CECS 434 SWE – Project Plan/Control Wk #15 vLect 4/27

o31.1.4 The Project [Plan + Control]

Plan, Track and Adjust the project – to hit the Project Triangle Estimates

The Problem with Projects – Exposed

** **Capers Jones-04 Study**

250 large SW projects from 1998-2004

o- **10%** = 25 **within plan (AKA original Estimate: Time, Budget, Features)**

o- 20% = **within 35% over** the plan (AKA **overran** by up to 1/3rd)

o- **70% = failed, or nearly (AKA > 35% overrun, but got more money)**

-------- So 30% success or "modest" overrun.

o Subjective, but in line with Capers Jones reports.

Standish Group's Chaos Report

Avg findings: Win=30% Poor=50% Fail=20%

Standish Group's Chaos Report (at a glance); www.projectsmart.co.uk

Measure	1994	1996	1998	2000	2002	2004	2006	2009
Successful	16%	27%	26%	28%	34%	29%	35%	32%
Challenged	53%	33%	46%	49%	51%	53%	46%	44%
Failed	31%	40%	28%	23%	15%	18%	19%	24%

[from www.infoq.com/articles/standish-chaos-2015/]

Measure of success: (Old Success || plus New Extra Success criteria)

on Time, on Budget, on Target || on Goal, User Value and User Satisfaction

UPSHOT: Avg findings: Win=30% Poor=50% Fail=20%

MODERN RESOLUTION FOR ALL PROJECTS

	2011	2012	2013	2014	2015
SUCCESSFUL	29%	27%	31%	28%	29%
CHALLENGED	49%	56%	50%	55%	52%
FAILED	22%	17%	19%	17%	19%

The Modern Resolution (OnTime, OnBudget, with a satisfactory result) of all software projects from FY2011-2015 within the new CHAOS database. Please note that for the rest of this report CHAOS Resolution will refer to the Modern Resolution definition not the Traditional Resolution definition.

PMI == Project Management Institute

Success == met Project Triangle Estimates

onTime, onBudget, onTarget/Features (**nox** Triple Constraints; Iron Triangle)

Best Chance of a Successful Project: o0. **Small** Project Size = Low cplxty

o1. Use Mostly **COTS**

o2. "Modernize an existing system" – AKA **Port** to new "foundation"

CHAOS RESOLUTION BY PROJECT SIZE

	SUCCESSFUL	CHALLENGED	FAILED
Grand	2%	7%	17%
Large	6%	17%	24%
Medium	9%	26%	31%
Moderate	21%	32%	17%
Small	62%	16%	11%
TOTAL	100%	100%	100%

The resolution of all software projects by size from FY2011–2015 within the new CHAOS database.

Upshot: #1: G-row=10%,30%,60%; S-row=70%,20%,10% #2: Win S/G=30x

CHAOS RESOLUTION BY AGILE VERSUS WATERFALL

SIZE	METHOD	SUCCESSFUL	CHALLENGED	FAILED
All Size Projects	Agile	39%	52%	9%
	Waterfall	11%	60%	29%
Large Size Projects	Agile	18%	59%	23%
	Waterfall	3%	55%	42%
Medium Size Projects	Agile	27%	62%	11%
	Waterfall	7%	68%	25%
Small Size Projects	Agile	58%	38%	4%
	Waterfall	44%	45%	11%

The resolution of all software projects from FY2011–2015 within the new CHAOS database, segmented by the agile process and waterfall method. The total number of software projects is over 10,000.

xx

More from Chaos Rpt 2011-2015

Factors of Project Success (AKA Things that seem to "Cause" Failure)

o- 10 Items; First 5 Items are 70% of "estimated responses"

15% Executive Support: [C-Level believes project success is valuable to Biz] when an executive or group of executives agrees to provide both financial and emotional backing. The executive(s) will encourage and assist in the successful completion of the project.

15% Emotional Maturity: [Team vs Group – are they friendly/helpful toward each other] collection of basic behaviors of **how people work together**. In any group, organization, or company it is both the sum of their skills and the "weakest link that determine the level" of emotional maturity.
For mgrs: "managing expectations", consensus building, and collaboration.

15% User Involvement: [Early User Feedback is essential to correct course] users are involved in the project decision-making and information-gathering process. This also includes user feedback, requirements review, basic research, prototyping, and other consensus-building tools **(eg incremental delivery)**.

15% Optimization: [Alignment = Project "is Aligned" with Biz Values/Goals] a structured means of improving business effectiveness and optimizing a collection of many small projects or major requirements. Optimization starts with managing scope based on relative business value.

10% Skilled staff: [competent non-strong staff] understand both the business and the technology. Highly proficient in execution of the project req'ts and delivery of the project. (Better to **invest in people**, even tho it takes time, than to invest **in tools** – Project Mgmt tools, or complicated dev tools required by policy.)

Also-rans – Not as important

8% SAME (Standard Architectural Mgmt Environment): consistent group of integrated practices, services, and products for developing, implementing, and operating software applications. (helps cuz same tools & procedures)

7% Agile proficiency: (to avoid Agile project failure) the agile team and the product owner are skilled in the agile process. Agile proficiency is the difference between good agile outcomes and bad agile outcomes.

6% Modest execution: (SWE M.O.) having a (**simpler**) process with **few moving parts**, and those parts are automated and streamlined. Modest execution also means using *project management **tools sparingly*** and only a very few features.

5% Project management expertise: application of knowledge, skills, and techniques to project activities in order to meet/exceed stakeholder expectations and produce organization value. (AKA **Manage Expectations**)

4% Clear Business Objectives: understanding of all stakeholders and participants in the business purpose for executing the project. Or the project is aligned with the organization's goals and strategy.

How Does Agile Help?

o- **Fail earlier** ==> less "**sunk cost**"

o- **Restart sooner**; cuz Still have most of budget unspent