A Practitioner's View of Commercial Business's Desired Value Add from Software Testing

Created for:

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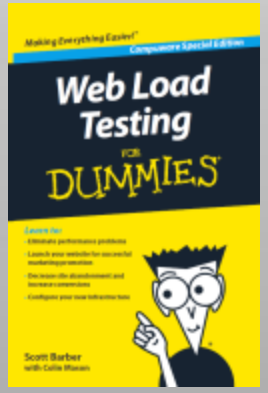

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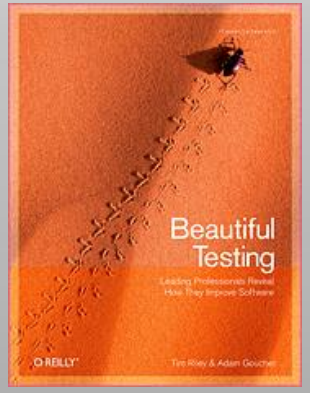


Books: www.perftestplus.com/pubs

About me: about.me/scott.barber

Relevant Background

Son of a Teacher: ***Good Enough*** **vs. Good or Best; Complex Problem Solving**

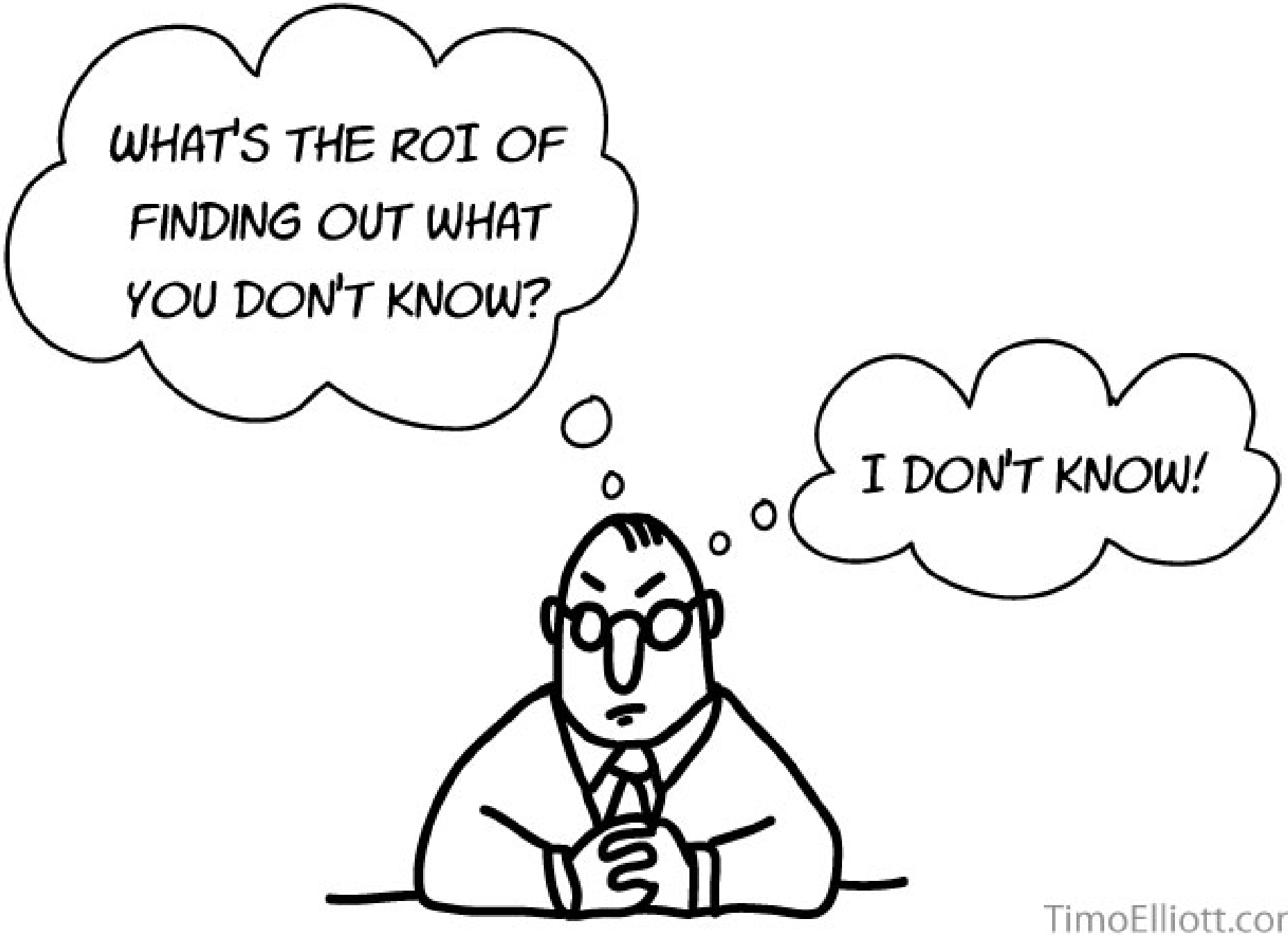
BS Civil Engineering: ***Testing vs. Inspections***; **Project Management;** ***R&D Methods***

Military Officer: **Missions;** ***Risk Management***; **Accountability vs. Responsibility**

Information Engineer: ***Real Value***; **Operational Efficiencies**

MS Information Technology: ***Tech Management***

Business Owner/Executive Consulting: ***Profit***; **Business Decision Making;** ***Executive Expectations***



State of Testing in Industry

Industry values

profit

over

quality

State of Testing in Industry

Industry views quality as an unfortunate, costly, derivative necessity

State of Testing in Industry

Testing

(is currently)

associated

with quality

(in industry)

State of Testing in Industry

Testing

(as an isolated activity)

has no

inherent value

(to industry)

State of Testing in Industry

(In industry,)

The information obtained from testing is

(sometimes)

valuable

State of Testing in Industry

(In industry,)

Business needs outweigh user's preferences

(and tester's desires)

State of Testing in Industry

(In industry,)

Sometimes,

(certain or additional)

testing is more expensive than failing

Bottom Line

Nobody

(in their right mind)

wants to pay for testing

…Especially Business

"Executives and testers agree, the most important problem is testing focused on ensuring that the product **solves the business problem**."

"Most testers ignore (or loosely pay attention to) testing focused on **controlling** operations **costs**. Executives think this testing activity is important."

"Executives largely don't care about testing to ensure that they are compliant with **regulations**."

"Executives want fast and **scalable solutions** to business problems that **don't cost a lot to run or maintain**."

*From "How Founders Think About Testing" by Mike Kelly, STPCon, 2011

Remember, Businesses Know

Therefore…

If you think you can convince an executive that s/he wants to pay for testing…

Therefore…

… you are likely

Overly

Optimistic

or just plain

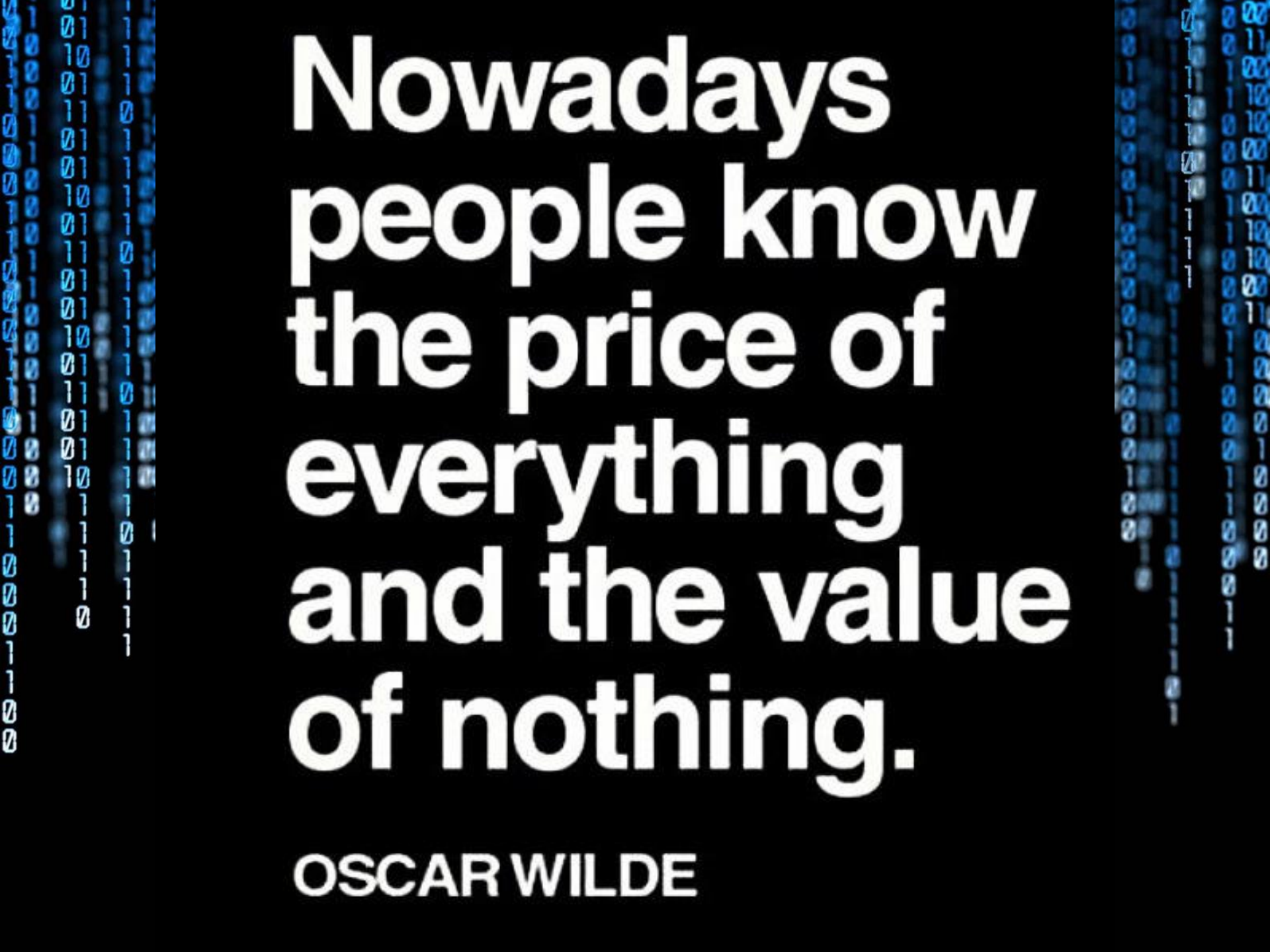
Wrong

However…

Industry

(is usually)

willing to pay for value


Nowadays people know the price of everything and the value of nothing.
OSCAR WILDE

Testing is *not* a Product*

**Unless you sell Testing Services*

In industry, testing is one or more of:

- **An Information Service** *(optional expense)*
- A Risk Management Tool *(optional expense)*
- **A Risk Mitigation Method** *(optional expense)*
- A Compliance Mandate *(unfortunate expense)*
- **A way to spread blame** *(just sad)*

Therefore…

(In Industry)
Testing Adds Value by:

- Providing as much information as possible…
- … at a reasonable cost…
- … to stakeholders involved with developing, customizing, implementing, assessing, managing, and/or making business decisions…
- … related to the (potential) product,
- … where that information allows the product to generate, protect, or support revenue ***sooner, cheaper and/or better***…
- … ***than if testing was *not* done.***

In Other Words,

Industry Values Testing:

While developing/enhancing MVPs/products that:

- **Is transparent to executives**
- **Reduces the time/expense to market**
- **Minimizes “out of development” fixes/support**

Separate from (possibly concurrent with) development to:

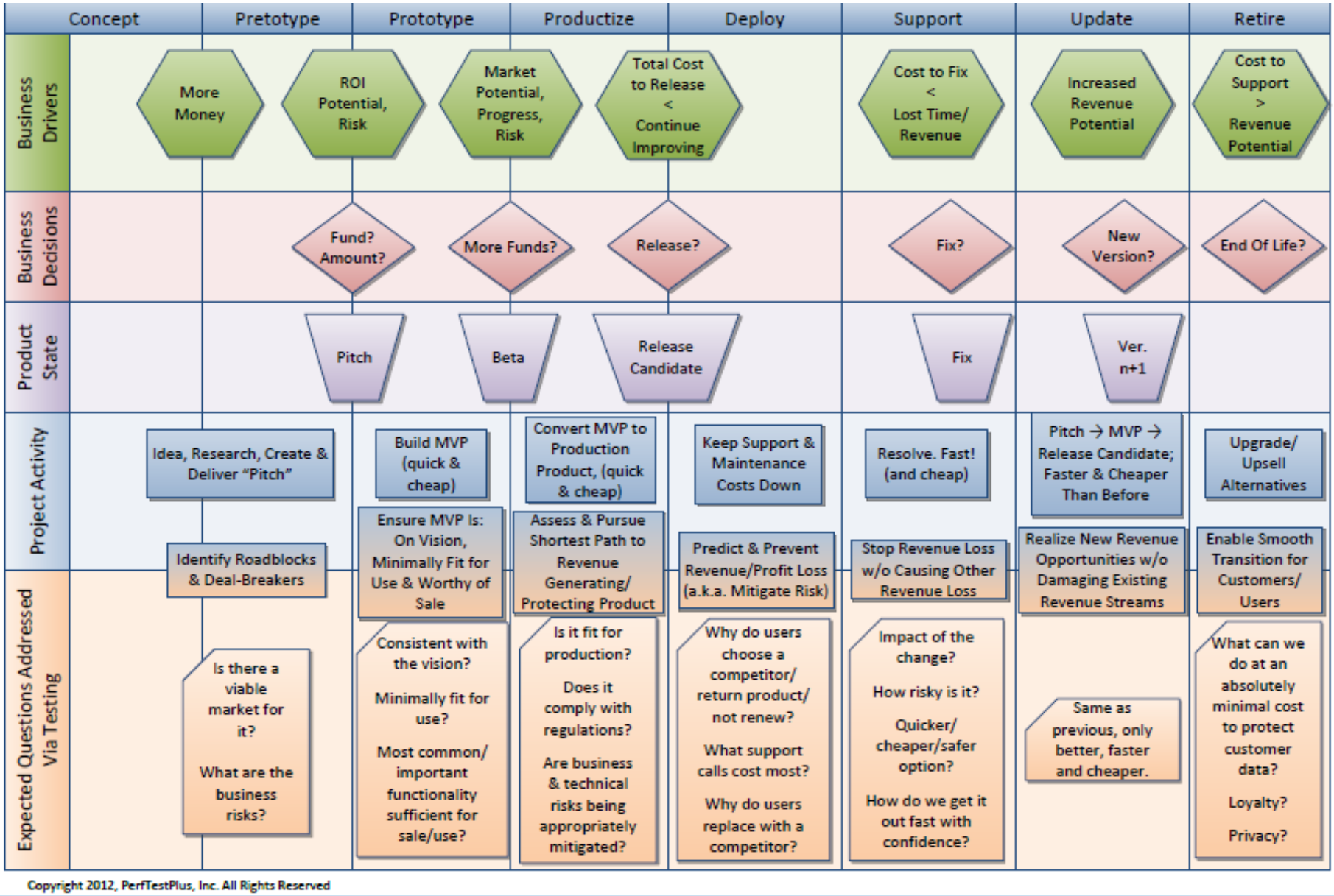
- **Assess/enhance fitness for use**
- **Assess/enhance value to the user/customer**

On release candidates that is:

- **Required by external, oversight/compliance groups**
- **Necessary for safety, security or support**

To assess/manage/mitigate business risk

Business Value of Testing



*Large view http://www.perftestplus.com/resources/Business_View_of_Test.pdf

“4 Core” Testing Areas

Development

Fitness for Purpose

Compliance

Business Risk

Each of These Areas…

Employ different testing approaches, such as:

- **White box, Unit, Component, etc.**
- **Business Rules, Usability, Acceptance, etc.**
- **V&V, Compliance, etc.**

Demand different testing skills:

- **Assess/enhance fitness for use**
- **Assess/enhance value to the user/customer**

Deliver different value:

- **Required by external, oversight/compliance groups**
- **Necessary for safety, security or support**

Need different support from academia

Academic Support Ideas (General)

Refine software development/test/delivery models:

- **Software creation is R&D**
- **Embedded system delivery is manufacturing**
- **QA/QC can apply to hardware, but not software**

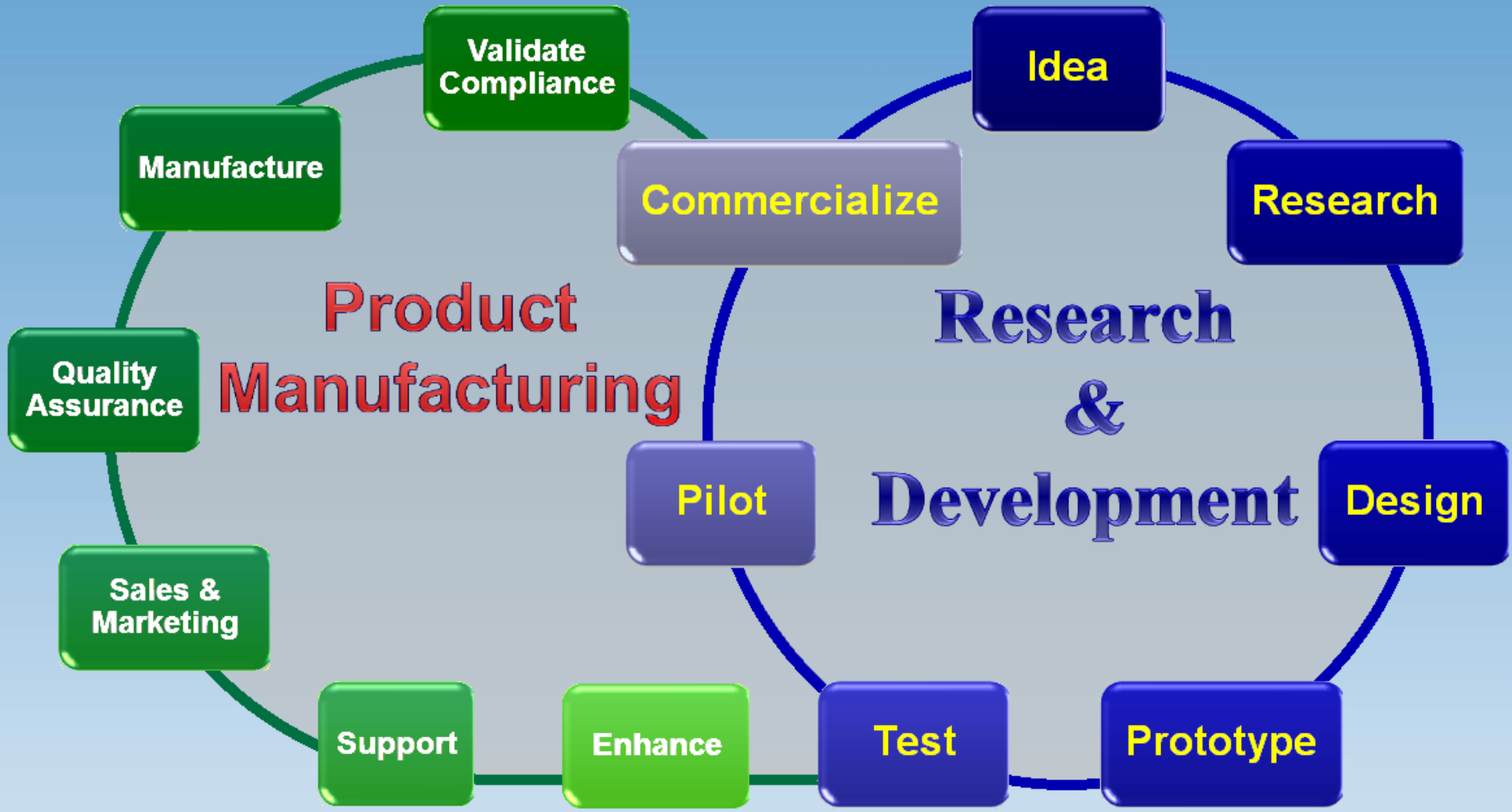
“Take over” entry level credentialing:

- **Professional/Academic Certificates**
- **Minors**
- **Professional Development Courses**

Establish Teaching/Learning Theory for Testing:

- **Testing Design ≈ Experimental Design**
- **Relate to Bloom/Anderson & Krathwal ?**
- **Apply to Practice**

R&D or Manufacturing?



Teaching/Learning Theory

Relationship to Anderson & Krathwal's revision of Bloom's Taxonomy		Cognitive Process Dimension					
		Remember (Knowledge)	Understand (Comprehend)	Apply (Application)	Analyze (Analysis)	Evaluate (Evaluation)	Create (Synthesis)
Knowledge Dimension	Assessment Dimension	System Dimension					
		Static Data & Objects	Dynamic Data & Objects	Interactions & Integrations	Data & Usage Flows	Derived/ Calculated Data & Objects	Fitness For Use
Factual	Informational						
Conceptual	Progress/Completeness						
	Correctness						
Procedural	Auditable						
	Legal						
	Risk-Control						
Meta-Cognitive	Security						
	Performance						

***More Info:**

http://www.perftestplus.com/resources/testing_tasks-n-blooms_taxonomy.pdf

Academic Support Ideas (Development)

Change expectations for development:

- Delivered code should do what it is programmed to
- Delivered code should not have “stop-ship” defects

Demonstrate the value of dev/test collaboration:

- As in “classic” engineering (R&D)
- *Everyone* tests
- What testing is more valuable in this model

Publish industry implementable research:

- Industry needs cost-saving solutions with case studies, not algorithms
- Industry wants demonstrated products & methodologies, not “half-baked open source ideas”

Academic Support Ideas
(Fitness for Purpose)

Demonstrate value of Fitness Testing separate from other testing:

- **Fitness must focus on utility & value, not defect hunting**
- **Defect hunting is more efficient within R&D**

Demonstrate long-term reductions in support costs with effective Fitness Testing

- **“Everyone” talks about cost reduction through bug finding/resolution**
- **“No one” is talking about cost reduction by delivering products that solve customer problems & are easy to use.**

Academic Support Ideas (Compliance)

Expose weaknesses, misunderstandings & waste:

- **In existing regulations**
- **Help industry remove “no-value added” compliance demands**

Expose unnecessary costs in antiquated methods:

- **Paper & signature vs. digital accountability**
- **Rigid process audits that discourage continuous improvement**

Academic Support Ideas
(Business Risk)

Educate CS/IS/IT students in business risk management:

- **How & why it is done, adds value & relates to software**

Expose the difference between testing and risk management:

- **Testing exposes p/f, good/bad, correct/incorrect**
- **Risk management exposes potential expense (e.g.)**

Joint research with MBA types:

- **How to account for/reduce cost of testing**
- **Maximize value from investment in testing**

Refer to Chapter 16: ***Rightsizing the Cost of Testing: Tips for Executives***

http://www.perftestplus.com/Rightsizing_the_Cost_of_Testing.pdf

Academic Support Ideas
(Bonus)

Contact me if you are interest in research related to system performance & testing

Questions?

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