HOW DO YOU ESTIMATE THE ROI OF AGILE SOFTWARE REQUIREMENTS?

There are a number of important issues to consider with respect to estimating ROI of IT systems (*in the past, present, and future*) ...

1. **Let's examine a couple of HISTORICAL views**:

- IT costs outweigh benefits (i.e., *it costs MORE to develop an IT system than the IT can return*).
- This isn't a bad assumption, because about 30% to 60% worldwide projects fail (*so you'll lose about 45 cents on every IT dollar*).
- IT is NOT strategic (i.e. *IT increases operational efficiency and productivity, but IT is a commodity or utility with fractional returns*).

(*Now, that we have the PESSIMISTIC view out of the way, let's go on to classical ROI, i.e., also remember Agile projects are three times more successful than traditional projects out-of-the-box, so this must be factored into the pessimistic view ...*)

2. **In CLASSICAL ROI, one merely forecasts projected windfalls** (i.e., *revenue or profit from a new IT system, capability, or requirement*):

- Let's say, I'm going to make a new database system UPGRADE (*that will yield $10 million a year over five years*).
- That is, the upgrade will cost $10 million (*but the revenues will gain $50 million, so the ROI is 400%*).
- Therefore, you can say that a 50 to 150 system requirements yield $40 million.

3. **There are other ESOTERIC WAYS to estimate business value** (*that are perfectly acceptable*):

- Will it reduce operating costs (*and by how much*)?
- Will it increase productivity (*and by how much*)?
- Will it increase morale and decrease attrition (*and by how much*)?
- Will a bank give me an operating loan (*and how much*)?
- Will venture capitalists give me some money (*and how much*)?
- Will I gain market share or customers (*and how much*)?
- Will I capture a new market (*and how much is it worth*)?
- Will I get more patents, trademarks, copyrights, and other intellectual capital (*and how much is it worth*)?
- Will I simply get more contracts, consulting fees, and other service revenues (*and how much are they worth*)?
- Will I enhance my reputation, brand equity, popularity, identify, or recognition (*and how much is it worth*)?

(*For instance, a firm determined a city needed a pager. Marketing estimated the value to be $100 billion. So, the firm invested $10 billion in a pager for the city. That is how they estimated ROI, i.e., marketing, market sizing, and sales forecasting. In another case, Vermeer technologies borrowed several million dollars to enter the IT market. Then, they sold their business to Microsoft for $500 million. ROI was about 40:1, i.e., they gained $40 for every $1 spent in development. Microsoft likewise bought Visio for about $500 million. Fedex field cost a mere $250 million to build, but the Redskins make $2 billion a year in revenues, i.e., ROI is about %800 or $8 returned for every $1 spent. What if a campaign website costs $1 million, its candidate wins, and pays off $500 million in loans, i.e., the ROI is 500:1. All very simple economics ...*)

4. **See this ROI TAXONOMY I created** (http://davidfrico.com/cba-tax.pdf):

- The first challenge is to identify the class of benefit (i.e., *strategic revenue or tactical cost reduction*).
- The second challenge is identify the specific type or types of benefit (*be it strategic or tactical*).
- The third challenge is to MONETIZE the type or types (i.e., *convert it into economic estimates*).

(*For instance, let's say you want to refinance your house. It will cost $3,000 to refinance, but yield $324,000 over 30 years. Therefore, the ROI is about 1,000% or $1,000 saved for every $1 owed. Let's say that you'll turn around $10,000 in annual savings, invest $100,000 in Google stock over 10 years, and yield $1,000,000 in dividends over years 11-20, i.e., you'll yield $10 million for $100,000 investment. The ROI of that is about 1,000% as well. How do you combine the two gains, i.e., 1,000% on refinancing and 1,000% of Google investment? Is that 2,000% or 1,000,000%, i.e., actually, ROI is about 3,333% on the refinance investment ...*)

5. **You could do use several AGILE TECHNIQUES** (*for monetizing the ROI of strategic or tactical benefits*):

- You can use wideband Delphi, sort of like PERT estimating (i.e., *[o + 4m + p]/6*).
- You can use simple planning poker (*to reach consensus on a range of estimates*).
- Here is a technique for estimating strategic benefits (https://ryanshriver.files.wordpress.com/2013/01/measurablevalue.pdf).
- Here is a technique for estimating tactical benefits (http://davidfrico.com/rico08b.pdf).
- Here is a technique for determine value as well (http://www.scaledagileframework.com/wsjf).

There are many TECHNIQUES for estimating ROI (*used by accountants, finance experts, economists, cost engineers, and estimators*) ***and most IT folks are NOT familiar with them*** (*see these books on the ROI of IT projects*, http://davidfrico.com/sw-roi-books.txt) ...

The classical format for Agile requirements is, "As a <type of user> I can <perform some function> so that I can <obtain something of value>" (i.e., *as a moviegoer I can purchase a ticket on my smartphone so I can purchase two $10 tickets each week • If the average movie gets 100,000 viewers at $10 a ticket 52 times per year, then the value of that requirement is $520 million for 100% of the market • However, if you have 20% of the market share for online tickets, then the value of that requirement to us is only $140 million • If the cost of implementing that requirement is $1.4 million, then the ROI of that requirement is 1,000% or $1,000 returned for every $1 invested*).

Here's another good example, "As a government contractor I can get CMMI Level 3 certified at a cost of $4.5 million to win a $450 million government contract" (i.e., *the ROI is $1,000% • Maybe you do some risk analysis and determine the worst case scenario is you lose the PRIME contract, but get a subcontract worth $45 million • In that case, the ROI is 100% or only $100 returned for every $1 invested • This is irrespective of whether the IT system itself yields any value at all, because the IT system could be a failure since most gov't contracts do not yield any value, but you contract will pay you anyway • However, let's say you LEARN how to build Mongo Databases on a failed contract, but use that intellectual capital to win $1 billion worth of new IT contracts, so the $4.5 million invested in a failed prime bid yields $1 billion at the cost to the taxpayer of $45 million • That is, you can factor in the cost of learning at low rates of ROI to gain higher ROI in the future • This is why actors take BIT PARTS in movies for free, so they take a chance on getting recognized, when they can get multimillion contracts, i.e., the ROI for being a broke, unemployed actor is HIGH • It's all a big game, sort of like black magic • Are you a magician?*).

(*Read this technical note on quantitative vs. qualitative arguments*, http://davidfrico.com/value-of-right-vs-left-brained-arguments.pdf ...)