Framework to evaluate software maturity models MM D

The first section, assesses to which Software development contexts this maturity model could be applied.

|  |  |
| --- | --- |
| What Software Maturity model is being assessed? | |
| What is the project size the model is intended for? | Yes |
| Small Projects | ☒ |
| Medium Projects | ☒ |
| Large Projects | ☒ |
|  | |
| What is this main focus of this maturity model? | Yes |
| Web Development | ☐ |
| Mobile Development | ☐ |
| Enterprise Software | ☒ |
| Other | ☐ |

# **Design and Development of the model**

## The following sections aim to assess the four categories using the following scale:

0 – No

1 – Somewhat/Maybe

2 – Yes

U – Unknown

NA– Not Applicable

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Model Basic Information | Score | | | | |
| 0 | 1 | 2 | U | NA |
| 1.1 | Are the costs of implementing this maturity model (e.g., initial, implementation, recurring fees) reasonable relative to the value of applying it? |  |  | 2 |  |  |
| 1.2 | Were predefined steps followed in the research design of the maturity model? |  |  | 2 |  |  |
| 1.3 | Is the maturity model distinct and unique compared to existing models in the same domain? |  |  | 2 |  |  |
| 1.4 | Does the maturity model conform to established industry standards or guidelines? |  | 1 |  |  |  |
| 1.5 | Does the model clearly specify its relevance to particular domains or areas? |  |  | 2 |  |  |
| 1.6 | Has the model been validated in real-world settings (e.g., peer-reviewed literature, surveys, industry groups), demonstrating its applicability and effectiveness? |  |  | 2 |  |  |
| 1.7 | Does the model have a clear ideological foundation supported by established theories or models? |  |  | 2 |  |  |
| 1.8 | Is the model evidence-based (e.g., grounded in the peer-reviewed literature, industry-recognized best practice)? |  |  | 2 |  |  |
| 1.9 | Are the model’s practices applicable across different scenarios, cases, and projects? |  |  | 2 |  |  |
| SECTION SUBTOTAL | | 17 | | | |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2 | Model Structure Criteria: | Score | | | |  |
| 0 | 1 | 2 | U | NA |
| 2.1 | Is the process of applying the model clear? |  |  | 2 |  |  |
| 2.2 | Does the model provide clear definitions of maturity and dimensions of maturity? |  |  | 2 |  |  |
| 2.3 | Are maturity levels within the model clearly defined, with each level described by clear criteria and expected outcomes? |  |  | 2 |  |  |
| 2.4 | Does the maturity model outline specific levels and the logical progression between these levels? |  |  | 2 |  |  |
| 2.5 | Is the maturity model’s structure, including the number of levels and attributes, clear and coherent? |  |  | 2 |  |  |
| 2.6 | Does the model propose specific improvement measures or practices for advancing from one maturity level to the next? |  |  | 2 |  |  |
| 2.7 | Is there an ability to adjust or alter the model’s structure, components, or processes (e.g., the model can evolve and remain relevant.)? |  |  | 2 |  |  |
| 2.8 | Is there a balance in the model between reflecting the complexities of the domain and maintaining simplicity for understandability? |  |  | 2 |  |  |
| 2.9 | Is the maturity model’s constructs and definitions accurate and precise? |  |  | 2 |  |  |
| 2.10 | Is the maturity model easily accessible and usable by practitioners without extensive training? |  |  | 2 |  |  |
| SECTION SUBTOTAL | | 20 | | | |  |

# Use and application of the model

The second category is related to the actual use and application of the model where it revolves around the practical use, application, and effectiveness of the maturity model using the following scale:

0 – No

1 – Somewhat/Maybe

2 – Yes

U – Unknown

NA– Not Applicable

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 3 | Model Assessment criteria | Score | | | |  |
| 0 | 1 | 2 | U | NA |
| 3.1 | Were the model’s assessment instruments validated to ensure accuracy and reliability? |  |  | 2 |  |  |
| 3.2 | Are there clear, precise criteria for assessing maturity at each level and dimension, allowing for consistent and objective evaluations? |  |  | 2 |  |  |
| 3.3 | Does the model include a detailed methodology for conducting assessments, providing guidance on evaluating criteria, and interpreting results? |  |  | 2 |  |  |
| 3.4 | Does the assessment methodology outline clear procedures for assessors? |  |  | 2 |  |  |
| 3.5 | Is there a logical connection between the model’s design and the chosen assessment methods? |  |  | 2 |  |  |
| 3.6 | Does the model support different types of assessments (e.g., self-assessment, third-party assessment)? |  |  | 2 |  |  |
| 3.7 | Can support be provided during the assessment using the model? |  | 1 |  |  |  |
| 3.8 | Does the maturity model promote transparency and openness in identifying and addressing areas for improvement, including the possibility of suggesting enhancements? |  |  | 2 |  |  |
| 3.9 | Does the maturity model leverage technology and tools for more efficient and accurate assessments? |  |  | 2 |  |  |
| SECTION SUBTOTAL | | 17 | | | |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 4 | Model support Criteria | Score | | | |  |
|  | 0 | 1 | 2 | U | NA |
| 4.1 | Does the maturity report communicate results clearly? |  |  | 2 |  |  |
| 4.2 | Is there adequate documentation supporting the application of the assessment, such as a handbook, textual descriptions, or software assessment tools? |  | 1 |  |  |  |
| 4.3 | Is the model designed with enough flexibility to be adapted to different organizational settings? |  |  | 2 |  |  |
| 4.4 | Does the model provide actionable insights and guidance for both practitioners and researchers? |  |  | 2 |  |  |
| 4.5 | Does the maturity report provide practical, useful recommendations to drive improvements? |  |  | 2 |  |  |
| 4.6 | Does the model facilitate benchmarking against industry standards or comparisons with similar organizations? |  | 1 |  |  |  |
| 4.7 | Can the maturity report be customized? |  | 1 |  |  |  |
| 4.8 | Is training available for effectively implementing and utilizing the maturity model? |  |  | 2 |  |  |
| 4.9 | Is there a continuity and evolution plan between different versions of the model with accessible documentation? |  | 1 |  |  |  |
| 4.10 | Is there a maintenance plan in place to ensure the model remains relevant and up-to-date? |  | 1 |  |  |  |
| SECTION SUBTOTAL | | 15 | | | |  |

Results summary

In this table, summarize the evaluation of the software maturity model being evaluated for each catagory.

|  |  |
| --- | --- |
| Section | Result |
| Basic Information | 17 |
| Model Structure Criteria | 20 |
| Model Assessment Criteria | 17 |
| Model Support Criteria | 15 |
| Total [[1]](#footnote-2) | **69** |
| Grand total [[2]](#footnote-3) | 91% |

**Scores Interpretation:**

**0-25:** Basic - The software maturity model is in the early stages, requiring significant development.

**26-50:** Emerging - The software maturity model shows foundational strengths but needs further refinement for broader applicability and impact.

**51-75:** Mature – The evaluated criteria demonstrate a functional approach, suggesting a reasonably developed software maturity model.

**75-100:** Advanced - Meets standard maturity expectations, demonstrating broad applicability,and significant impact.

1. The sum of valid scores across all categories [↑](#footnote-ref-2)
2. ​) × 100 [↑](#footnote-ref-3)