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What Can “Innovation” Do For You?
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Executive Overview

Innovation is the engine that drives a company’s growth and profitability. It is not surprising that up to 50% of annual company revenues\(^1\) in some industries are derived from new products (defined as products launched within the past 3 to 5 years). Furthermore, companies in these industries spend up to 10%–15% of sales revenue\(^2\) to fuel this innovation engine. With innovation emerging as such a critical business imperative, it obviously ranks amongst a company’s highest priorities\(^3\) (See Figure 1).

However, industry studies on innovation show that innovation productivity [as defined by revenue (or profits) from new products divided by R&D investments] has experienced a 14% decline over the past 10 to 15 years! The studies reveal that revenue from new products fell from 32.6% (of total company revenues) in the mid 90s to 28% by 2004. At the same time, R&D spending in the U.S. has dropped very slightly from 2.76% of GNP in 1985 as compared to 2.7% in 2004\(^4\).

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\(^1\) Arthur D., *Little Global Innovation Excellence Study*, 2005  
\(^2\) Oracle Insight Analysis  
\(^3\) *Senior Executive Innovation Survey*, BCG 2009  
Innovation Productivity has experienced a 14% decline over the past 10-15 years!

*Innovation Best Practices, Product Innovation Journal 2009*

These startling industry statistics lead to the following questions:

- Are companies doing a worse job today as compared to 10 years ago — poor designs, incomplete feasibility studies or poor New Product Development (NPD) launches?

- Has the overall quality of NPD execution (processes to take ideas from initial screening to market launch, conventionally known as Product Lifecycle Management) gone down today as compared to 10 years ago?

While it is true that companies have not significantly improved the quality of their new product execution as rapidly as anticipated, the bigger factor that explains the decrease in innovation productivity is the lack of effective product portfolio planning and development innovation strategies that are aligned with the company’s financial and strategic goals. Simply stated, companies lack the systematic ability to visualize and balance investments in incremental innovations versus identifying and investing in projects that drive a sustainable competitive advantage in the future. The product portfolios over the past few years have been increasingly biased toward small incremental innovation projects. In addition to this lack of strategic focus, most companies still do not have a disciplined and complete Product Lifecycle Management (PLM) process (including structured stage-gate approach, cross-functional collaboration, effective customer needs management, product cost management and post-launch monitoring). An agile and aligned PLM process allows successful execution and conversion of new ideas into profitable new products on-time and within budgets.

Senior executives of these companies probably do have an intuitive feeling for the above-mentioned failure, but it is important to go a step further. It is critical to support this intuition with a disciplined and comprehensive innovation process that is fact-based and can harmonize both the strategic and operational aspects of the innovation process. This allows companies to make rapid ‘Go / Kill’ decisions and improve overall innovation cycle times. Oracle recommends the following framework to achieve the above objectives.
Current Innovation Landscape

The rising complexity of innovation offerings and challenges related to the global supply chain could further affect innovation productivity negatively, unless addressed. Product life cycles continue to shrink in most industries while the innovation offerings themselves are becoming more complex (including smarter products incorporating both hardware and software components and products being bundled with value-added services to increase differentiation). Global supply chains (reflecting both global markets and sourcing) incorporating distributed design, mixed-mode manufacturing models that include both internal as well as partner networks (contract manufacturers and offshore design manufacturers) are harder to synchronize and orchestrate. The key business imperatives for companies across several manufacturing industries can be generalized as follows: Accelerating the rate of innovation and time-to-market; delivering superior value through customer-centric processes; improving efficiencies by enabling the lean supply chain; and driving revenue and margin growth.

The specific issues affecting a company will be different depending on the industry it belongs to and the sub-verticals within that industry. (See Figure 2 for a select listing of issues in the heavy industrial manufacturing sector)

**KEY BUSINESS IMPERATIVES IN THE HEAVY INDUSTRIAL MANUFACTURING SECTOR**

1. **Issue:** Slow, delayed and costly New Product Introductions
2. **Issue:** Non-integrated opportunity-to-order process, including project costing
3. **Issue:** Lack a common order capture-to-orchestration process for combined CTO + ETO products
4. **Issue:** Reduce inventory & enable better planning incorporating new product transitions & EOL forecast
5. **Issue:** Lack of an integrated Change and Configuration Mgmt process across internal & external plants
6. **Issue:** Manual regulatory & environmental compliance process feeding geographic ‘don’t ship’ lists
7. **Issue:** Service Transformation (Integrating product & service offering)
8. **Issue:** Total (closed-loop) Quality Mgmt (Integrate field repair, call center, help desk, QC, remote monitoring, production yields process to drive DFx)
Oracle’s Framework for Enterprise Innovation Management

Oracle recommends a closed-loop innovation framework based on 5 key pillars.

- Optimize corporate ROI with effective **Product Portfolio Planning & Optimization**.
- Develop **Innovation Strategies** tied to business goals.
- Monitor and measure development projects with effective **Project Portfolio Management**.
- Enable successful execution with disciplined **New Product Development Process**.
- Enhance enterprise collaboration capabilities with effective **Product Record Management**.

The benefits of investing in a robust innovation process that spans the spectrum of activities from strategic to execution-oriented are extremely compelling.

*Figure 3* shows the improvement opportunities along a few key innovation metrics aligned to the key pillars of the framework.

| **1** Product Portfolio Planning & Optimization | Increase % of revenue and profits derived from new products by 40% |
| **2** Innovation Strategy | Increase % of projects meeting revenue and profit objectives by 35% |
| **3** Project Portfolio Management | Increase % of projects launched on schedule and within budget by 50% |
| **4** New Product Development Process | Reduce product cost by 15%; Improve R&D labor efficiency by 20% |
| **5** Product Record Management | Reduce scrap and re-work cost by 15%; Reduce CM cost by 5% |

**FIGURE 3**

It is important to mention that while Oracle is offering a holistic innovation management process, the implementation of this process may be done in phases. Implementing these phases must be chosen based on identifying the specific innovation-related challenges at a given company within its business context.

For example, some companies may be ‘Idea-Poor,’ reflecting inadequate networking either internally across departments, divisions / business units, externally to source new ideas, or identifying new solutions. Some other companies may be ‘Portfolio-Poor,’ reflecting lack of effective portfolio planning and unclear definition of investment selection criteria, while there could be others that are ‘Conversion-Poor,’ reflecting a poor record of converting good ideas into products and services. This could be due to gaps in the execution process, a culture of risk aversion, and excessive bureaucracy.
Innovation Pillar Capability Assessment & Benefit Realization

Companies can ask a few key questions to assess the maturity of the processes along the key pillars of the framework. This assessment can identify process gaps that can be addressed through Process, People, and Technology enablers.

Product Portfolio Planning & Optimization

“We build our culture around catching market transitions. It isn’t just about growth, it’s about survival, market transitions are built on catching them right, and if you miss them it’s almost impossible to recover.”

John Chambers, CEO Cisco Systems

The goal for this pillar is to better prioritize portfolio plans and focus scarce new product development resources on the right projects.

Key questions to assess the maturity of this process include:

- Does your organization have clear process and program management in place to make effective product portfolio decisions (EOL / divest / innovate)?
- Does your organization have a well-defined portfolio selection criteria and portfolio score-carding to identify and prioritize product portfolio decisions?
- Do you have dashboards with drill-down capabilities to access, visualize / analyze, and track product portfolios on an on-going basis?
- Do you have portfolio scenario analysis capabilities to optimize the risk / reward impact of portfolio decisions (from ideation to end-of-life)?
- Can you effectively collaborate with key stakeholders across the organization to gather, aggregate, and disseminate information regarding portfolio decisions?
- Do you integrate product portfolio reviews to your innovation decisions?

Best-in-class (Top 20% in their industry) companies outperform their average counterparts along a few key innovation metrics related to Product Portfolio Planning & Optimization (See Chart 1 on the following page).

5 APQC (American Productivity and Quality Center) Benchmarking Study, 2006). All the charts on the subsequent pages are also based on the same study.
Innovation Strategy

"With Oracle Agile, Micron is building a solid foundation for our product development process. By having increased visibility into our product portfolio, we are bringing to market the highest quality and innovative products that meet customer demand."

Dean Klein, Vice President of Market Development, Micron

The goal is to map out the major developments and initiatives needed to achieve new product portfolio strategy (product roadmaps that define the next multiple years of major new product initiatives) identified above.

Key questions to assess the maturity of this process include:

- Is there adequate collaboration among key internal stakeholders (marketing, sales, design, manufacturing, and supply chain) to develop innovation strategies (product roadmaps) that are aligned with your product portfolio decisions?
- Do you adequately leverage your organization’s external innovation ecosystem (suppliers, customers, users, and partners) to create compelling innovation strategies?
- Do you establish and communicate clear financial goals (revenue, profit, ROI, NPV) and innovation KPIs (target price and cost, volumes, resource commitment, market timing) for all your innovation efforts?
- Can you easily measure the performance of your innovation strategies against these financial goals and make course corrections as necessary?
- How do you prioritize across multiple potentially conflicting innovation strategies in order to decide where to innovate and when?

Best-in-class (Top 20% in their industry) companies outperform their average counterparts along a few key innovation metrics related to innovation strategy (See Chart 2 on the following page).
Project Portfolio Management

The goal is to be able to manage and monitor the performance of all the various innovation projects that a company is pursuing at any given time.

Key questions to assess the maturity of this process include:

- Do you have a formal process to manage your innovation project portfolio?
- Can you quickly aggregate, correlate, and report on the current status (total cost-to-date, resources allocated, etc.) of various development projects?
- Does your organization have real-time visibility into the innovation project portfolio with rapid response capabilities via alerts, triggers, and workflows?
- Does your organization have role-based dashboards with drill-down capability for root-cause analysis that provides product and project information, and performance to goals and objectives?
- Does your organization have challenges related to accessibility, completeness, and accuracy of program and project-related information (i.e., current status, phase deliverable templates, gate review documents, etc.)?
- Does your project portfolio management process allow you to effectively rationalize your portfolio (terminate bad projects, accelerate promising projects, etc.)?

Best-in-Class (Top 20% in their industry) companies outperform their average counterparts along a few key innovation metrics related to Project Portfolio Management. (See Chart 3 on the following page)
New Product Development Process

“Oracle provides us with the advanced engineering and collaboration features that will ensure we continue to be at the forefront of wireless technology.”

Norm Fjeldheim, Sr. Vice President and CIO, Qualcomm

The goal is to have a disciplined NPD process that can effectively launch new products on time and within budget.

Key questions to assess the maturity of this process include:

- Do you use a formal process for customer needs and ideation management to drive NPD execution?
- Does your organization use a disciplined NPD phase-gate process to drive innovation projects?
- Are you dissatisfied with schedule slippage or cost over-run performance of your NPD efforts?
- Can key stakeholders effectively collaborate with each other to optimize BOM cost (for example, design and purchasing) or minimize schedule slippage?
- Does your NPD organization adequately leverage design / component re-use to reduce component proliferation?
- Do you have a formal process to leverage global sourcing across the organization in order to reduce BOM cost?
• Do you have a total view of product quality consolidated across various touch points (customer complaints, RMAs, warranty, yields, QA, etc.) to drive DFx initiatives?

Product Record Management

“Oracle Agile enabled us to rapidly implement a new system that has made us more efficient, and help us to share information globally in real time. Without a system like Agile we could not have been so successful.”

Gary Freitag, Manager-Manufacturing Engineering, Reed Hycalog

The goal is to have a single ‘clean’ record for all the heterogeneous data associated with the products / platforms.

Key questions to assess the maturity of this process include:

• Do you have ‘single source of truth’ for various pieces of product record (design, manufacturing, cost, supplier, quality, and compliance data)?

• Is the product record integrated so different stakeholders can collaborate effective to optimize NPD targets (for example, upfront design and purchasing collaboration to reduce BOM cost)

• Can you collaborate securely and effectively with external manufacturing partners to reduce change order cycle times?

• Can you track compliance to various regional regulatory and environmental standards at the product level throughout the order to fulfillment process?

• Do you have well-defined workflows and authorizations to make changes to the product record in order to preserve quality and integrity?

*Chart 4 on the next page illustrates the impact on key innovation metrics enabled by a robust NPD Process that includes effective Product Record Management.*

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6 Oracle Experience with Actual Customers
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Oracle Customer Success

Oracle has assisted companies in various industry verticals to improve their Innovation process. A partial list of customers includes: Apple Computer, Zebra Technologies, Qualcomm, HP-Procurve, Juniper Networks, Logitech, Micron, Alcatel-Lucent, Harris Semiconductor, Bayer Healthcare, Philips Healthcare, Johnson Diversey, Haemonetics, Esco, and Instron.

How Can Oracle Help?

Innovation is a process that concerns top management at all levels of the corporation. The CEO, CFO, V.P. of Corporate Strategy, V.P. Engineering, V.P. Purchasing, and V.P. Quality must all be involved in assessing the maturity of their organization’s innovation capability.

Oracle Insight Program

Oracle Insight uses a proven methodology, which is flexible and customized to individual company objectives. Most engagements consist of four steps: Industry Perspective, Discovery, Solution Design, and Solution Presentation.

Industry Perspective

Given the plethora of acquisitions made by Oracle, we want to help you understand how these new capabilities have helped others in your industry. Oracle facilitates an in-depth discussion
with your executives about industry trends, best practices, vision, strategy, challenges, and roadblocks.

**Discovery**

Leveraging established industry frameworks and robust intellectual property, Oracle Insight collaborates with you to assess your current business processes and identify the capabilities required to achieve your corporate strategy.

**Solution Design**

Oracle recommends best practice processes and supporting technology, including a time-to-benefit analysis and implementation plan.

**Solution Presentation**

The Insight team works with you to create an executive presentation including supporting information, business benefits, and value drivers, to help you build consensus among colleagues and executive management or secure funding from your board.

Oracle Insight engagements are flexible. Once executive commitment is secured, the program will be customized to your needs and objectives as it relates to your project.