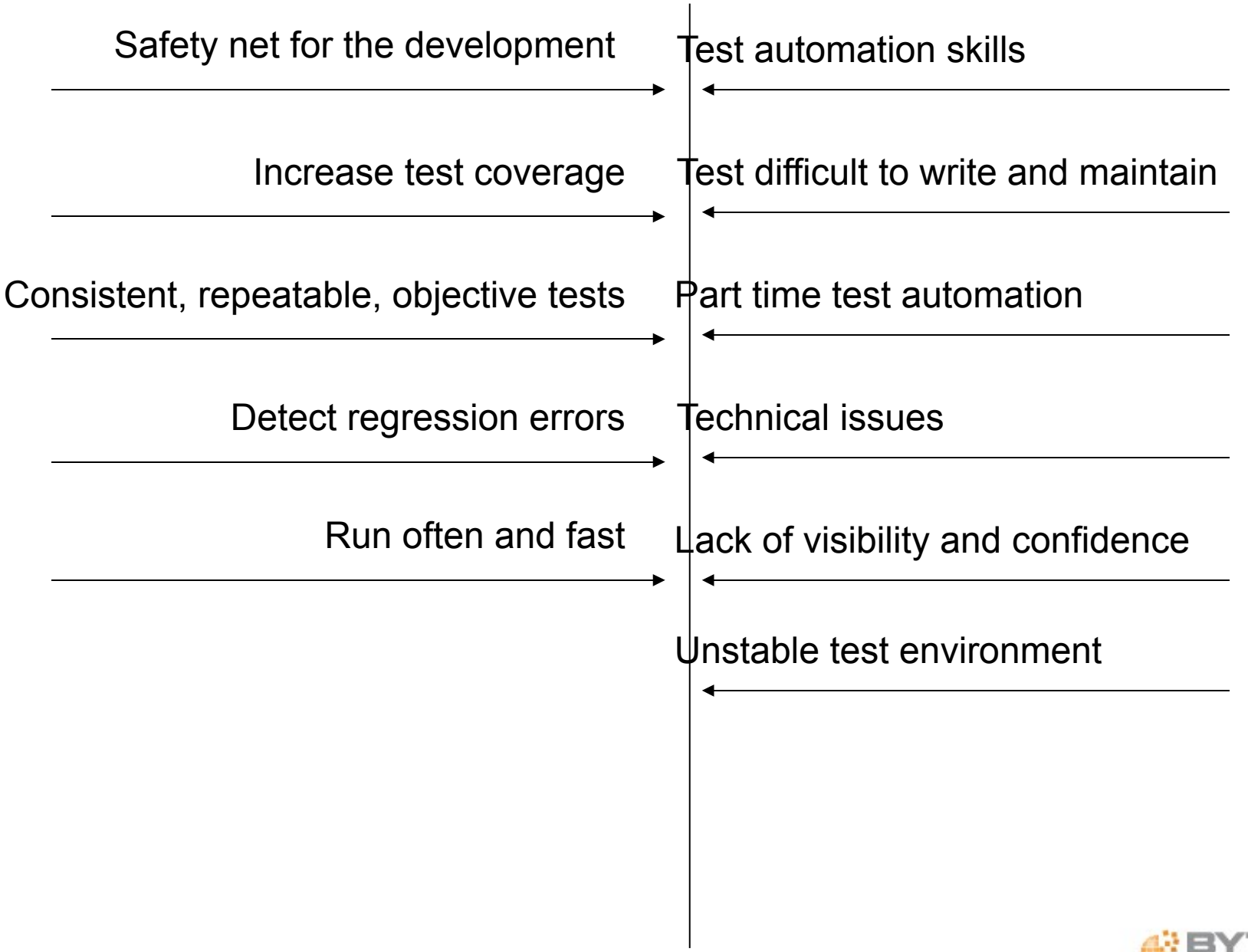
Stakeholders Map



Force field analysis [1]

- An issue is held in balance by the interaction of two opposing set of forces (persons, habits, customs, attitudes)
  - Driving forces seeking to promote change
  - Restraining forces seeking to maintain the status quo
- Change occur if the driving forces exceed the restraining forces
- Strategy to improve the probability of success:
  - To reduce the strength of the forces opposing a project (*)
  - To increase the forces pushing a project

Force field analysis



Findings

- Strengths
  - Keyword driven test automation framework that simplifies test creation and maintenance
  - 80 critical business process tests
  - Started small and increased coverage in time
  - Automated tests are up to 30 times faster than manual tests
  - The full test suite is run often
  - Find critical bugs very fast
  - Automatate tedious and error prone manual tasks
- Weakness
  - The full regression suite is not run at every release in the test environment
  - A large number of false negatives that require extra time to analyse
  - Manual and automated testing overlap
  - Reduced visibility
  - Low commitment from the client to increase the benefits

Recommendations

- Quick wins
  - Improve the test tool
    - Define rollback routines to cleanup the test data
  - Improve the test suite
    - Define test acceptance routines that verify that the test environment is available to start testing
- Long term strategy
  - Test planning to cover gaps and eliminate overlapping
  - Educate the test teams about the benefits of executing and maintaining the tests suite
  - Provide training
  - Develop a better interface to manage and schedule test execution
  - Persuade the management to allow dedicate resources to test automation

Credits

[1] Software Test Automation. Mark Fewster & Dorothy Graham

[2] www.mindtools.com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