



Six Sigma DMAIC Certification Project Report Guidelines

Project Purpose:

The intent of the project practicum is to demonstrate the application of course problem solving tools and methodologies to an industry-specific problem. Candidates should work closely with their supervisors to select a project that adds value to their organization. In addition, candidates are expected to demonstrate a quantifiable improvement or at least the potential for improvement. For example, candidates should be able to demonstrate their project will result in a cost savings, an improvement in processing or lead time, or a reduction in quality defects. To ensure support for the project from both the University of Michigan and your employer, we request candidates obtain pre-approval for their projects from both. *(Note: e-mail is fine for project pre-approval.)*

Project Selection:

Project topics should meet the following guidelines:

- Be considered value-added by the candidate's organization (has supervisory pre-approval)
- Be completed within approximately a 3-6 month period
- Have sufficient data available to demonstrate use of course tools/methods

Project Report Requirements:

Project reports are expected to include the following:

- Identification of problem and quantitative assessment of current state of the process *(For example: defect level, throughput time, cost, delivery time, cycle time, % on-time delivery, etc.)*
- Analysis of the problem using Lean/Six Sigma tools and problem-solving methodologies *(Candidates are expected to clearly demonstrate their understanding of at least three course tools/methodologies and their ability to integrate them into the completion of a project)*
- Results or potential for improvement *(Candidates are expected to either demonstrate actual improvement or provide evidence of the potential for improvement using a quantitative measure, such as cycle time reduction, quality improvement, cost savings, etc.) Where possible, we appreciate a letter of support from a candidate's supervisor confirming the project had led or will lead to a measurable improvement.*

Project Report Confidentiality:

The University of Michigan recognizes information contained in reports may be sensitive or confidential. Although instructors do not share report information without consent, the University prefers that candidates avoid including any confidential information. For example, rather than discuss actual cost savings, candidates may discuss improvement in percentage terms, or they might quantify their projects by indicating a 10% cost reduction as opposed to an actual dollar amount savings. For further options regarding report confidentiality, please contact the course instructors. Upon request, projects may be reviewed only by the lead faculty of the course, Dr. Pat Hammett.

Project Pre-Approval and Submission Process:

Candidates first should submit a project proposal to the course instructors (see Project Proposal Template). Upon approval of the proposal, candidates shall complete their projects. Candidates are welcome to contact U.M. course instructors for project support. These instructors will provide support via e-mail, phone consultation, and/or online videoconferencing. Upon project completion, candidates should submit their completed projects per the project submission process on the course website. After reviewing a submitted project, instructors may accept for certification, accept with minor revisions, or require major revisions for acceptance.

Once all certification requirements are met, candidates will receive an email confirmation which triggers the mailing of your actual printed certificate (certificates are mailed to the address under which a candidate is registered).

Report Template:

Candidates are provided a written report template with recommended report organization (e.g., title page, executive summary, problem definition, current state assessment, analysis and results, improvement recommendations, process control recommendations, conclusion, and appendices). The template also provides suggestions on grammatical style and ways to effectively present information. We also provide a separate PPT presentation template which may be helpful for internal presentations.

Of note, the University of Michigan requires a ‘written report’ for Six Sigma Certification Projects for the following reasons:

1. We consider writing a report as part of the education process. A written report requires one to articulate one’s approach in addition to presenting results. Powerpoint presentations, by design, are intended to be shortened summaries accompanied by verbal remarks.
2. Written reports also provide a more comprehensive summary for others to build upon in the spirit of continuous improvement (i.e., for future related projects).
3. Finally, written reports signify a more professional presentation of both the approach and findings and is alignment with University of Michigan values.

Teamwork Policy Statement:

The University of Michigan considers certification an individual accomplishment and therefore prefers all participants complete their own project and written report. Still, we recognize that for some projects, participants will work in teams. Here, our preference is for individuals to provide separate reports where each participant works on a unique aspect of the problem and clearly distinguishes their contribution. We do recognize that some information (e.g., from Define or Measure phase) will appear in multiple reports.

In some instances, champions/supervisors may find it more appropriate to have participants work in teams on a particular problem and prepare a single high quality report versus two separate reports. For this situation, we request the following:

1. Teams are limited to two candidates
2. Written acknowledgement (e.g., email) from champion/supervisor that they approve of a team report
3. The project is pre-approved as a *team project* by the University of Michigan (prior to starting).
4. Of note, each candidate may be asked to provide a short description (e.g., 1-3 paragraphs) detailing their individual contribution to the report.



Six Sigma DMAIC Certification Project Report - Quick Reference

General Requirements for Report:

- Main Reports should be approximately 7-15 pages (*including tables and figures*) - Additional information should be attached in an Appendix
 - Reports must be text documents viewable in Microsoft Word or as a PDF file
 - Reports must follow the DMAIC outline and meet all minimum requirements identified below including the use of at least three tools/methods discussed in your course
- Note: Content, length and emphasis will vary based on your actual project and findings

Required Section Content

*The italicized text below includes items that **must** be in your final written report. For more detailed explanation and examples of each of these sections, refer to the Six Sigma Project Report Template.*

- Cover Page: Title, Name, E-mail, Company and Date of Submittal
- **Executive Summary** (*should be a stand-alone document ~ 1 page*)
 - Problem Statement/Description
 - Summary of Approach
 - Major results/findings
 - Recommendations & Conclusions
- **Define Phase: Improvement Opportunity**
 - Problem statement/process description
 - Key measures used to evaluate success
 - Project Scope considerations
- **Measure Phase: Current State**
 - Quantify current performance level (e.g., Yield, PPM, DPMO, time, cost, etc.)
 - Discuss measurement system used (discuss any potential issues)
 - Identify key process input and output variables studied
 - Identify target performance level or improvement goal
- **Analyze Phase: Analysis & Findings**
 - Qualitative Process Analysis: Identify opportunities for improvement
 - Data Analysis
 - You must show evidence of the use of at least one **data analysis tool/method** discussed in this course-
 - You should accomplish this by including at least one table, graphs, and/or diagram within the main body of the text. (e.g., Pareto Chart, Stratification table, Cause-and-effect diagram, Scatter plot, etc.) (Black Belt projects should include at least three analyses)
- **Improve Phase: Recommendations**
 - Discuss alternative solutions considered (only if applicable)
 - Discuss recommended solution/action plan
 - Provide data to verify recommendation where possible
- **Control Phase: Monitoring & Control**
 - Discuss recommended method for future process monitoring & control (e.g., New monitoring system, error detection system, control plan, etc.)
- **Summary/Conclusion**
 - Summarize report/key findings
 - **Restate** project results or at least **expected** results. Note: If your results are incomplete or sensitive, you may discuss results in relative terms (e.g., A 20% reduction in error rates or a 10% cost savings)
 - May discuss future related opportunities and lessons learned from project
- Appendix (Optional)
 - Include additional information for reference