Dave's Notes--Did HealthCare.Gov Fail Due to Lack of Traditional, Agile, Lean, or Continuous Integration?

Synopsis

- **HealthCare.Gov was the Perfect Storm of an Overscoped Acquisition, Immense System Complexity, Little IT Experience, Outdated Methodology, Arcane Contractors, and Late Testing** (*Saved by a Small Tiger Team*)

Most Frequently Cited Problem

- **Use of late, traditional big-bang integration testing** (*vs. fully-automated Continuous Integration early and often*).

(**Continuous Integration**--*Complete system test every 10 minutes from start to end as requirements coded one-at-a-time* ...)

Most Obvious Problem

- **Overblown 55-contractor acquisition team**.

Miscellaneous Facts

- CGI is CMMI Level 5 (*Canadian owned contractor*).
- CGI wins right to bid on IDIQ task orders (*circa 2007*).
- CGI wins delivery task order (*September 30, 2011*).
- CMS claimed site failed for lack of funding.
- HHS took years to issue final specifications (*and was unusually slow*).
- CGI started actual development late (*circa Spring 2013, six months before delivery*).
- HHS Deputy CIO said 30% to 40% of the system had yet to be built in November 2013 (i.e., *35% of requirements unsatisfied*).
- CGI claimed CMS was the lead acquisition organization (*and was responsible for its success or failure*).
- CGI claimed CMS acted as the PMO and integrator (*and problems stemmed from the way CMS managed the acquisition*).
- HHS claimed CGI was the lead integrator (*and neither HHS nor CMS were in-charge of integration at any time*).
- White House internal report claimed CMS needed more experience (*managing large and complex IT acquisitions*).
- New York Times reported CMS Deputy CIO had no IT acquisition background (i.e., *training, experience, or education*).
- Business Insider claimed CGI and its subsidiary AMS had a long and storied history (*of very poor acquisition performance*).
- Some claim CGI's front-end had a high degree of transparency (*while its critical backend was a proprietary secret*).
- CGI claimed it was only responsible for the front-end GUI (*and CMS was responsible for the backend, which HHS denied*).
- Contractors claimed subsystem components were tested in isolation (*and CMS failed to institute early integration testing*).
- New York Times reported HealthCare.Gov contained 500 million lines of software source code (*probably not*).
- *Sanity Check* (*500 million lines of code couldn't be produced in 6 months using a waterfall or agile process*).
- New York Times claimed CMS changed the system requirements seven times (*in the last 10 months of the project*).
- CGI claimed big-bang integration testing began two weeks before delivery (i.e., *integration saved for the last minute*).
- *Sanity Check* (*big-bang integration testing is a common cause of project and contract failure in traditional and agile projects*).
- CMS involved a total 55 contractors during final integration and testing (*including CGI Federal*).
- System testing continued throughout month of October (*after HealthCare.Gov went public*).
- President Obama fired CGI Federal on January 10, 2014 (*and no one in HHS or CMS lost their job or resigned*).
- *Sanity Check* (*HealthCare.Gov was a small acquisition gone awry vs. agencies with dozens of larger failed acquisitions*).

Traditional vs. Agile Debate

- Many journalists and Web articles blamed traditional methods (i.e., *a linear waterfall and CMMI-based methodology*).
- Agile pundits claim Agile and Scrum could have saved HealthCare.Gov (*had they been used from the start*).
- Government Computer News claimed CGI used an Agile/Scrum methodology (*after examining its project documentation*).
- A Lean pundit claimed Kanban was used to save HealthCare.Gov (*from a bad Agile or Scrum implementation*).
- *Sanity Check* (*Traditional and agile projects fail when testing is saved until the end and Continuous Integration is not used*).

How HealthCare.Gov was Saved

- President Obama assembled a small tiger team of half a dozen Silicon Valley experts to fix HealthCare.gov (*on Oct. 24, 2013*).
- The tiger team fixed the Healthcare.Gov website in only one month (*which included Google, Red Hat, and Oracle experts*).
- The tiger team used Agile-like processes (i.e., *small team, collocation, daily standups, prioritized backlog, daily testing, etc.*).
- The tiger team was empowered to make all decisions (*i.e., only developers allowed to speak in daily standup meetings*).
- The tiger team reprioritized the product backlog on a daily basis (*after utilizing a three-question daily standup meeting*).
- *Sanity Check* (*the small size was the key to the $500,000 tiger team's success, doing what 55 firms didn't do for $700 million*).

Other Media Reports

- **Washington Post** (*Full Testing Of HealthCare.gov Began Too Late, Contractors Say*).
- **New York Times** (*Contractors Describe Limited Testing of Insurance Web Site*).
- **Los Angeles Times** (*Health Website Contractors Acknowledge Late Changes, Limited Tests*).
- **Wall Street Journal** (*Botched Launch Of Health Site Blamed On Poor Coordination*).
- **Associated Press** (*Obama Admin. Left Little Time For Testing Health Care Site And Made Late Changes*).
- **Reuters** (*Contractors Describe Scant Pre-Launch Testing Of U.S. HealthCare Site*).
- **McClatchy** (*Contractors Say Late Changes, Lack Of Testing Doomed Health Care Website Launch*).
- **Fox News** (*Contractors Point Fingers Over ObamaCare Botch, Blame Gov't For Poor Testing*).

Various Cost Estimates of HealthCare.Gov

- CGI claimed they were paid $70 million (*initially*).
- GAO claimed up to $394 million (*for all contracts*).
- Some estimated $350 million (*for the website*).
- A modest estimate was $125 to $150 million (*for the website*).
- CGI Federal had been paid $112 million (*for the website*).
- The U.S. government obligated $196 million (*to CGI in total*).
- CGI's payout could have been as much as $154 million (*in total expenses*).
- Congress said CGI contract was worth $292 million (*in total value*).
- Kathleen Sebelius said $118 million had been spent (*on the website*).
- A total of $174 million may have been spent (*including other contracts*).
- Kathleen Sabelius later claimed HHS spent $319 million (*on the website*).
- Kathleen Sabelius later said a total of $677 million had been obligated (*to all contracts*?).

All HealthCare.Gov Cost Estimates (*sorted from lowest to highest*)

- **$70 million** (*CGI*).
- **$112 million** (*CGI*).
- **$125 million** (*Unknown*).
- **$150 million** (*Unknown*).
- **$174 million** (*Unknown*).
- **$196 million** (*CGI*).
- **$292 million** (*Congress*).
- **$319 million** (*Sabelius*).
- **$350 million** (*Unknown*).
- **$394 million** (*GAO*).
- **$677 million** (*Sabelius*).

Average HealthCare.Gov Cost Estimate

- ***$260 million***.

Miscellaneous Notes (*Is HHS playing "Where's the Baby?"*)

- ***HHS may be hiding total costs*** (*behind CGI*).
- ***For example, CGI may get $154 million*** (*in the end*).
- ***HHS may have spent up to $523 million*** (*before CGI payout*).

Data Sources

- *Code Red -- Obama's Trauma Team -- How an unlikely group of high-tech wizards revived Obama's troubled HealthCare.gov website*
  http://time.com/#10228/obamas-trauma-team
- *How much did HealthCare.gov cost?*
  http://www.washingtonpost.com/blogs/fact-checker/wp/2013/10/24/how-much-did-healthcare-gov-cost
- *Meet CGI Federal, the company behind the botched launch of HealthCare.gov*
  http://www.washingtonpost.com/blogs/wonkblog/wp/2013/10/16/meet-cgi-federal-the-company-behind-the-botched-launch-of-healthcare-gov
- *CGI Contract*
  http://www.scribd.com/doc/176565745/CGI-Contract
- *The firm behind HealthCare.gov had top-notch credentials -- and it didn't help*
  http://www.computerworld.com/s/article/9244923/The_firm_behind_Healthcare.gov_had_top_notch_credentials_and_it_didn_t_help
- *Don't Go Chasing Waterfalls: A More Agile HealthCare.gov*
  http://www.newyorker.com/online/blogs/elements/2013/10/healthcaregov-should-have-been-more-agile.html
- *HealthCare.gov: What went wrong?*
  http://gcn.com/Articles/2013/10/22/healthcaregov-woes.aspx
- *How federal cronies built -- and botched -- HealthCare.gov*
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- *Lead HealthCare.gov IT Contractor Gets the Boot: Why Contractor Oversight and Proper Planning Are Key to Effective Government*
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  http://www.businessinsider.com/heres-what-went-wrong-with-the-federal-contract-for-healthcaregov-2013-12
- *Debugging the HealthCare.gov Hearings*
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- *Media got it wrong: HealthCare.gov failed despite agile practices*
  http://gcn.com/blogs/reality-check/2013/11/healthcare-agile.aspx
- *Capitol Hill Testimony: Testing Started Too Late, Was Limited*
  http://www.kaiserhealthnews.org/Daily-Reports/2013/October/25/website-contractors-testify-on-Cap-Hill.aspx
- *From the Start, Signs of Trouble at Health Portal*
  http://www.nytimes.com/2013/10/13/us/politics/from-the-start-signs-of-trouble-at-health-portal.html
- *Lessons Learned from the HealCare.gov Rollout*
  http://www.npengage.com/nonprofit-technology/lessons-learned-from-the-healthcare-gov-rollout
- *CMS Has Implemented Processes to Oversee Plan Finder Pricing Accuracy and Improve Website Usability*
  http://www.gao.gov/assets/670/660081.pdf