CMMI Opens the Gate: The Practical Relationship between CMMI and Stage-Gate® Decision Models
Agenda

- ABB Overview
- Stage-Gate® Process
- CMMI
- How Stage-Gate® and CMMI Complement Each Other
- Summary
ABB Overview

- Leader in power and automation technologies
- Enable utility and industry customers to improve performance while lowering environmental impact
- The ABB Group of companies operates in more than 120 countries and employs approximately 110,000 people
- ABB became the first company in the world to sell 100,000 robots
- A vast majority of products at ABB have software and hardware components
ABB’s Organizational Structure

- Power Products
- Corporate Research
- Power Systems
- Automation Products
- Process Automation
- Robotics
ABB’s Products

- Power Products
- Power Systems
ABB’s Products

- Automation Products
- Process Automation
- Robotics
Stage-Gate® Process

- Conceptual and operational roadmap for moving a new-product project from idea to launch.
- The Stage-Gate® process is divided into a series of Stages (activities) and Gates (decision points).

Stages consist of a set of cross-functional, parallel activities within a project. In order to proceed from one stage to the next, these activities must be successfully completed and confirmed by passing a gate.

Gates are passed during gate review meetings
- Decision is made to either continue or stop a project based on whether a set of predefined Gate criteria have been met
- Gates serve as quality control checkpoints
- Gates decide the path forward for a project, including resource commitments
- Gate decisions are based on
  - the set of deliverables from the preceding stage
  - a set of criteria/questions/metrics used to evaluate the project and its deliverables

Gate decisions:
- Continue to the next stage
- “Kill” the project
- Hold or “freeze” the project
- Recycle the project (re-scope and restart)
Generic Stage-Gate® Process

Discovery

Idea Screen

Scoping

G1

Go To Development

Build Business Case

G2

Second Screen

Go To Development

Development

G3

Go To Testing

Testing & Validation

G4

Go To Launch

Launch

G5

Post-Launch Review
Stage-Gate® Process

- Conceptual and operational roadmap for moving a new-product project from idea to launch.
- Provides a framework for better management of product development projects.
- Provides correct and relevant information for business decisions.
- Ensures that the line organization is actively involved in the project and that the project status is made visible for all project stakeholders.
- Based on the experiences, suggestions and observations of a large number of managers and firms in over 60 cases as observed by Robert Cooper.
The ABB Gate Model

The ABB Gate Model has eight defined gates for controlling a project from a business point of view, each with a certain purpose as shown below.

<table>
<thead>
<tr>
<th>G0</th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>G4</th>
<th>G5</th>
<th>G6</th>
<th>G7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Project</td>
<td>Start Planning</td>
<td>Start Execution</td>
<td>Confirm Execution</td>
<td>Start Introduction</td>
<td>Release</td>
<td>Close Project</td>
<td>Retrospective Investigation of Project</td>
</tr>
</tbody>
</table>
ABB’s Gate Assessment Process

Gate Assessor
Gate Checklist
Project Manager

Gate Owner
Gate Meeting Participants

Gate Assessment

Gate Meeting

Cancel project
GO
Continue project (with or without changes)

Gate cannot be passed

Gate Assessment Report
Benefits of the Stage-Gate® Process

- Accelerates speed-to-market
- Increases likelihood of product success
- Introduces discipline into an ordinarily chaotic process
- Reduces re-work and other forms of waste
- Improves focus via gates where poor projects are killed
- Fosters promotion of innovative ideas
- Achieves efficient and effective allocation of scarce resources
- Ensures a complete process – no critical steps are omitted
CMMI

“Consists of best practices that address development and maintenance activities that cover the product lifecycle from conception through delivery and maintenance.”

Helps “organizations improve their development and maintenance processes for both products and services.”

CMMI can help:

- set process improvement goals and priorities
- provide guidance for quality processes
- provide a yardstick for appraising current practices

Provide a framework for benchmarking among and across organizations
Benefits of CMMI

- Increases the likelihood of meeting cost, schedule, and performance goals
- Enhances collaboration with external stakeholders
- Helps organizations define common, integrated processes for system development
- Encourages proactive management techniques
- Establishes disciplined, repeatable processes rather than chaotic, ad-hoc product development cycles
How CMMI and Stage-Gate® Complement Each Other

- CMMI best practices support the activities occurring during the stages

![Diagram showing the integration of CMMI and Stage-Gate processes.]
How CMMI and Stage-Gate® Complement Each Other

- Stage-Gate® provides a strong business decision and innovation focus not present in the CMMI

  Market Analysis
  Competitor Monitoring
  Business Case Development
  Intellectual Property Issues
How CMMI and Stage-Gate® Complement Each Other

- CMMI provides more detail on best practices – especially within the Process Management and Support process area categories.
  
  Stage-Gate models tend to be checklist based – focused on ensuring that criteria have been met.

- CMMI provides guidance on specific practices that help organizations successfully achieve the criteria.
Summary

- Businesses combining the use of CMMI and Stage-Gate®
  - Products developed with repeatable, managed processes.
  - Products delivered on-time and within budget
  - Products meet market need
  - Products are profitable for the organization
  - Products represent the highest level of innovation
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