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Oracle's Instantis Six Sigma Maturity Model

Introduction

As organizations adopt and deploy Six Sigma, they evolve through several levels of maturity. Oracle's Instantis Six Sigma maturity model represents the first attempt to outline the five commonly experienced levels of Six Sigma development. Describing the Six Sigma journey from launch and early success to culture transformation, Oracle's Instantis Six Sigma maturity model helps Six Sigma practitioners, deployment leaders, and executives accomplish the following goals:

- Benchmark where their companies stand in relation to broader patterns experienced by other organizations

- Assess the areas of strength and performance gaps in their deployments

- Pinpoint steps they might take to close gaps and graduate to the next phase of their Six Sigma journey

- Communicate progress to Six Sigma teams and within companies to garner additional support for continuous improvement efforts

Since the model was first published, in October 2006, more than 1,000 copies of this white paper have been downloaded.

"We've started to use the Six Sigma maturity model as a standard for benchmarking continuous improvement programs within Chevron and also across the energy industry. The model provides a much needed industry standard for gauging progress."

Stephen Turnipseed
Lean Sigma Advisor, Chevron

Model Overview

Oracle's Instantis Six Sigma maturity model outlines each of the five maturity levels along various axes and describes how an organization evolves along these axes as it progresses through the levels. The model also includes time frames representing the typical amount of time spent at each level, and simple exit criteria define the transition from one level to the next. The model is designed as a general guideline, not a strict prescriptive roadmap for Six Sigma implementation.

The five levels are

- **Launch.** This is the starting point—when Six Sigma is launched, training is initiated, and projects are begun.

- **Early success.** The initial projects are yielding results, and early successes are being achieved.

- **Scale and replication.** Early success has led other parts of the organization to buy in to Six Sigma, meaning that a broader project launch is under way.

- **Institutionalization.** Projects are yielding broad-based financial impacts throughout many parts of the company.

- **Culture transformation.** Six Sigma has become part of the organizational DNA, the financial impact is now sustained, and Six Sigma culture is pervasive (even beyond the Six Sigma practitioners and company boundaries).

Six Sigma Maturity Model

	Initial Launch	Early Success	Scale Replication	Institutionalization	Culture Transformation
Culture					DNA, Value Chain
Beyond DMAIC				DFSS	IT, New Prod Dev
Strategy			Maps, Goals	Project Roll-up	Full Closed-Loop
Software		Excel, Stats	Project Tracking	Knowledge Mgmt	Portfolio Mgmt
Reporting	Qualitative	Anecdotal	Org Comparison	External Sharing	Future projections
Financial Impact	Ad hoc	Cost Reduction	Consistency	Validation	Tied to Corp Financials
Projects	Burning Platform	Low Hanging	Copy Success	Idea Pipeline	Portfolio View
People	Driven Few	Most still skeptical	New Believers	Career Path	Majority Supporters
Training	Champion, Exec	External, BB/GB	Ext, Many Waves	Ext, Some Internal	Internal MBB cadre
Leadership	1-2 Visionaries	Visionaries Validated	Cross-org Buy-in	Expected	Ingrained
	Level 1	Level 2	Level 3	Level 4	Level 5
	3-9 Months	6-18 Months	12-36 Months	24-48 Months	36+Months

Figure 1. The five levels of Six Sigma maturity are described along a variety of axes.

Level 1: Launch

Typically, Six Sigma is launched within an organization as a result of a "burning platform" in the business. Other typical drivers include the arrival of a CEO with a Six Sigma background, the results of a competitive benchmarking exercise, or a bottom-up effort in a business unit. Thus, a launch can be either top-down or bottom-up, but launches are generally quicker and more successful when they are top-down.

The launch usually occurs with the help of an external consulting and training firm. Consultants typically preside over initial executive and champion sessions designed to establish the potential impacts of Six Sigma on business operations, revenues, costs, and company culture. There is buy-in to start the initial training sessions to certify a core group of Black Belts and Master Black Belts who will lead the initial projects. Organizations generally appoint a vice president or a director of Six Sigma, who reports to an executive sponsor and whose charter is to ensure successful deployment of Six Sigma. In bottom-up launches, there may not be as much senior executive involvement; support may exist only at a divisional level.

TABLE 1. LAUNCH AXES

AXES	CHARACTERISTICS
Leadership	Initial visionaries are needed to provide impetus for adoption; top-down or bottom-up.
Training	Executives are trained by external trainers; champion training begins; initial Black Belts are identified and trained.
People	There are a few driven believers; the rest of the organization is largely skeptical.
Project selection	Focus is provided by a burning platform; the organization needs to manage excessive expectations and avoid overreaching.
Financial impact	No impact has occurred yet; no projects are completed.
Reporting	No formal reporting has taken place yet; no projects are completed—progress is reported in qualitative terms.

Key Challenges

The key challenges at Level 1 are to ensure that the team executing the Six Sigma effort has the requisite organizational support and that projects are properly selected to drive successes at the next level.

Duration and Next Level

This level typically lasts three to nine months. An organization moves to the next level when initial training has been completed and the first set of projects is under way (although not yet completed).

Level 2: Early Success

At this level, initial projects are well under way. In fact, many have been completed. Improvements
have already resulted in significant financial and other impacts, and the support given to the initial team has been validated by early results. At this critical "show me" stage, early successes must be made
visible so that the rest of the organization can see Six Sigma's impact. This is where ambiguity and uncertainty about Six Sigma's business impacts are replaced by proven, relevant examples of business problems addressed by successful Six Sigma application.

TABLE 2. THE AXES OF EARLY SUCCESS

AXES	CHARACTERISTICS
Leadership	Completed projects validate leadership's vision.
Training	A few waves are completed; trainers are usually still external.
People	Initial results are helpful, but many in the organization remain skeptical—waiting to see how Six Sigma will affect them.
Project selection	Low-hanging fruit (easy-to-identify, high-impact projects) is plentiful.
Financial impact	Initial results, usually in the area of cost reduction, are having some impact.
Software	Focus is on statistical tools for the Belts.

Key Challenges

The key challenges at Level 2 are to ensure that projects are completed in a reasonable time and that those projects have a meaningful financial impact on the business.

Duration and Next Level

Typical companies remain at this level between 6 and 18 months. A company moves to the next level of Six Sigma maturity when initial successes have begun to drive Six Sigma adoption in other parts of the company.

Level 3: Scale/Replication

At this level, the company has experienced solid success from the initial deployment and is now witnessing that other parts of the organization are buying into Six Sigma. At this stage, the Six Sigma effort scales companywide and gathers momentum. Many waves of training are in progress across many parts of the company. Projects are being pursued at multiple organizational levels.

TABLE 3. THE AXES OF SCALE/REPLICATION

AXES	CHARACTERISTICS
Leadership	The decision has been made to drive Six Sigma throughout the company; leadership across the company buys in.
Training	Many waves are occurring across the company; trainers are often external.
People	New believers in different parts of the company generate program momentum; change agents throughout the organization see a platform with proof points.
Project selection	Established patterns of success are being replicated (similar projects for similar problems in similar plants, branches, distribution centers, and so on).
Financial impact	Consistent measures of impact are in place.
Reporting	Enough projects are completed that the average impact per project, per Belt, and so on can be predicted and cross-organization comparisons can be made; aggregate impact across the organization is significant.
Software	Software moves beyond statistical tools to project tracking; consistent application of methodology and financial impact reporting is ensured.
Strategy	Strategy maps are created to ensure that projects are aligned with corporate and organizational priorities.

Key Challenges

The key challenges at Level 3 involve ensuring that the methodology is consistently applied in other parts of the company and that the financial impact and results are replicated. It is important to have a strong company deployment leader who can ensure consistency of methodology and results.

Duration and Next Level

The scale/replication level typically lasts between one and three years. A company progresses to the next level of maturity when all of its internal organizations have moved from replicating initial successes to a deep adoption of Six Sigma from within.

Level 4: Institutionalization

At this level, companies have replicated their initial success throughout their organizations. There is enough financial impact from projects in each organization that meaningful comparisons can be made of average project impact, average cycle time, total impact, and so on. The Six Sigma deployment has evolved to include formal processes tailored to each organization's training needs, a unique project selection process, and professional development paths for Belts. Project financial impact measures are highly evolved, and Six Sigma processes have become institutionalized throughout the company.

TABLE 4. THE AXES OF INSTITUTIONALIZATION

AXES	CHARACTERISTICS
Leadership	Top leadership across business units, geographies, and divisions supports Six Sigma.
Training	It is very widespread; usually external, it involves some in-house Master Black Belts as trainers.
People	Six Sigma represents a clear career path; those in initial Black Belt waves have been repatriated, with enhanced career prospects and positions within the organization.
Project selection	A formal idea-generation/evaluation process is in place to ensure continued flow of meaningful projects; there is no more low-hanging fruit.
Financial impact	Strict controls are in place to ensure validation of results; measures evolve to include revenue impact.
Reporting	Aggregate corporate-wide results are reported externally to the financial community.
Software	Project tracking typically includes a knowledge management repository of best practices and lessons learned.
Strategy	Strategy maps at the corporate and organizational level and moves beyond alignment to launch projects to influence strategic goals.
Beyond DMAIC	DMAIC is mastered, but Design for Six Sigma is also widely used; a blending of Lean and Six Sigma has occurred.

Key Challenges

The key challenge at this level comes in setting up consistent processes for Six Sigma execution. For example, consistency should be achieved in areas such as project selection and scoring, approvals, financial impact measurement and validation, project execution roadmaps, reports, and Belt training. This should be pursued while allowing for controlled variation in different parts of the company— ranging, for example, from manufacturing to transaction-intensive organizations.

Duration and Next Level

It's not uncommon for organizations to remain at this level for two to four years (or longer). A company progresses to the next level after multiple years of companywide Six Sigma adoption.

Level 5: Culture Transformation

At this level, the company has sustained Six Sigma success over a long period. With Six Sigma embedded in the company's DNA, Six Sigma methodologies are applied throughout all execution processes as well as to the extended enterprise—customers, vendors, and the distribution and supply chains. Company culture is data-driven, process- and metrics-oriented, and focused on financial impact. Level 5 represents the culmination of the culture transformation that has taken place throughout the Six Sigma journey.

TABLE 4. THE AXES OF CULTURE TRANSFORMATION

AXES	CHARACTERISTICS
Leadership	Six Sigma is ingrained in the approach of top leadership across business units and geographies.
Training	It is very widespread; in-house Master Black Belts serve as trainers; use of e-learning is typical.
People	It is "the way we work" when management isn't looking; those in initial repatriated Black Belt waves have risen in career stature and position in the organization.
Project selection	A portfolio view of project selection as well as formal idea generation/evaluation are in place to ensure continued flow of meaningful projects.
Financial impact	Strict controls are in place to ensure validation of results; measures evolve to include revenue impact; financial impact of projects is tied to corporate financial systems.
Reporting	A results comparison is routinely done for each organizational unit; aggregate corporatewide results are reported; prior data can now be used to make future financial and deployment projections.
Software	Portfolio management is used to align strategy, processes, and project execution across the enterprise.

Strategy	Full closing of the loop between strategic goals and project execution is based on validated project result roll-ups.
Beyond DMAIC	A Six Sigma mentality is infused throughout all project portfolios: new product development, IT/PMO projects, capital expenditures, procurement, and so on.
Culture	The entire organization operates at a higher performance level; Six Sigma is embedded in the culture and extends to customers, vendors, and the supply and distribution chains.

Key Challenges and Duration

The challenge at this level is to keep Six Sigma fresh and innovate in new areas where it can be applied as the company goes through natural business cycles of growth, threat, acquisitions, and so on. As for duration, there is no endpoint or duration at this level.

Online Study Results

In March 2006, Instantis (acquired by Oracle in February 2013) conducted a study to validate the predictions contained within Oracle's Instantis Six Sigma maturity model. The study took the form of an online survey delivered over a four-month period starting in October 2006.

Study Respondents by Maturity Level
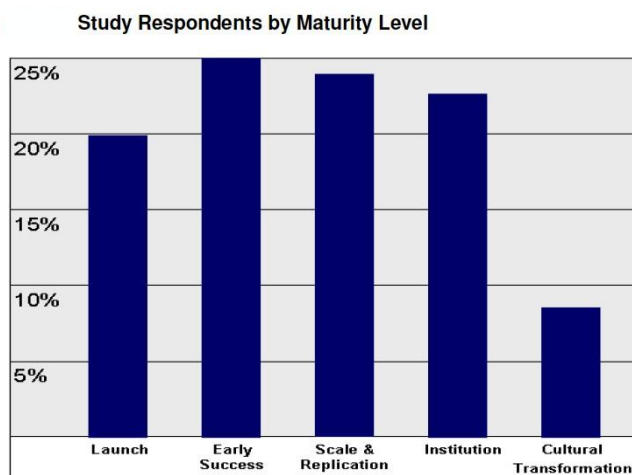
Figure 2. The highest percentage of the respondent organizations were at the early success maturity level

A total of 105 organizations responded to the survey. The respondent pool consisted of Six Sigma professionals (Master Black Belts, Black Belts, and Six Sigma experts); senior directors and functional managers of QA, operations, and supply chains; and executives and deployment leaders. The respondents represented all major industries and geographies (Americas, Europe, Asia-Pacific).

Key findings included the following:

- The Six Sigma community is less than halfway through its collective journey. On a scale of 1 to 5, the average maturity level of the respondent organizations was 2.7, with a standard deviation of 1.25.

- Leadership support for Six Sigma is highly correlated with the overall maturity level (Pearson coefficient of 0.74). Although it's well known that Six Sigma success is largely dependent on support by company leadership, this data provides a slightly different view of that maxim. That is, more- mature Six Sigma deployments exhibit greater leadership support, but correlation does not necessarily imply causality.

- It takes at least four years for organizations to achieve Six Sigma "institutionalization."
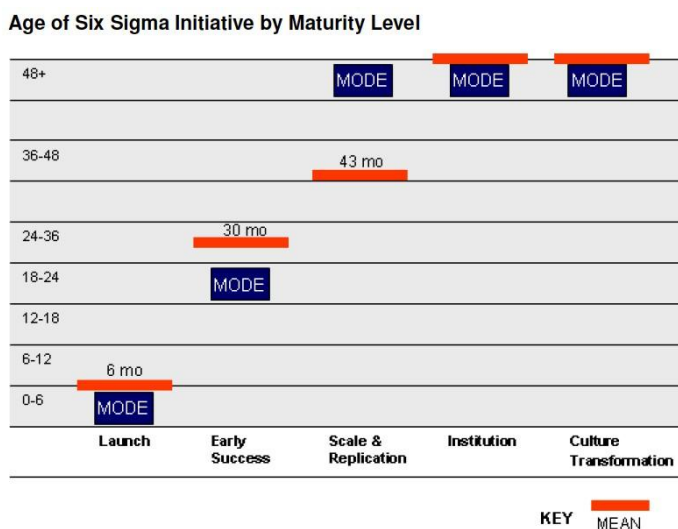
Figure 3. It takes at least four years for organizations to achieve Six Sigma "institutionalization."

Next Steps

To continue your own Six Sigma journey, you need to:

- Assess your company's maturity level—either internally by benchmarking against other companies' or externally with the help of a consulting firm

- Perform a gap analysis and identify critical dimensions needed to progress at your level of maturity

- Communicate findings and get buy-in to fix gaps

- Lay out a roadmap to achieve the next level and then begin following it

- Assess your software needs to help you on the journey

- Consider deploying a maturity scorecard to numerically track deployment progress

Conclusion

The Six Sigma community is less than halfway through its collective journey to culture transformation—meaning that for the vast majority of organizations adopting Six Sigma, it is not too late to make course adjustments to ensure that critical success and failure factors are addressed. Oracle's Instantis Six Sigma maturity model can serve as a valuable benchmarking and assessment tool to help organizations take their operational performance to the next level and guide them on their multiyear journey.

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