

## Rethinking Maturity Models for Organizational Transformation

Dr. Jan van de Poll<sup>1</sup>, Li Chen<sup>2</sup>, Yang Yong<sup>3</sup>

<sup>1</sup>Managing Director at Transparency Lab ([www.praioritize.com](http://www.praioritize.com))

<sup>2</sup>Senior Consultant at Microsoft, Shanghai ([www.microsoft.com](http://www.microsoft.com))

<sup>3</sup>Chief Technology Officer at Transparency Lab

**\*Corresponding Author:** Dr. Jan van de Poll, Managing Director at Transparency Lab ([www.praioritize.com](http://www.praioritize.com))

### ABSTRACT

The field of organizational transformation is full of stories about failure. And much literature about the reasons why they lack larger scale quantitative underpinning. Even less of such literature is available for a pivotal point during an organizational transformation: setting the improvement target. One of the techniques for setting such a target is the use of a maturity model of which its maturity levels indicate the smart stops on the way to an ideal situation. In this study, the use of maturity models has been analyzed in 117 organizational transformations with detailed responses covering close to 800 teams and over 30,000 employees. The vast majority of maturity models had 5 levels. Findings indicate that more than 80% of the teams scored Level 1 while 70% of their managers chose Level 3 or higher as the improvement target for the next six months. Such a strong discrepancy between management perception and work floor reality can be devastating for an organizational transformation. Hence, it is deemed that such exaggerated targets are a possible reason for failure. Such research will help managers set more realistic improvement targets.

**Keywords:** Employee polling, Organizational transformation, Guttman-Poll, Maturity models, Target setting

### INTRODUCTION

Organizational culture covers a set of characteristics as norms, routines, and unspoken rules of how things are conducted around that organization. An organization's culture can be in various states of maturity, and these can be judged by using a wide range of maturity models (MMs). A correct alignment of organizational culture and MM might accelerate higher project and business performance. A MM is defined as a descriptive model of the stages through which organizations progress as they define, implement, evolve, and improve their processes. It is mainly based on a series of (usually) five stages to maturity as, e.g., initial level, repeatable level, defined level, managed level and optimizing (Becker et al., 2009). It basically demonstrates how capable an organization or system is of achieving continuous improvement. MMs help companies learn their maturity level and how to improve within specific disciplines by asking questions and developing action plans.

At any given point in an organizational transformation, there is a moment where the analysis is done and an improvement target has to be set. An integral part of such an analysis is often via polling the views from as many employees as possible: the 'wisdom of the crowd.' This has shown to be a valuable contribution to the decision-making process (Giles, 2005; Surowiecki, 2005).

Various MMs are currently in the market today. Grant and Pennypacker (2006) forecasted more than 30 available models on the market. According to Mullaly (2006), the vast majority of these models have been developed in the beginning of 2000. The widely-accepted opinion is that organizations with higher maturity levels are assumed to be successful in terms of project effectiveness and efficiency (Cooke-Davies and Arzymanow, 2003). MMs are employed within different types of business areas from petro-chemical and defense industries to construction and engineering companies (Backlund et. al., 2014).

Although one would expect that organizations with more mature project management practices will have better project performance, the findings in the literature are a little bit paradoxical. There is no clear evidence of MM's contribution on organization success as a means of competitive advantage (Yazici, 2009). Mullaly (2006) raised some concerns considering a lack of evidence of MM's contribution to organization success. Similar study by Grant and Pennypacker (2006) indicated as a result of a survey of 126 organizations from various industries, the median MM level is 2 out of 5 with respect to 36 of the 42 components studied.

It is important to figure out the role of a MM. A widely done mistake in using maturity models is they generate an improvement plan, but not execute the plan. A maturity model can help to find weaknesses, but not repair them. Another trap is to attempt to design the model and conduct assessments without the proper level of executive commitment (Rosenstock et al., 2000). Jugdev and Thomas (2002) highlighted some major criticism of MMs as

- Models have the comprehensive and complex frameworks;
- Maturity levels don't provide sufficiency of information to compute progress over time
- The models have some limitations and drawbacks as they lack a theoretical basis.
- The models mainly focus on the work processes, some ignoring organizational aspects.

The focus of this paper is to shed some light on the use of a maturity model to help guide the continued implementation practices. Therefore, its aim is to answer the following research questions:

- 1) How are maturity models structured?
- 2) To what extent do teams manage to achieve maturity levels?
- 3) To what extent do managers take into consideration the levels achieved by the teams?

## METHOD

### Procedure and Participants

When an improvement target is set, an organization would like to objectively measure how far its strategic plans and organizati-

onal goals are on its transformation's trajectory. When asking the organization about the trajectory, using a Likert scale results in a variety of biases hence influencing the overall scores. An alternative technique, designed specifically for objectively tallying such trajectory by polling employees, is employed in this study ((Van de Poll 2018, 2021, and Van de Poll et al., 2022). In this study, 117 different employee polls about various strategic issues (e.g., culture, innovation, adoption of new processes) were analyzed; all requiring some organizational transformation. These employee polls demonstrated a response from 30,395 respondents in 782 teams, providing in total of 1,375,775 answers. To perform the calculations for managing levels of organization maturity, PRAIORITIZE, an automated consultancy platform has been used ([www.praioritize.com](http://www.praioritize.com)).

### Measures & Data Analysis

An alternative survey format based on the Guttman scale was constructed. This alternative scale is an ordinal and multiple-choice scale: every following answer is better than the answer before. Uhlaner (2002) calls these 'breaking points.' For example (from a team effectiveness poll):

Q. How do you celebrate successes?

1. *We don't*

2. *When there is an apparent reason to do so, with whoever is involved*

3. *We make it a habit to celebrate successes with the entire team*

The respondents' self-reporting bias was further reduced in the survey by adding "proof-words" like, e.g., 'periodically,' 'measurable,' 'described,' 'formally,' and 'documented' (Donaldson and Grans-Vallone, 2002). Those words often diminish the emotional or cognitive meaning given by employees to the answers (Frese & Zapf, 1988). And, additionally, adjectives and or adverbs that couldn't be checked (e.g., "good") were avoided. This survey format was considered as sufficiently verifiable (Ahrens & Chapman, 2006; Plewis & Mason, 2007) for application in maturity models.

Maturity levels were constructed by assigning individual answers to levels. It was postulated that the worst answer of the three was by default achieved: only answer 2 and answer 3 had to be assigned to a level. Figure 1 shows such an assignment.

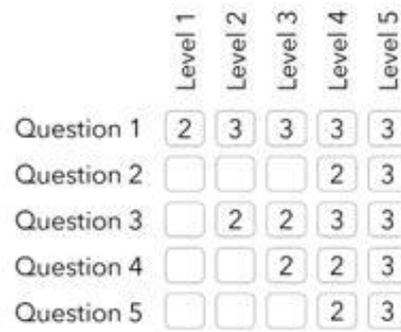


Figure 1. Assigning answers to levels

The answers were assigned in such a way that any next level is the same as the previous level plus at least one answer extra. All of its assigned answers must be achieved in order to achieve a level. In Figure 1, a respondent must have scored the best answer (of three) on Question 1 and the middle answer (of three) on Question 3 to achieve Level 2. This is irrespective of the answers to the other questions. If a respondent misses a single required answer, the level is not achieved. The maturity scores are tallied per respondent. Therefore, a team’s maturity score is expressed at “X% of the respondents achieving Level 1, Y% achieving Level 2”, and so on. In our 782 teams, there were maturity models with the usual five maturity

levels but also with four, three, and two levels. For all teams with a two-level maturity model, we averaged the achievement of Level 1 and Level 2. Similarly, for the levels one to three for the teams with a three-level maturity model. And similarly, for the four-level and five-level maturity models. Finally, the target level chosen by management was tallied per team.

RESULTS

Table 1 displays the composition of the database: 117 organizational transformation projects covering 782 teams with 30,395 respondents supplying 1,375,775 answers, where it is also given how many teams scored which kind of maturity models.

Table 1  
Achieved levels versus target levels chosen

|                                | N         | Share | Min. | Max. | Avg. | St.Dev. | L1  | L2   | L3  | L4 | L5 |
|--------------------------------|-----------|-------|------|------|------|---------|-----|------|-----|----|----|
| <i>Database</i>                |           |       |      |      |      |         |     |      |     |    |    |
| #. questionnaires              | 117       |       |      |      |      |         |     |      |     |    |    |
| #. teams                       | 782       |       |      |      |      |         |     |      |     |    |    |
| #. questions per questionnaire |           |       | 7    | 151  | 40   | 16      |     |      |     |    |    |
| #. respondents                 | 30,395    |       |      |      |      |         |     |      |     |    |    |
| #. respondents per teams       |           |       | 4    | 992  | 40   | 92      |     |      |     |    |    |
| Answers given                  | 1,375,775 |       |      |      |      |         |     |      |     |    |    |
| <i>Two levels</i>              |           |       |      |      |      |         |     |      |     |    |    |
| Achieved by respondents        | 8         | 1%    |      |      | 1,2  |         | 86% | 14%  |     |    |    |
| Set as target by managers      |           |       |      |      | 2,0  |         | 0%  | 100% |     |    |    |
| <i>Three levels</i>            |           |       |      |      |      |         |     |      |     |    |    |
| Achieved by respondents        | 89        | 11%   |      |      | 1,1  |         | 96% | 2%   | 2%  |    |    |
| Set as target by managers      |           |       |      |      | 1,7  |         | 46% | 38%  | 16% |    |    |
| <i>Four levels</i>             |           |       |      |      |      |         |     |      |     |    |    |
| Achieved by respondents        | 93        | 12%   |      |      | 1,3  |         | 76% | 21%  | 3%  | 1% |    |
| Set as target by managers      |           |       |      |      | 1,8  |         | 40% | 37%  | 24% | 0% |    |
| <i>Five levels</i>             |           |       |      |      |      |         |     |      |     |    |    |
| Achieved by respondents        | 592       | 76%   |      |      | 1,4  |         | 81% | 11%  | 2%  | 1% | 6% |
| Set as target by managers      |           |       |      |      | 2,7  |         | 7%  | 20%  | 67% | 3% | 2% |
| <i>All levels combined</i>     |           |       |      |      |      |         |     |      |     |    |    |
| Achieved by respondents        | 782       | 100%  |      |      | 1,3  |         | 82% | 11%  | 2%  | 1% | 4% |
| Set as target by managers      |           |       |      |      | 2,5  |         | 16% | 24%  | 55% | 3% | 2% |

L1, L2, etc.: The percentages achieved or chosen for maturity level 1, level 2, etc.

It is noteworthy that the most prominent one was the five-levels maturity model that was employed by 592 teams (76% of all teams in the database). Next, for each type of maturity model, Table 1 indicates, per level, which levels had been achieved by respondents and which levels were chosen by management as the improvement target for the next 6 months. A great discrepancy is observed between management target and respondents' achievement. For example, in the "Five levels"-section, 81% of the respondents achieved not more than Level 1 while management set a target of Level 3 or higher for (67%+3%+2%=) 72% of the teams. If we weigh these Level percentages for the entire "Five levels"-section, the average achieved level is 1.4 while management wanted to improve in the next 6 months to a weighted average of 2.7. Assuming that it took teams some time - perhaps even years - to achieve the average 1.4 score, an average improvement target for the next six months of 2.7 seems absurd. The number of teams that had Level 3 as the target outweigh all other team targets combined. In the "Five levels"-section 67% of the teams had Level 3 as the target. It seems Level 3 is nicely in the middle, visually attractive to management and seemingly not too much to ask. Until one realizes that more than 80% of respondents do not score beyond Level 1.

### DISCUSSION

A gap between management perception and work floor reality can be devastating for an organizational transformation. The maturity models in our database were always externally provided; either by consultants or by management itself. They were never part of an official norm or standard. It was assumed that the structure of these maturity models theoretically made perfect sense. And choosing the middle of the five levels was realistic thinking in the minds of management. Yet, the gap between target and work floor leads us to rethinking the structure of maturity models. Recent research shows that if the respondents' answer profiles are clustered (e.g., via a k-means clustering), the resulting clusters form a maturity model (Van de Poll et al., 2022). Such maturity models reflect, in a way, the organizational DNA. They are inside-out compared to the outside-in maturity models in our database. New research into these 'organic' maturity models might likely

lead to much more realistic – and therefore more usable – target setting.

### Limitations and Future Research

In this paper, a number of cautionary remarks are made about our research. The topics of the organizational transformations in our database were diverse. It was recognized that teams were ranging from 4 respondents to over 900 respondents: these were more likely divisions than actual teams. Yet, a database of over 30,000 respondents has been used. That would make this paper's conclusion about the achievement scores very indicative. The contents of the models' maturity levels are not considered in the study but just the achievement of them. The gap between actual achievements and target chosen is even wider when one considers that there also was a percentage of respondents not even achieving Level 1. However, there was no access to these percentages. If these percentages had been significant, the gap between achieved and target would have been even wider. Some research has been left for the future due to lack of time. Future work concerns deeper analysis of (1) the motives behind the target setting by the teams' management, (2) deciding factor (or any other factor) for managers when setting the target.

### CONCLUSIONS

Setting a specific, measurable, achievable, relevant, and time able improvement target is a cornerstone of any organizational transformation. In this study, a survey-based research was conducted to gain deeper insight into the maturity of business issues requiring an organizational transformation. A survey of 117 organizational transformations with over 30,000 employees concluded that there is a wide gap between management perception and work floor reality. While more than 80% of the teams scored Level 1, 70% of their managers set improvement target to Level 3 or higher for the next six months, which should be a red flag for any manager leading such an organizational transformation. Therefore, management targets should uncover additional tools to create smarter maturity models and improved strategic decision-making.

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