

Test policy according to TMMi model

Author: Piotr Piotrowski

Abstract

The article presents test policy issue which is created and implemented according to guidelines of the TMMi (*Test Maturity Model integration*) model.

1. Introduction

The TMMi [Vene09] is one of test process improvement models [CESI09]. The test process improvement lies in continuous improvement of quality and effectiveness of tasks related to testing during software development.

Process models, such as TMMi, or TPI® (*Test Process Improvement*) are applied when:

- test process exists in organization,
- comparisons between similar projects are required,
- conformity with software process improvement models is needed,
- organization policy assumes the achievement of specific maturity levels,
- it is well defined the start point with predefined improvement path,
- test maturity measurement is needed,
- process models are accepted by the organization.

On the other hand, factors which decide about choice of content models, for example STEP (*Systematic Test and Evaluation Process*) or CTP (*Critical Testing Processes*), are the following:

- requirement of test process establishment,
- need of assessment leads to identification of costs and risks related to current test process,
- improvement isn't implemented in specific order, but according to business needs,
- fit test process to company needs,
- need for introduction rapid, discontinuous improvements to existing test process.

TMMi model contains inter alia prescription, according to which the test process is improvement in particular steps. Achievement given phase by organization is equal to get some process maturity level in company, which is required in order to move to next the stage.

Test policy [SgST07] is high level document describes: rules, approach and main organization goals in testing scope. The test policy is used by test team and organization management, sometimes also by products operators and customers.

The mentioned document is also helpful in creation of test strategy, because according to TMMi model, when the test strategy is prepared, it should be studied and explained the test policy. Additionally, the test strategy should be legible reflection of the test policy, but with high details level, for example refers to test model and levels. The test policy is the most general document, so it could be used for creation a company leaflets.

2. Establish a Test Policy

The TMMi model, at second maturity level, starts from Process Area named Test Policy and Strategy. This area contains series of Specific Goals. The first is Establish a Test Policy [Vene09]. Establish a Test Policy relies on establish and agree with stakeholders the test policy, which was defined in previous point of this article. The test policy reflects and is complementary with organization quality policy. Which quality

statements are included in the test policy is described in point „Define the test policy“. Establish the test policy consists of three Specific Practices, such as: define test goals, define the test policy, distribute the test policy to stakeholders, which are presented in next points of this article.

3. Define test goals

Define test goals [Vene09] is preceded by studying and explaining business goals and needs of organization. The test goals, which are created based on business goals and needs, should be discussed with stakeholders and update. The updating process is made for example every year and it depends from changes of business goals.

The examples of business goals are: company mission, business and user needs related to products, main goals of quality program, business policy, business type. The test goals can be: products validation, defect prevention during using the products, checking capability with external standards, makes product quality visible, and short test execution time.

4. Define the test policy

The test policy is defined [Vene09] based on specified earlier test goals. Exemplary elements covers by the test policy are mentioned in next paragraphs. The test policy should distinct between testing and debugging, what is one of the assumptions of second maturity level in TMMi. Additionally, as in case of test goals, the test policy should be reviewed with stakeholders and updated, for example in each year. It is also important to specify the test policy owner, because it helps in communication of this document and decreases for example chance for not applying it in organization.

The test policy could contain the following points: [Vene09], [West06]: scope, testing definition, test process, tests results evaluation, assumed quality level, test process improvement, which are short described in the next paragraphs. Their full development leads to complete test policy.

The scope could be relying on: test policy definition, specification of users and owner of the test policy, and define the scope of application of the policy, that is for which test process elements and products this document is applied.

Second point of the test policy, besides testing definition, could explain: test goals, tasks of particular groups of specialists, debugging definition, differences between testing and debugging.

The test process applied by the organization could be here defined, therein with list of its phases and goals. In this chapter of the test policy could be included roles definitions and related to them - kinds, basic functions of test documents. For example, test manager is responsible for preparing test strategy, main test plan and tester for – plans and test reports. In this point it is sometimes also a few words about the test strategy, for example when such strategy will be created and what it should contain.

The test results evaluation contains information how process the test results, for example by comparison them with exit criteria – defects number, requirements coverage. In other words, we have here answer to the question about when product could be released to the next test level or operating in real environment.

Assumed quality level is paragraph describes which quality criteria are tested and which quality level must have system before release.

The last point of the test policy covers mainly goals and used models of test process improvement.

In [Blac09], it is suggested, in order to the test policy document has small size, that is one, two pages, because this document is first, the most general writing in a test process.

5. Distribute the test policy to stakeholders

Elaboration of the test policy document is only half of success in its implementation. Very important is collaboration between organization members which prepare policy and people who will use the policy. Efficient communication in this area increases chances for good perception of the test policy as new organizational document and that it will be used. Besides engagement stakeholders in process of its

creation, the main task is also distribution the test policy to stakeholders [Vene09], therein to people who aren't engage in test process, like customers and users. This distribution assumes preparation the policy implementation plan and presentation of this document. Exemplary distribution mechanisms are: documentation in handbook or presentation – during meetings, in poster form, on website, during work induction in given department. The test policy implementation and application process is supported by other organization documents, such as: organization policy, quality plan, test process improvement plan and suitable people, therein belong to management layer of organization.

6. Summary

When we create the test policy, it is good to do it in agreement with some art, prescription. For example prompt can be acquired from TMMi model directions, however could be some departures from rules. The above article is example of applying mentioned model of test process improvement, because creation process, content and implementation aspects of the test policy was prepared mainly based on TMMi model.

According to author, the most important in introduction and applying of the test policy is strong support for these processes by middle management layer of organization and not rejecting this document without close meet it.

Literature

[Blac09] Black R., "Advanced Software Testing, vol. 2", *O'Reilly Media*, 1st edition 2009.

[CESI09] „Certified Tester. Expert Level Syllabus. Improving the Testing Process“, *ISTQB*, Beta Version 2009.

[SgST07] „Standard glossary of terms used in Software Testing. Version 2.0“, *ISTQB*, December 2007.

[Vene09] Venendaal E. i inni, "Test Maturity Model Integration (TMMi). Version 2.0", *TMMi[®] Foundation* 2009.

[West06] Weston B., "Value through a test policy. Version 1.00", *TCL* June 2006.