

Writing the Test Automation Business Case

How to write a business case that secures the resources and finances required to implement a successful test automation project.

Possibly the toughest part of implementing a software test automation process is getting sign off from the business. You will need to gain authority to deploy resources and purchase the required tools. “Writing the Test Automation Business Case” will show you how to develop your business case to help you secure the resources you need to succeed. After reading this report you will know:

- ✓ Why you need to write the Business Case.
- ✓ The 10 essential elements of your Business Case.

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Why Write a Business Case?

The business case provides evidence that the software test automation project is a good investment for both the test team and the business. Preparing a business case is an integral part of the planning process for any software test automation project. It becomes more important as the cost and complexity of the project increases.

This whitepaper will help you prepare an effective business case for securing the resources – both within the test team and with senior management.

A business case is similar to a business plan prepared for private business. Its purpose is to outline the business rationale for undertaking the project and to define the parameters and management factors involved in the project itself. It provides the project manager with a tool to guide the design, management and evaluation of the software test automation project.

The business case serves four purposes:

1. It helps the test team think through the project in a systematic, step-by-step manner.
2. It explains to parties external to the test team why the project should be undertaken.
3. It helps the business understand the financial value of the project
4. It provides a framework for completion of the project on time and on budget.

An effective business case is one that matches the overall goals of the business as well as the goal of the test team. In short, an effective business case justifies:

- why the test automation project should be undertaken,
- why the business should invest resources and time in the project
- why the project makes good financial sense for the business.

While the business case may be presented in various formats, there are certain elements to include. The description that follows is a logical sequence for the final business case. This format can be adapted to almost any project, but be sure to present the business case in a manner that will create a favorable impression on those providing funds and resources.

Elements of the Business Case

#1 Title Page

The title page is the first impression a reader gets of a business case. Make sure it is neat and orderly, simple, balanced and easy to read. It contains the:

- title of project
- project designation (number, location, etc.)
- name of the organization
- date of approval.

#2 Table of Contents

The table of contents lists the major headings in the business case, and the page on which each is found. Remember to number the pages in the document. While it is the last section completed, it is placed immediately following the title page.

#3 Executive Summary

This is the first and most important selling tool. It is where you create the critical first impression of the project, so it is important to summarize the most important elements of the project in a concise and compelling manner.

Guidelines for writing the executive summary are listed below.

- Describe the project precisely and concisely, avoiding excess descriptive words.
- Explain why the project is necessary, and why it is the best solution.
- Outline the most important benefits of the project to the business
- Outline the costs and major disadvantages, if any.
- Summarize the most important reasons for recommending the project.
- Limit to one page in length only.
- Write after the business case is completed.

Keep the executive summary to one page or less. Do not include technical descriptions. Concentrate on explaining your reasons for undertaking the project, and what the benefits will be.

#4 Mission Statement

This is a concise, general statement of what the test team intends to achieve by completing the test automation project. It explains what is to be done, for whom, and why. If possible, do not exceed one sentence.

For example:

The test team will implement a test automation framework in order to reduce the time taken to regression test applications thereby increasing the consistency of our regression testing efforts and releasing testers to concentrate on more critical testing tasks.

#5 Objectives of the Project

What, precisely, will be achieved by completing the project? State the objectives clearly; one short statement for each, without accompanying arguments or documentation. These appear in the body of the report and in the project summary. It should be clear to the reviewer how these objectives relate to the mission statement of the test automation project.

Objectives are Specific, Measurable, Achievable, Realistic and Timely (S.M.A.R.T.). These define the results expected as a direct consequence of the project's completion. Such hard data verifies the value of the project, and makes it saleable to the company. They include such items as:

- Increasing product release quality by
 - Running more regression tests
 - Performing tests which are impossible to run manually (e.g. load tests)
 - Improve the consistency and repeatability of tests
- Reuse of tests over different releases and products
- Improved use of resources by automating boring and menial tests
- Speed up time to market by completing tests quicker
- Increase confidence in release quality when automated tests complete successfully
- Identify problems and issues sooner
- Increased tester motivation through learning new skills
- Free up test resources to work earlier in the software development life cycle
- Remove barriers and bottle necks to release

Some test automation projects have long- and short-term objectives. Identify these as such if it adds to the understanding of the project. For example, the short-term objective may be to increase the amount of regression tests run before a release. In the long term, the objective may be as ambitious as attracting better quality QA staff due to the advanced status of the test environment.

Sample objectives:

- to automate 60% of regression tests by (date)
- to reduce time required to complete a full regression test by 3 days
- to execute load testing on every version of the product delivered to the test team
- to identify 30% of all high priority defects raised earlier in the test cycle
- to attract 7 new, highly qualified, testers by (date)

The discussion following each objective clarifies the analysis or rationale for arriving at the objective. For example: Currently our full regression test suite takes 2 weeks to run. A fully automated regression test suite would take 1 day to run and 2 days to analyze the results. This would reduce our regression testing resource requirements by 7 man days. On a typical project this would increase the product release quality and reduce our time to test by 1 month.

#6 Performance Measures

Performance measures evaluate the success of the project. They indicate how the project will meet the objectives listed at the beginning of the business case. The business case will:

- list the plan objectives
- state the evaluation criteria for each objective
- outline how or by whom each will be evaluated.

#7 Needs Assessment

The needs assessment analyses the problem and explains why the problem needs to be corrected. It provides the information as to whether the project should be undertaken at all. The needs assessment should be broken down into two sections:

1. The Problem

- What is it?
- Why does it exist?
- Who is affected?
- What is the extent of the problem?
- What is the damage (liability) if the problem is not fixed?

2. Benefits from Correcting the Problem?

- Time saved
- Increased quality
- Financial: Added Returns
- Financial: Reduced costs

#8 Technical Analysis

The technical analysis outlines the technical information used to make the decision, and tells why the proposal represents the best or most cost-effective solution. It describes:

- technical problems encountered with any existing solutions
- what alternative solutions were considered
- why this is the best course of action to choose
- why this is the most cost-effective solution, or if not, why
- what innovative technologies are being used.

#9 Project Work Plan

The work plan spells out the terms that will form the basis of any contracts, including the jobs to be done, the time frames and milestones. It could help the project manager if you include the evaluation criteria for each step or milestone here. Name those responsible for managing the project and contracts as soon as they are known.

- Describe key activities and locations.
- Outline milestones and timelines for completion.
- Identify risks to project completion and contingencies.
- List project staff and consultants if known, and their responsibilities.

While you will use a detailed work plan listing tasks, detailed processes and reporting mechanisms to manage the project, it is not necessary to include this in the business case.

#10 Financial Plan

The financial plan shows how the project will be financed and how returns, if any, will be achieved. Give an explanation of why project funding is necessary and how funds will be used in the introductory paragraph. This will show up again in the project budget. Elements of a financial plan include:

- detailed budget
- sources of funding
- returns from project performance (with time)
- operating and administrative costs
- cash flow statement.

Conclusion

By creating a complete business case such as the one described here, the business will know that its test team has thought through the entire project thoroughly. The business will be confident the right decision has been made, and that designated people are in charge of each step of the process. Funding sources will be confident the project has been well planned, will provide the expected return and is in the best interests of the business.

What to do next

Test Management Systems Ltd specializes in providing software testing tools and test automation resources to the software testing industry. For help and support with your next software test automation project please contact us.