# Excellence Framework for
# New Product Development

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## Why Can I Talk About This?

- **25 years in R&D**
- **Project performance speed records with complex technologies**
  - In defense, 3 year project in 1 ½ years
  - In medical, 18 month project in 11 months
  - In consulting, exposed to stressed projects and help recovery
  - In teaching, 30 industry projects in 3 years with Sr. Design at University of St. Thomas
  - And I have had some bad projects too!
- **Worked on corporate NPD system improvement efforts**
- **Industry survey on NPD**

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# The Problem

- **Development schedule and budget failure at over 70%**
  - Twice the duration
  - Over budget by 50%
- **Marketing failure at over 90%**
- **Your executive team wants to see short ACTUAL project cycle time, not just planned**
  - Instead, they get countless replans and reshuffling of resources.

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# The Present Solution

- **Create a detailed process**
- **Develop specific/ clear deliverables**
- **Hire certified people to bring in professionalism**
- **Require tool usage**
- **Monitor everything very closely**
- **Re-organization**

**More control**

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# The Concern

- **We just institutionalized failure into our company**
  - **And unnecessary complexity**

**Ghoshal, "Bad Management Theories are Destroying Good Management Practices", 2005**

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# Fast Trends

- **We need to be faster**
  - **So we compress things, take short cuts, and hope for the best**
- **Lean – we need to take out waste from what we do**
  - **But what we do is not working**
- **Need integrated, shared learning**
  - **Knowledge data base with massive documents**
- **Remove prototypes**

**Sometimes, fast is slow**

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# Detail Trends

- **We need to be more disciplined**
  - Check every box in the checklist.
  - Use every conceivable tool in the Six Sigma toolbox
- **Need to control the project closely**
  - Add reviews
- **Sometimes, slow is just slow**
  - Does not mean we were more thorough

**Danger in blindly using tools: "everyone else does"**
**"my mentor said I should" or "need to check the box"**

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# General Solutions

- **Stage Gate (control)**
- **Design For Six Sigma (tools)**
- **Toyota Product Development System/ Fast Cycle Time (speed)**
- **Open Innovation (external resources)**
- **Outcome Based Development (big picture)**

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## The Reaction

- **These are not bad ideas, but they are being implemented with a lack of focus**
- **How can NPD be focused if the business is not focused?**

**What known problems are actually being addressed?**

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## What Is Needed

- **A framework for a NPD system**
  - **Guidance**
  - **Focus process in areas of importance for business/ market success ***
  - **Flexibility for the projects to be encountered**

**The 50 page process is not helping create flexibility and creativity**

**\* In UST Senior Design course, industry emphasis on steps varied greatly**

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# The Solution Framework

- **Understand what is important for your business and for your market**
- **Vision of the end state**
- **Understanding the right customers**
- **Risk management/ contingencies**
- **Decision making**
- **Increase the speed… of learning!**
- **Smart prototypes, maximize the learning from each one** Requirements, planning and execution

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# How To Do It

- **Start from where you are at**
  - **Understand your current process, since it got you to where you are at**
- **Do not try to be good at everything, be the best at what is critical for you**
- **Learn from your own internal, best project**
- **Talk to the people who worked on a similar project recently**
  - **Your experience will be special, so not all points will apply… but many will be helpful if you listen**

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# Essential Tools

- **Requirements**
  - **It is often cited that 70% of failures are caused by requirements**
  - **This was the leading "key step" in our January 2011 industry survey**
  - **This is an art, if done well… not just taking notes**
  - **It is either a paragraph in a project management book or something appropriate only for NASA**
- **Technology advancement**
  - **Strategic planning and smart prototypes**
  - **Design Of Experiments (DOE) techniques can be useful**
    - **Parendo, "DOE in New Product Development", 2001**

**Determine the key, essential tools – not the entire list of possible tools**

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# Essential Tools (cont.)

- **Risk assessment and management**
  - **Big picture**
  - **Take credit for work performed**
  - **Parendo, "Is Risk Management Valuable for Me?", 2010**

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# Essential Tools (cont.)

- **Program and project management**
  - **Planning***
    - – **Realistic and comprehensive**
    - – **Takes 20% of schedule to estimate efficiency, and then it is only a lower bound****
  - **Execution***
    - – **To the end vision**
    - – **Dedicated manager is best (from January 2011 Industry survey)**
    - – **Options, decisions, hardware push**

  ***** **Planning and execution were keys from our January 2011 survey**

  ****** **Christensen, "The Costs and Benefits of the Earned Value Management Process", 1998**

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# Business Case

- **Each idea should have it's own business plan… a detailed look at what is going on. If it fits within an existing plan, then explain how and why**
  - **Sometimes, new products will kill the existing business thus people avoid it**
  - **Sometimes, a new product is avoided because it is going to be too small**
- **If the idea does not fit you, then it could be done in another form**

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# People

- **Motivation**
- **Involvement**
- **Communication**
- **Training**
- **Work and organizational structure**
  - **Core team or full team**
  - **More people leads to significantly more communication***
- **Forming the team**
- **Culture**

**\* Harnish, "Creativity and Innovation", 1995**

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# Conclusion

- **These elements can lead to shorter actual project cycle times and achievement of customer goals**
- **Allow experience to drive the process**
- **If you are interested to participate in a follow up, online survey – visit my website**
  - **www.PerrysSolutions.com**
  - **Can also request our quarterly newsletter so you can know when the next survey is taking place**

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