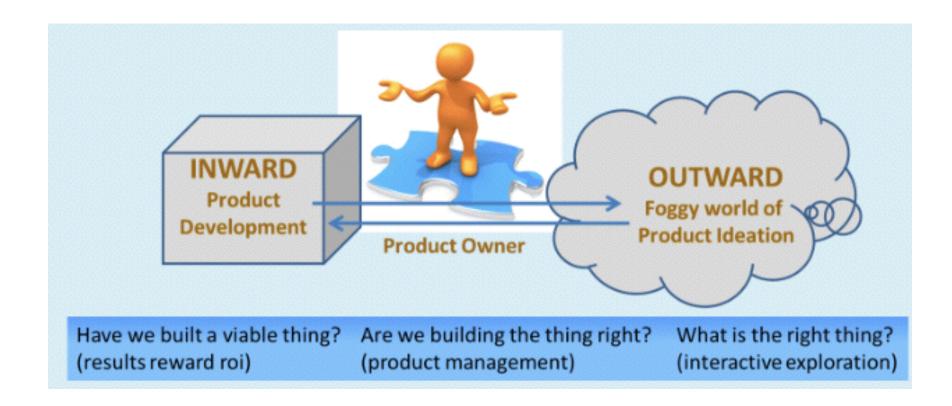
Advanced

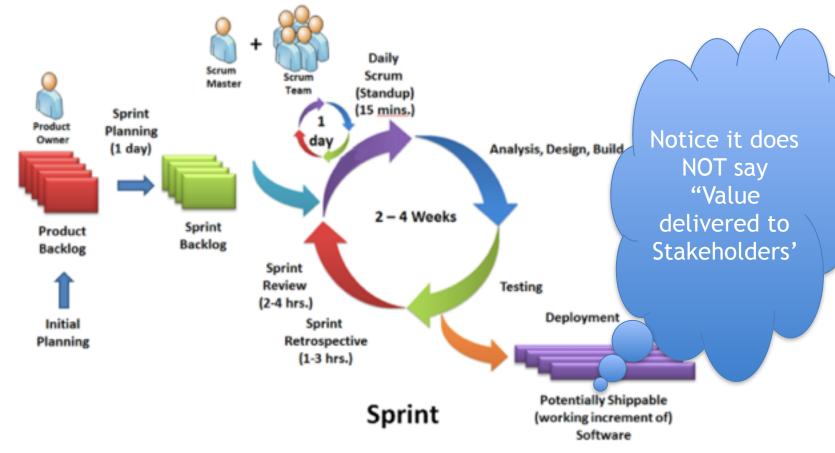
# Process Owner Paper at gilb.com/dl799 All Gilb's 11 Agile Mythodology Columns <u>tínyurl.com/GílbMyth</u>

Tom Gilb MASTER 5 minute Lightning Talk

## Basic Product Owner Concept



#### Product Owner as Input to Scrum Team



Copyright © 2011, William B. Heys

#### Input sources to P.O. Stakeholders and Business Owner



http://www.executivebrief.com/agile/how-to-scrum/s 10 April 2014 Copyright Tom@Gilb.com 2014

#### Requirements and Design: *Related but Separated* and Specialized 'Engineering' Processes

**Stakeholders** 

(as source of all requirements)

- Requirements Engineer
  - Architecture
  - Engineer
    - 'Backlog'
    - Test Engineer
- Business Owner
- As Funder and Sponsor
  - Users and Customers
  - (as recipients of VALUE from system)

#### Advanced 'Product Owner' and the 'Value Options List' (VOLare!)

#### **Stakeholders**

|   |   | (as source of a    | II requirements)                       |
|---|---|--------------------|--|
| • |   | R                  | equirements                            |
| • |   |                    | Engineer                               |
|   | • |                    | Architecture                           |
|   | • |                    | Engineer                               |
|   |   | •                  | Value Options List                     |
|   |   | •                  | With Value/cost + info                 |
|   |   | •                  | Dev Team (s)                           |
|   |   | •                  | Prioritize Value options to real Value |
|   |   |                    | Targets                                |
|   | • | Test Engineer      | U                                      |
| • |   | Bus                | siness Owner                           |
| • |   | As Fu              | nder and Sponsor                       |
|   | • |                    | Users and Customers                    |
|   | • | (as recipientsof \ | /ALUE from system)                     |
|   |   |                    |  |



## Advanced: = 'Evo' Agile Method \*



#### <u>Advanced</u> Product Owner

- Value Focussed
- Real Engineering
- Requirements = Value
- Stakeholder Focussed (all 50+ !)
- Qualities Focussed (all 30)
- Measurable Value Stream
- Architecture Engineering

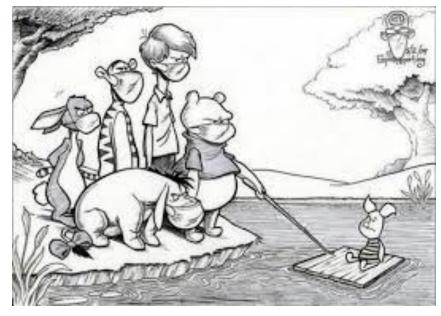
Conventional 'Product Owner'

- Code Focussed
- Craft ('Softcraft')
- Reqts = Function, Story
- User Customer Focussed (all 2)
- Bug Focussed (not even MTBF)
- Code Stream
- No clear design concept

\* CE book, Chapter 10: Evolutionary Project Management: http://www.gilb.com//tiki-download\_file.php? file1d=77ril 2014 Copyright Tom@Gilb.com 2014 7

### POo (A Wave to Milne)

- The 'Owner of Product,' made stories
- So that Burndown was ferocíous velocítíes
- But the Value delivered
- Made Stakeholders so shivered
- That the Owner turned into a Loner



## **Cheers Milne!**

- There once was a 'soft engineer'
- Who knew no 'complexity fear'
- He sorted a project
- That beggared his logic
- So, 'Done'!
  - who's having a beer



## Last Slide

Want the detail free?

- Email me
  - Tom @ Gilb . Com
  - -Subject: BOOK
  - -And or
  - -Subject: COURSES

Book For Mature IT Engineers Not For Softcrafters



# The Policy

- Advanced Product Owner' Policy: System
   'Requirements Engineer' (RE).
  - <u>Background</u>: this policy defines the expectations for a 'Product Owner' (PO) for serious, critical, large, and complex systems.
    - This implies that it is not enough to manage a simple stream (Backlog) of 'user stories' fed to a programming team.
    - It is necessary to communicate with a systems engineering team, developing or maintaining the 'Product'.
      - System implies management of all technological components, people, data, hardware, organization, training, motivation, and programs.
      - Engineering: means systematic and quantified, 'real' engineering processes, where proactive design is used to manage system performance (incl. all qualities) attributes and costs.

# 1. COMPLETE REQUIREMENTS:

- The RE (Requirements Engineer) is responsible for absolutely all requirements specification that the system must be aware of, and be responsible for to all critical or relevant stakeholders.
  - In particular, the RE is
    - not narrowly responsible for requirements from users and customers alone.
    - They are responsible for all other stakeholders,
      - » such as operations, maintenance, laws, regulations, resource providers, and more.

### 2. QUALITY REQUIREMENTS:

- The RE is **responsible for the quality level**, *in relation to official standards*, of all requirements they transmit to others.
  - They are consequently responsible for making sure the quality of incoming raw requirements, needs, values, constraints etc. is good enough to process. No GIGO.
  - If input is not good quality,
    - they are responsible for making sure it is better quality,
    - or at least clearly annotated where there is
      - » doubt, incompleteness, ambiguity and any other potential problems, they cannot resolve yet.

# 3. ARCHITECTURE:

- The Requirements Engineer is NOT responsible for any architecture or design process itself.
  - This will be done by professional engineers and architects.
- They are however very much responsible for a complete and intelligible quality set of requirements,
  - transmitted to the designers and architects.
- The are also responsible for transmitting qualitycontrolled architecture or design specifications to any relevant system builders.
  - These are the designs which are input requirements to builders. Effectively they are 'design constraints requirements'.

# 4. Priority Information:

- The Requirements Engineer is NOT responsible for *prioritization* of requirements.
- Prioritization is done dynamically
  - at the project management (PM) level,
  - based on prioritization signals in the requirements,
  - and on current feedback and experience in the value delivery cycles (Sprints).
- The primary responsibility of the Requirements Engineer,
  - is to systematically and thoroughly collect and disseminate all relevant priority signals, into the requirement specification;
  - so that intelligent prioritization can be done at any relevant level, and at any time.

## End of Summary in Detail

## The Long Version of the Talk for those who want detail that cannot be given in 5 minutes

#### ADVANCED PRODUCT OWNER Col. 12

GILBS MYTHODOLOGY COLUMN Agile Record 18 Feb 2014 We are going to argue that the normally defined role of Product Owner (PO) is inadequate for projects that have serious multiple quality requirements, and consequent architecture processes, to deliver the necessary levels of performance and quality.

#### http://www.gilb.com/dl799

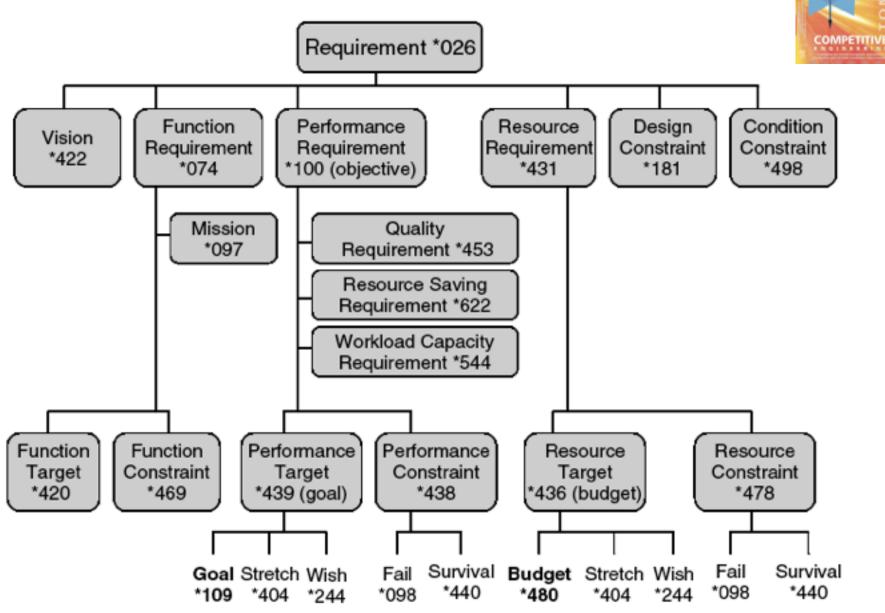
# The Policy

- Advanced Product Owner' Policy: System
   'Requirements Engineer' (RE).
  - <u>Background</u>: this policy defines the expectations for a 'Product Owner' (PO) for serious, critical, large, and complex systems.
    - This implies that it is not enough to manage a simple stream (Backlog) of 'user stories' fed to a programming team.
    - It is necessary to communicate with a systems engineering team, developing or maintaining the 'Product'.
      - System implies management of all technological components, people, data, hardware, organization, training, motivation, and programs.
      - Engineering: means systematic and quantified, 'real' engineering processes, where proactive design is used to manage system performance (incl. all qualities) attributes and costs.

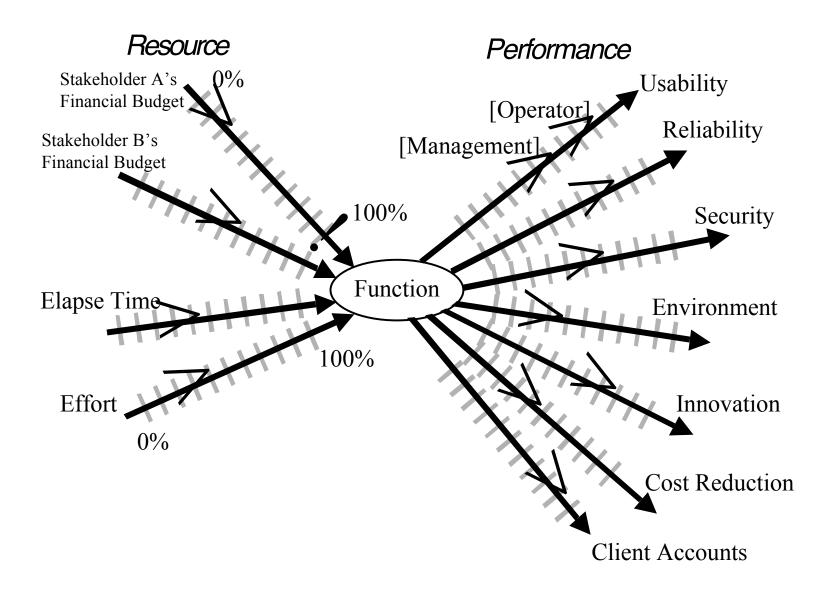
# 1. COMPLETE REQUIREMENTS:

- The RE (Requirements Engineer) is responsible for absolutely all requirements specification that the system must be aware of, and be responsible for to all critical or relevant stakeholders.
  - In particular, the RE is
    - not narrowly responsible for requirements from users and customers alone.
    - They are responsible for all other stakeholders,
      - » such as operations, maintenance, laws, regulations, resource providers, and more.

#### Rich and Complete Requirement Concepts

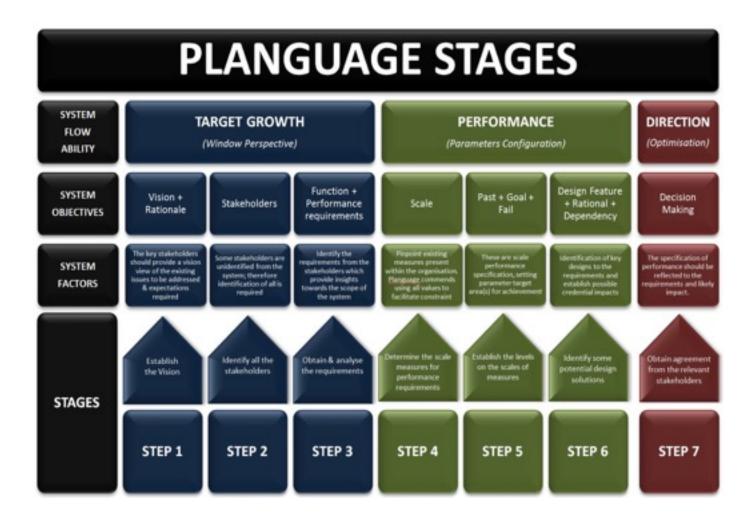


<u>Multiple</u> Required Performance and Cost Attributes are the basis for architecture selection and evaluation



#### Planguage stages

Man-Chie Tse1,2 & Ravinder Singh Kahlon 1,2 {Man-Chie, Ravi}@dkode.co



#### EVO Plan Confirmit 8.5 in Evo Step Impact Measurement

#### 4 product areas were attacked in all: 25 Qualities concurrently, one quarter of a

year. Total development staff = 13

Impact Estimation Table: Reportal codename "Hyggen"

| Current<br>Status | Improve | ments | Reportal - E-SA                               | T features                            | 2          |      | Current<br>Status | Improv  | ements |                            |            |           |
|-------------------|---------|-------|---|---------------------------------------|------------|------|-------------------|---------|--------|----------------------------|------------|-----------|
| Units             | Units   | %     | Past  | Tolerable                             | Goal       |      | Units             | Units   | %      | Past                       | Tolerable  | Goal      |
|                   |         |       | Usability.Intuitivness (%)                    |                                       |            |      |                   |         |        | Backwards.Compatibility    | (%)        | -         |
| 75,0              | 25.0    | 62,5  | 50  | 75                                    | 90         |      | 83,0              | 48,0    | 80,0   | 40                         | 85         | 95        |
|                   |         |       | Usability.Consistency.Visu                    | al (Elemer                            | nts)       |      | 0.0               | 67.0    | 100.0  | 67                         | 0          | 0         |
| 14.0              | 14.0    | 100,0 | 0   | 11                                    |            |      |                   |         |        | Generate.WI.Time (small/   | medium/lar | ge second |
|                   |         |       | Usability.Consistency.Inter                   | action (Co                            | mponents   |      | 4.0               | 59.0    | 100.0  | 63                         | 8          | 4         |
| 15.0              | 15.0    | 107.1 | 0   | 11                                    |            |      | 10.0              | 397.0   | 100.0  | 407                        | 100        | 10        |
|                   |         |       | Usability.Productivity (minu                  | utes)                                 |            |      | 94.0              | 2290.0  | 103,9  | 2384                       | 500        | 180       |
| 5.0               | 75.0    | 96.2  |   | 5                                     | 2          |      |                   |         |        | Testability (%)            | 1          |           |
| 5.0               | 45.0    | 95.7  |   | 5                                     | 1          |      | 10.0              | 10.0    | 13.3   |                            | 100        | 100       |
|                   |         |       | Usability.Flexibility.OfflineR                | enort Exp                             | ortFormate |      |                   |         |        | Usability.Speed (seconds   |            |           |
| 3.0               | 2.0     | 66.7  |   | 3                                     | 4          |      | 774.0             | 507.0   | 51.7   | 1281                       | 600        | 300       |
| 0,0               | 2,0     |       | Usability.Robustness (erro                    | (rs)                                  |            |      | 5.0               | 3.0     |        |                            | 5          | 7         |
| 1.0               | 22.0    | 95.7  |   | 1                                     | 0          |      | 5.0               | 0.0     | 00,0   | Runtime.ResourceUsage.     | Hemony     | 1.        |
| 1,0               | 22,0    | 35,1  | Usability.Replacability (nr o                 | ffeatures                             |            |      | 0.0               | 0.0     | 0.0    |                            | 2          | 2         |
| 4.0               | 5.0     | 100.0 |   | c                                     |            | -    | 0,0               | 0.0     | 0,0    | Runtime.ResourceUsage.     | CDU        | · ·       |
| 4,0               | 5.0     | 100,0 | <ul> <li>Usability.ResponseTime.Ex</li> </ul> | S S S S S S S S S S S S S S S S S S S | t (min es  |      | 24                | 35      | 97.2   |                            |            | 2         |
| 1.0               | 12.0    | 150.0 |   | фоннер                                | c (min es  |      | 3,0               | 35      | 31,2   | Runtime.ResourceUsage.     | 3          |           |
| 1,0               | 12.0    | 150,0 | Usability.ResponseTime.Vi                     | 13                                    |            | 1 65 | u 😂 – a 🎜         | 800     | 100.0  |                            | MemoryLe   | ак<br> о  |
| 1.0               | 14.0    | 100.0 |   | ewkepc                                | seco 3)    |      |                   | 000     | 100,0  |                            | 10         | ~         |
| 1,0               | 14.0    | 100,0 | 15  |                                       | - H X H    | HX H | V acd             | VI. U X | 146.7  | Runtime.Concurrency (nu    | -          | 1         |
| 203.0             |         |       | Development resources                         |                                       |            |      |                   |         | 140,7  |                            | 500        | 1000      |
| 203,0             |         |       | 0   |                                       |            |      |                   |         |        | Development resources      |            |           |
|                   |         |       |   |                                       |            | 1    | 2                 |         |        |                            |            |           |
| Current<br>Status | Improve |       | Reportal - MR                                 |                                       |            | H    | urent             |         |        | V1.8 14/-6                 | Cardinar   |           |
| Units             | Units   | %     |   | Tolerable                             |            |      | t aus             | Improv  | ements | XML Web                    | Services   |           |
| 1.0               | 10      | 50.0  | Usability.Replacability (feat                 |                                       |            | VI   |                   |         |        | Deat                       | Tolerable  | Cont      |
| 1,0               | 1,0     | 50,0  |   | 13                                    | 12         |      | Units             | Units   | %      | Past                       |            |           |
|                   | 15.0    | 440.5 | Usability.Productivity (minu                  |                                       |            |      |                   |         |        | TransferDefinition.Usabili | -          | 1         |
| 20,0              | 45,0    | 112,5 |   | 35                                    | 25         |      | 7,0               | 9,0     | 81,8   |                            | 10         | 5         |
|                   |         |       | Usability.ClientAcceptance                    | (features                             |            |      | 17,0              | 8,0     | 53,3   |                            | 15         | 10        |
| 4,4               | 4,4     | 36,7  | -   | 4                                     | 12         |      |                   |         |        | TransferDefinition.Usabili | ty.Respons |           |
|                   |         |       | Development resources                         |                                       |            |      | 943,0             | -186,0  | ****** |                            | 60         | 30        |
| 101.0             |         |       | 0   |                                       | 86         |      |                   |         |        | TransferDefinition.Usabili |            |           |
|                   |         |       |   |                                       |            |      | 5,0               | 10,0    | 95,2   | 15                         | 7,5        | 4,5       |
|                   |         |       |   |                                       |            |      |                   |         |        | Development resources      |            |           |
|                   |         |       |   |                                       |            |      | 2.0               |         |        | 0                          | 1          | 48        |



9

10 April 2014

3

8

#### Real Bank Project : Project Progress Testability Quantification of the most-critical project objectives on day 1

| <u>P&amp;L-Consistency&amp;T P&amp;L</u> : Scale: total adjustments btw Flash/Predict and Actual (T+1) signed off P&L. per day. Past 60 Goal: 15   | Front-Office-Trade-Management-Efficiency_Scale: Time from Ticket  |
|--|---|
| <u>Speed-To-Deliver</u> : Scale: average Calendar days needed from New Idea Approved until Idea Operational, for given Tasks, on given Markets.  | Launch to trade updating real-time risk view<br>Past [20xx, Function = Risk Mgt, Region = Global] ~ 80s +/- 45s ??<br>Goal [End 20xz, Function = Risk Mgt, Region = Global] ~ 50% better?<br>Managing Risk - Accurate - Consolidated - Real Time  |
| Goal [Deadline =End 20xz, Market = EURex, Task =Bond Execution] 5<br>days  | <b><u>Risk.Cross-Product Scale</u>:</b> % of financial products that risk metrics<br>can be displayed in a single position blotter in a way appropriate for<br>the trader (i.e around a benchmark vs. across the curve).<br><b>Past</b> [April 20xx] 0% 95%. <b>Goal</b> [Dec. 20xy] 100%   |
| economic difference between OUR CO and Marketplace/Clients, is<br>less than "1 Yen"(or equivalent).<br>Past [April 20xx] 10% change this to 90% NH Goal [Dec. 20xy] 100%   | <b><u>Risk.Low-latency</u> Scale:</b> number of times per day the intraday risk<br>metrics is delayed by more than 0.5 sec. <b>Past</b> [April 20xx, NA] <b>1% Past</b><br>[April 20xx, EMEA] ??% <b>Past</b> [April 20xx, AP] 100% <b>Goal</b> [Dec. 20xy] <b>0%</b><br>Risk.Accuracy  |
| Operational-Control.Consistent: Scale: % of defined [Trades] failing<br>full STP across the transaction cycle. Past [April 20xx, Trades=Voice<br>Trades] 95%<br>Past [April 20xx, Trades=eTrades] 93%<br>Goal [April 20xz, Trades=Voice Trades] <95 ± 2%><br>Goal [April 20xz, Trades=eTrades] 98.5 ± 0.5 %  | Risk. user-configurable Scale: ??? pretty binary - feature is there or<br>not - how do we represent?<br>Past [April 20xx] 1% Goal [Dec. 20xy] 0%<br>Operational Cost Efficiency Scale: <increased (straight<br="" efficiency="">through processing STP Rates )&gt;<br/>Cost-Per-Trade Scale: % reduction in Cost-Per-Trade<br/>Goal (EOY 20xy, cost type = I 1 - REGION = ALL) Reduce cost by 60%</increased>   |
| <u>Operational-Control.Timely.End&amp;OvernightP&amp;L</u> Scale: number of<br>times, per quarter, the P&L information is not delivered timely to the<br>defined [Bach-Run].<br>Past [April 20xx, Batch-Run=Overnight] 1 Goal [Dec. 20xy, Batch-<br>Run=Overnight] <0.5> Past [April 20xx, Batch-Run= T+1] 1 Goal [Dec.<br>20xy, Batch-Run=End-Of-Day, Delay<1hour] 1<br><u>Operational-Control.Timely.IntradayP&amp;L</u> Scale: number of times per<br>day the intraday P&L process is delayed more than 0.5 sec.<br>Operational-Control.Timely.Trade-Bookings Scale: number of trades<br>per_day that are not booked on trade date. Past [April 20xx] 20 ?  | (BW)<br>Goal (EOY 20xy, cost type = I 2 - REGION = ALL) Reduce cost by x %<br>Goal (EOY 20xy, cost type = E1 - REGION = ALL) Reduce cost by x %<br>Goal (EOY 20xy, cost type = E 2 - REGION = ALL) Reduce cost by 100%<br>Goal (EOY 20xy, cost type = E 3 - REGION = ALL) Reduce cost by x %  |
| Idea Approved until Idea Operational, for given Tasks, on given<br>Markets.<br>Past [2009, Market = EURex, Task =Bond Execution] 2-3 months ?<br>Goal [Deadline =End 20xz, Market = EURex, Task =Bond Execution] 5<br>days<br>Operational-Control: Scale: % of trades per day, where the calculated<br>economic difference between OUR CO and Marketplace/Clients, is<br>less than "1 Yen"(or equivalent).<br>Past [April 20xx] 10% change this to 90% NH Goal [Dec. 20xy] 100%<br>Operational-Control.Consistent: Scale: % of defined [Trades] failing<br>full STP across the transaction cycle. Past [April 20xx, Trades=Voice<br>Trades] 95%<br>Past [April 20xx, Trades=eTrades] 93%<br>Goal [April 20xz, Trades=eTrades] 93%<br>Goal [April 20xz, Trades=eTrades] 98.5 ± 0.5 %<br>Operational-Control.Timely.End&OvernightP&L Scale: number of<br>times, per quarter, the P&L information is not delivered timely to the<br>defined [Bach-Run].<br>Past [April 20xx, Batch-Run=Overnight] 1 Goal [Dec. 20xy, Batch-<br>Run=Overnight] <0.5> Past [April 20xx, Batch-Run=T+1] 1 Goal [Dec.<br>20xy, Batch-Run=End-Of-Day, Delay<1hour] 1<br>Operational-Control.Timely.IntradayP&L Scale: number of times per<br>day the intraday P&L process is delayed more than 0.5 sec.<br>Operational-Control.Timely.Trade-Bookings Scale: number of trades | Goal [End 20xz, Function = Risk Mgt, Region = Global] ~ 50% better?<br>Managing Risk - Accurate - Consolidated - Real Time<br>Risk.Cross-Product Scale: % of financial products that risk metrics<br>can be displayed in a single position blotter in a way appropriate for<br>the trader (i.e around a benchmark vs. across the curve).<br>Past [April 20xx] 0% 95%. Goal [Dec. 20xy] 100%<br>Risk.Low-latency Scale: number of times per day the intraday risk<br>metrics is delayed by more than 0.5 sec. Past [April 20xx, NA] 1% Pas<br>[April 20xx, EMEA] ??% Past [April 20xx, AP] 100% Goal [Dec. 20xy] 09<br>Risk.Accuracy<br>Risk. user-configurable Scale: ??? pretty binary - feature is there or<br>not - how do we represent?<br>Past [April 20xx] 1% Goal [Dec. 20xy] 0%<br>Operational Cost Efficiency Scale: <increased (straight<br="" efficiency="">through processing STP Rates )&gt;<br/>Cost-Per-Trade Scale: % reduction in Cost-Per-Trade<br/>Goal (EOY 20xy, cost type = I 1 - REGION = ALL) Reduce cost by 60%<br/>(BW)<br/>Goal (EOY 20xy, cost type = I 2 - REGION = ALL) Reduce cost by x %<br/>Goal (EOY 20xy, cost type = E 2 - REGION = ALL) Reduce cost by x %<br/>Goal (EOY 20xy, cost type = E 2 - REGION = ALL) Reduce cost by x %<br/>Goal (EOY 20xy, cost type = E 2 - REGION = ALL) Reduce cost by x %</increased> |

## **Detailed Example**

- Operational-Control.<u>Consistent</u>:
  - –Scale: % of defined [Trades] failing full STP across the transaction cycle.
  - Past [April 20xx, Trades=Voice Trades] 95%
     Past [April 20xx, Trades=eTrades] 93%
  - Goal [April 20xz, Trades=Voice Trades] <95 ± 2%>
     Goal [April 20xz, Trades=eTrades] 98.5 ± 0.5 %

#### Impacts On ... The Requirements in Planguage Man-Chie Tse 1,2 & Ravinder Singh Kahlon 1,2

{Man-Chie, Ravi}@dkode.co

|     | Impacts<br>[Functions]                          | Impacts<br>[Intended Performance Requirements]                                   | Impacts<br>[Intended Scale]   | Impact Past  | Impact<br>Tolerable | Impact<br>Goal |
|-----|---|--|---|--|---------------------|----------------|
| 11  | Enter Content [Consumer]<br>request details     | Efficiency. Effort Saving, Reduce Time for [User] to<br>produce request          | Average time taken for define<br>[request type: default=user]           | [<2012, HH, User, 180<br>minutes]                        | 30 minutes          | 5 minutes      |
| 12  | Submit [Content] Request                        | Efficiency. Effort Saving, Reduce Time for [User] to<br>enter request            | Average time taken for define<br>[request type: default=user]           | [<2012, HH, User, 30 minutes]                            | 15 minutes          | 10 minutes     |
| 13  | Process a [User] Request                        | Efficiency. Elapse Time Saving. Reduce [TIME] to<br>process user request         | Average time taken for define<br>[request type: default = processor]    | [<2012, HH, User, 70 minutes]                            | 30 minutes          | 15 minutes     |
| 14  | Usability.[Sheet] Type                          | Average Number of [Sheet] Completed Manually<br>Monthly                          | 1412 sheets   | (<2012, HH, Completed<br>Sheets, 1412)                   | 1000 lines          | 850 lines      |
| 15  | Usability. Reduce number of<br>Content (Errors) | Average Number (Errors) of Content   | 353 errors per week   | [<2012, HH, User, 353 per<br>week]                       | 100 per<br>week     | 30 per week    |
| 16  | Update.[Process] rules                          | Efficiency. Elapse Time Saving, Reduce [TIME] to<br>update the rules             | Average time taken for [Content Validation]                             | [<2012, HH, Verifier, 50<br>minutes ]                    | 35 minutes          | 20 minutes     |
| 17  | Distribution [Location]                         | Accessibility. Elapse Time Saving, Increase the<br>information flow distribution | Number of sheets distributed  | [<2012, HH, Send Information<br>[Physical]<br>location ] | 20 wards            | Anywhere       |
| 18  | Distribution [Accessibility]                    | Accessibility. Elapse Time Access  | System access volume  | [<2012, HH, Open Time, Sam<br>- 5pm]                     | 9am – 12pm          | Anytime        |
| 19  | Notification.[Query Calls]                      | Notification. Elapse Change Over [Query Calls]                                   | [Decrease the number of query calls]                                    | [<2012, Calls Measure, 85%<br>Volume ]                   | 40%                 | 10%            |
| 110 | Update.[Connect Content]<br>Rules               | Efficiency, Elapse Time Saving, Reduce [Time] taken to produce label             | Average [time] taken  | [<2012, HH, Producer,<br>Processing, 10 minutes]         | 6 minutes           | 2 minutes      |
| 111 | Time. Costing to [Retrieve]                     | Cost. Cost Saving, Reduce cost in retrieval of<br>information                    | Average [time] taken  | [<2012, HH, User, 240<br>minutes<br>searching time]      | 60 minutes          | 15 minutes     |
| 112 | Time (File)                                     | Efficiency. Efficiency Saving, Reduce time taken to file                         | Average [time] taken  | [<2012, HH, Administrator, 30 minutes]                   | 15 minutes          | 3 minutes      |
| 113 | Time.[Leam]                                     | Learn ability. Elapse Time Learning. Reduce Time on<br>Training                  | Average time taken for [request<br>type: default=user] to learn process | [<2012, HH, Learner, 1 day]                              | 4 hours             | 1 hour         |

### 2. QUALITY REQUIREMENTS:

- The RE is **responsible for the quality level**, *in relation to official standards*, of all requirements they transmit to others.
  - They are consequently responsible for making sure the quality of incoming raw requirements, needs, values, constraints etc. is good enough to process. No GIGO.
  - If input is not good quality,
    - they are responsible for making sure it is better quality,
    - or at least clearly annotated where there is
      - » doubt, incompleteness, ambiguity and any other potential problems, they cannot resolve yet.

Source Eric Simmons, erik.simmons@intel.com 25 Oct 2011 Personal Public Communication

# A Recent Example

Application of Specification Quality Control by a SW team resulted in the following defect density reduction in requirements over several months:

| Rev.      | # of<br>Defects | # of<br>Pages | Defects/ Page<br>(DPP) | % Change in<br>DPP |
|-----------|-----------------|---------------|------------------------|--------------------|
| 0.3       | 312             | 31            | 10.06                  |                    |
| 0.5       | 209             | 44            | 4.75                   | -53%               |
| 0.6       | 247             | 60            | 4.12                   | -13%               |
| 0.7       | 114             | 33            | 3.45                   | -16%               |
| 0.8       | 45              | 38            | 1.18                   | -66%               |
| 1.0       | 10              | 45            | 0.22                   | -81%               |
| Overall 9 | -98%            |               |                        |                    |

Downstream benefits:

Scope delivered at the Alpha milestone increased 300%, released scope up 233%
SW defects reduced by ~50%

•Defects that did occur were resolved in far less time on average

10 April 2014

Copyright Tom@Gilb.com 2014

# 3. ARCHITECTURE:

- The Requirements Engineer is NOT responsible for any architecture or design process itself.
  - This will be done by professional engineers and architects.
- They are however very much responsible for a complete and intelligible quality set of requirements,
  - transmitted to the designers and architects.
- The are also responsible for transmitting qualitycontrolled architecture or design specifications to any relevant system builders.
  - These are the designs which are input requirements to builders. Effectively they are 'design constraints requirements'.

### Impact Estimation Elements

Man-Chie Tse1,2 & Ravinder Singh Kahlon 1,2 {Man-Chie, Ravi}@dkode.co



### **Architecture Specification Rules**

from CE Book Ch. 7

7.4 Rules: Design Specification

**R8: IE table:** The set of design idea specified to meet a se of requirements should be validated at an early stage by using an Impact Estimation (IE) table.

| Strategies  | Identify Binding<br>Compliance<br>Requirements<br>Strategy | System Control<br>Strategy  | System<br>Implementation<br>Strategy | Find Services<br>That Meet Our<br>Goals Strategy | Use The Lowest<br>Cost Provider<br>Strategy |  |
|---|--|-----------------------------|--------------------------------------|--|---|--|
| Geals   |  | Strate                      | aies                                 |  |   |  |
| Security<br>Administration<br>Compliance<br>25% • 90%         | 100%   | 100%                        | 100%                                 | 50%  | 0%  |  |
| Security<br>Administration<br>Performance<br>24 hrs  → 4 hrs  | 75%  | 100%                        | 100%                                 | 100%   | 0%  |  |
| Security<br>Administration<br>Availability<br>10 hrs + 24 hrs | 0%   | ors.                        | oacts<br>**                          | 100%   | 0%  |  |
| Security<br>Administration<br>Cost<br>100% → 60%              | 50%  | 100%                        | 100%                                 | 100%   | 100%  |  |
| Total Percentage<br>Impact                                    | 225%   | 300%                        | 300%                                 | 350%   | 100%  |  |
| Evidence  | ISAG Gap<br>Analysis Oct-03                                | John Collins                | John Collins                         | John Collins                                     | John Collins                                |  |
| Cost to<br>Implement<br>Strategy                              | 15 man days<br>(US\$ 5,550)                                | 15 man days<br>(US\$ 5,550) | 15 man days<br>(US\$ 5,550)          | 15 man days<br>(US\$ 5,550)                      | 1man day (USS<br>1,110)                     |  |
| Credibility   | 0.9  | 0.6                         | 0.6                                  | 0.75   | 0.9   |  |
| Cost Adjusted<br>Percentage<br>Impact                         | 202.5%   | 180%                        | 180%                                 | 262.5%   | 90%   |  |

#### Acer Project: Impact Estimation Table



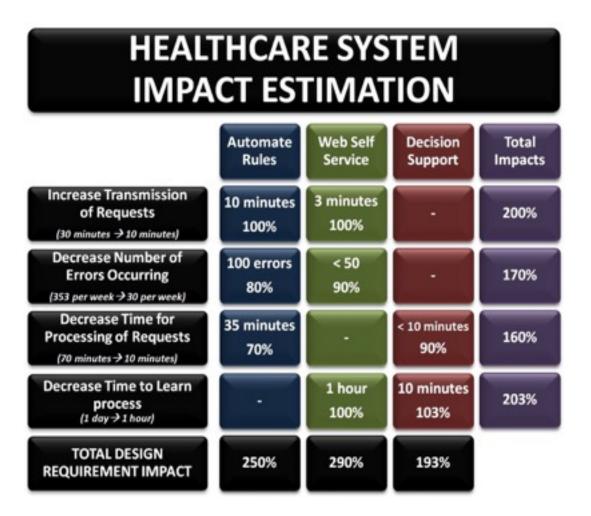
#### Impact Estimation: Value-for-Money Delivery Table



|                                   |            |           | -      |        |            | STATE.      | is of |
|-----------------------------------|------------|-----------|--------|--------|------------|-------------|-------|
| STRATEGIES ->                     | Technology | Business  | People | Empow- | Principles | Business    | SUM   |
|                                   | Investment | Practices |        | erment | of IMA     | Process Re- |       |
| OBJECTIVES                        |            |           |        |        | Management | engineering |       |
| Customer Service                  | 50%        | 10%       | 5%     | 5%     | 5%         | 60%         | 185%  |
| ?→0 Violation of agreement        |            |           |        |        |            |             |       |
| Availability                      | 50%        | 5%        | 5-10%  | 0      | 0          | 200%        | 265%  |
| 90% → 99.5% Up time               |            |           |        |        |            |             |       |
| Usability                         | 50%        | 5-10%     | 5-10%  | 50%    | 0          | 10%         | 130%  |
| 200 → 60 Requests by Users        |            |           |        |        |            |             |       |
| Responsiveness                    | 50%        | 10%       | 90%    | 25%    | 5%         | 50%         | 180%  |
| $70\% \rightarrow ECP$ 's on time |            |           |        |        |            |             |       |
| Productivity                      | 45%        | 60%       | 10%    | 35%    | 100%       | 53%         | 303%  |
| 3:1 Return on Investment          |            |           |        |        |            |             |       |
| Morale                            | 50%        | 5%        | 75%    | 45%    | 15%        | 61%         | 251%  |
| 72 → 60 per mo. Sick Leave        |            |           |        |        |            |             |       |
| Data Integrity                    | 42%        | 10%       | 25%    | 5%     | 70%        | 25%         | 177%  |
| 88% → 97% Data Error %            |            |           |        |        |            |             |       |
| Technology Adaptability           | 5%         | 30%       | 5%     | 60%    | 0          | 60%         | 160%  |
| 75% Adapt Technology              |            |           |        |        |            |             |       |
| Requirement Adaptability          | 80%        | 20%       | 60%    | 75%    | 20%        | 5%          | 260%  |
| ? → 2.6% Adapt to Change          |            |           |        |        |            |             |       |
| Resource Adaptability             | 10%        | 80%       | 5%     | 50%    | 50%        | 75%         | 270%  |
| 2.1M → ? Resource Change          |            |           |        |        |            |             |       |
| Cost Reduction                    | 50%        | 40%       | 10%    | 40%    | 50%        | 50%         | 240%  |
| FADS → 30% Total Funding          |            |           |        |        |            |             |       |
| SUM IMPACT FOR EACH               | 482%       | 280%      | 305%   | 390%   | 315%       | 649%        |       |
| SOLUTION                          |            |           |        |        |            |             |       |
| Money % of total budget           | 15%        | 4%        | 3%     | 4%     | 6%         | 4%          |       |
| Time % total work                 | 15%        | 15%       | 20%    | 10%    | 20%        | 18%         |       |
| months/year                       |            |           |        |        |            |             |       |
| SUM RESOURCES                     | 30         | 19        | 23     | 14     | 26         | 22          |       |
| BENEFIT/RESOURCES                 | 16:1       | 14:7      | 13:3   | 27:9   | 12:1       | 29.5 : 1    |       |
| RATIO                             |            |           |        |        |            | ų           | ļ     |
|                                   |            |           |        |        |            |             |       |

### Healthcare Impact Estimation

Man-Chie Tse1,2 & Ravinder Singh Kahlon 1,2 {Man-Chie, Ravi}@dkode.co



#### VALUE Decision Tables: Multiple Levels

| Product - Sol       | ution -  | VKoT     | swipe<br>paymer | nts       | econon<br>overvie |           | Netban | k ajax    | Netban<br>server | k         | paymer | payment.tonon(search.contexta |       |           |       |           |
|---------------------|----------|----------|-----------------|-----------|-------------------|-----------|--------|-----------|------------------|-----------|--------|-------------------------------|-------|-----------|-------|-----------|
|                     |          |          |                 |           |                   |           |        |           |                  |           |        |                               |       |           |       |           |
|                     |          |          |                 | 213%      |                   | 208%      |        | 171%      |                  | 175%      |        | 367%                          |       | 194%      |       | 0%        |
|                     |          |          |                 | 52%       |                   | 25%       |        | 38%       |                  | 31%       |        | -37%                          |       | 123%      |       |           |
|                     |          |          |                 | 123%      |                   | 119%      |        | 50%       |                  | 9%        |        | 59%                           |       | 99%       |       |           |
| Value Requi         | remen    | ts       | units           | % of Goal | units             | % of Goal | units  | % of Goal | units            | % of Goal | ພາຮັສ  | % of Goal                     | units | % of Goal | units | % of Goal |
| Snappiness          |          |          | 10              | 71%       | -5                | -36%      | 10     | 71%       | 12               | 86%       | -1     | -7%                           | 14    | 100%      |       |           |
| 85                  | 90       | 99       | 5               |           | 2                 | 14%       | -      | 36%       | 3                | 21%       | 5      | 36%                           |       |           |       |           |
| 5-Dec-13            | 5-Jun-14 | 5-Jun-14 | 0.1             | 7%        | 0.3               | -11%      |        | 50%       | 0.1              | 9%        | 0.1    | -1%                           | 0.5   |           |       |           |
| Reliability         |          |          | 10              | 11%       | 30                | 33%       | 90     | 100%      | 80               | 89%       | -1     | -1%                           | -5    | -6%       |       |           |
| 30                  | 60       | 120      | 1               | 1%        | 7                 | 8%        | 2      | 2%        | 9                | 10%       |        | 2%                            | 1     | 1%        |       |           |
| 5-Dec-13            | 5-Jun-14 | 5-Jun-14 | 0.4             | 4%        | 0.8               | 27%       |        |           |                  |           | 0.7    | -1%                           |       |           |       |           |
| Usability.Intuitive | ness     |          | 40              | 100%      | 80                | 200%      |        |           |                  |           | 30     | 75%                           | 40    | 100%      |       |           |
| 30                  | 40       | 70       | 10              | 25%       | 5                 | 13%       |        |           |                  |           | 10     | 25%                           | 20    | 50%       |       |           |
| 5-Dec-13            | 5-Jun-14 | 5-Jun-14 | 0.9             |           | 0.5               | 100%      |        |           |                  |           | 0.8    | 60%                           | 0.5   | 50%       |       |           |
| Productivity-Task   |          |          | -3              | 30%       | -1                | 10%       |        |           |                  |           | -30    | 300%                          |       |           |       |           |
| 30                  | 25       | 20       | 1               | -10%      | 1                 | -10%      |        |           |                  |           | 10     | -100%                         |       |           |       |           |
| 5-Dec-13            | 5-Jun-14 | 5-Jun-14 | 0.7             | 21%       | 0.3               | 3%        |        |           |                  |           |        |                               |       |           |       |           |
| PV5                 |          |          |                 |           |                   |           |        |           |                  |           |        |                               |       |           |       |           |
| 1                   | 2        | 3        |                 |           |                   |           |        |           |                  |           |        |                               |       |           |       |           |
|                     |          |          |                 |           |                   | _         |        |           |                  | _         |        | _                             |       | _         |       |           |

# 4. Priority Information:

- The Requirements Engineer is NOT responsible for *prioritization* of requirements.
- Prioritization is done dynamically
  - at the project management (PM) level,
  - based on prioritization signals in the requirements,
  - and on current feedback and experience in the value delivery cycles (Sprints).
- The primary responsibility of the Requirements Engineer,
  - is to systematically and thoroughly collect and disseminate all relevant priority signals, into the requirement specification;
  - so that intelligent prioritization can be done at any relevant level, and at any time.

## **Risk Management**

- the Requirements Engineer is NOT responsible for Risk Management
  - But **is** responsible for
    - making sure that all specifications follow guidelines
      - (Rules, Quality Levels) that demand information specified about, or related to, risks and their mitigations.

#### Design Spec Enlarged 2 of 2

| ==== Priority & Risk Management  | <b>Risks:</b> <name any="" could="" estimated="" factors,="" impacts="" of="" or="" refer="" tags="" threaten="" to="" which="" your="">.</name>  |
|--|---|
| <ul> <li>Assumptions: <any assumptions="" been="" have="" made="" that="">.</any></li> <li>A1: FCCP is assumed to not currently exist and i Requirements Spec. &lt;- discussions AH MA JH EC Consequence: FCx impact estimation</li> <li>A2: Costs, the developm different. All will base o and 3 years. The ops cos mm for hardware. MA AH</li> <li>A3:Boss X will continue t A4: the schedule, 3 year we can in fact deliver, 0 budget. If not "I would r</li> <li>A5: the cost of expanding Orbit will not be prohibitive. &lt;- BB 2 dec</li> <li>A6: we have made the assumption that we can integrate Oribit with PX+ in a sensible way, even in the short term &lt;- BB</li> <li>Dependencies: <state a<="" li=""> </state></li></ul> | Risks: <name any="" factors,="" of="" or="" refer="" tags="" th="" to="" which<="">could threaten your estimated impacts&gt;.R1. FCxx is delaye<br/>tsg 2.12R2: the technical<br/>thought &amp; we musRisks specification:<br/>• shares group risk<br/>knowhowRisks specification:<br/>• shares group risk<br/>knowhow• permits redesign to<br/>mitigate the risk<br/>• allows relistic<br/>• stimates of cost and<br/>impactsIssues: <unresolved concerns="" in="" or="" problems="" the<br=""></unresolved>specification or the system&gt;.I1: Do we need to put t<br/>the objectives (Ownersi<br/>a huge differentiator. D<br/>I2: what are the time si<br/>now BB<br/>I3: what will the succes<br/>what we are actually be<br/>H2: for the business oth<br/>a lack of clarity as to w<br/>how they might differ fIssues:<br/>• makes sure we<br/>don't forget to</name> |
| D1: FCxx replaces Fx+ in time. : tsg 2.12<br>10 April 2014 Copyright Tom   | I5: the degree to which analyze later<br><sup>@Gilbcom/214</sup><br>useful without Intra Day. DD 2 dec  |

#### Product:

- The system that delivers the primary critical values to stakeholders. (Tsg 7 dec 2013)

#### Product Owner:

 The instance (person or team) responsible for Effective Communication between all stakeholders, and any technical project, both development and maintenance. (Tsg 7 Dec 2013)

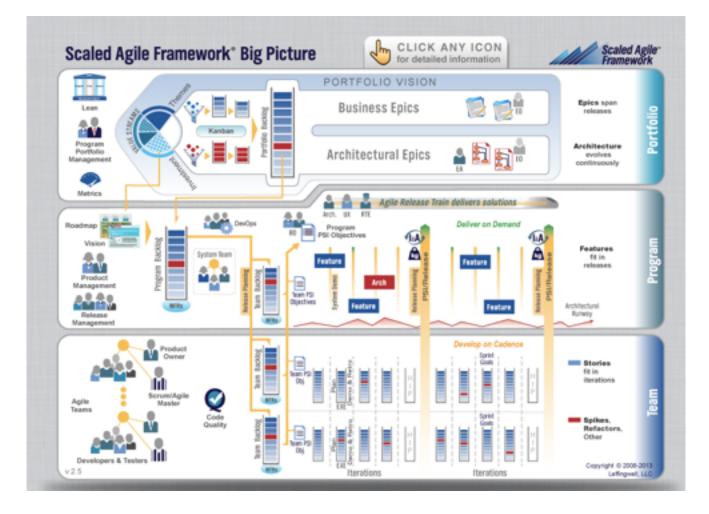
## Effective Communication:

- Two-way communication, between *all* related instances in technical projects, is effective when:
  - 1. Communication is rapid: first try
  - 2. Communication meets relevant standards (Rules, ) including these basic rules.
    - Clear enough to *test*
    - Unambiguous to intended readership
    - Critical variables (esp. qualities) quantified
    - Clear distinction between ends and means
  - 3. Communication is 'relevant'.
    - What stakeholders *really* want
      - » NOT perceived means to their true ends
    - What developers really need to know

## **Priority Signals**

- When Due
- Higher level requirements
- Stakeholders
- Under which conditions
- Constraints
- Residual resources (running out of time, money etc)

# What About scaledagileframework.com ?



### Epic value Statement Format

| Forward-Looking Position Statement |   |  |  |  |  |
|------------------------------------|---|--|--|--|--|
| For                                | <customers></customers>   |  |  |  |  |
| who                                | <do something=""></do>  |  |  |  |  |
| the                                | <solution></solution>   |  |  |  |  |
| is a                               | s a <something-the "how"=""></something-the>  |  |  |  |  |
| that                               | <provides this="" value=""></provides>  |  |  |  |  |
| Unlike                             | <competitor, current="" non-existing="" or="" solution="" solution,=""></competitor,> |  |  |  |  |
| our solution                       | <does "why"="" -="" better="" something="" the=""></does>                             |  |  |  |  |
| Scope                              |   |  |  |  |  |
| Success<br>Criteria:               | ><br>>  |  |  |  |  |
| In Scope:                          | ><br>>  |  |  |  |  |
| Out of Scope:                      | ><br>>  |  |  |  |  |
| NFRs:                              | ><br>>  |  |  |  |  |

## Epic Lightweight Business Case

| Epic Name  | Go or NO<br>Recomm | Go<br>endation:                           | Date entered<br>Backlog:  |   | Analyst<br>Epic Owner: |  |                      |
|--|--------------------|---|---|---|------------------------|--|----------------------|
| Version  |                    | Changes                                   |   |   |                        |  |                      |
| Description of<br>the Epic   |                    | Estimated<br>investment                   | Story points:   |   | Cost:                  |  |                      |
|  |                    | Weighted rating                           | (WSJF) Type of retur  |   |                        | m (Nature of potential return. Revenue,<br>market share, new markets served) |                      |
| Success Criteria   | :                  | In house or<br>outsource<br>development   | (describes recommendations for where the epic is to be developed)   |   |                        |  |                      |
| Stakeholders<br>sponsors   | (Identifie         | Estimated<br>development<br>timeline      | Start Date: Completion date:<br>(Estimated calendar date or number of P   |   |                        |  | e or number of PSIs) |
| Products, programs, service<br>affected  |                    | Incremental<br>Implementation<br>Strategy | (Breaks initiative down into preliminary epics or sub-epics that fit the<br>companies PSI cadence)  |   |                        |  |                      |
|  |                    | Reevaluation<br>checkpoints               | (If the epic is large, identifies potential milestones or checkpoints for reevaluation)   |   |                        |  |                      |
| Impact on sales, o<br>deployment   | distribution       | Analysis<br>summary                       | (Brief summary of the analysis that has been formed to create the business case. Pointers to other data, feasibility studies, models, market analysis, etc. that was used on the creation of the business case) |   |                        |  |                      |
| Attachments Project Stakeholder Needs Assessment (see Chapter<br>System Stakeholder Needs Assessment |                    |   |   | , |                        |  |                      |
|  |                    | Other notes<br>and comments               |   |   |                        |  |                      |

#### 1/2

| Epic Name         | Go or NO Go  |             | Date e       | intered                                     | Analyst  |      |  |  |
|-------------------|--|-------------|--------------|---|--|------|--|--|
|                   | Recommendat  |             |              | 4:  | Epic Owner:  |      |  |  |
|                   |  |             |              |   | spic owner.  |      |  |  |
| Version           |  | Changes     |              |   |  |      |  |  |
| Description of    |  |             |              |   |  |      |  |  |
| the Epic          |  |             |              |   |  |      |  |  |
|                   |  |             |              |   |  |      |  |  |
|                   |  |             |              |   |  |      |  |  |
|                   |  |             |              |   |  |      |  |  |
|                   |  |             |              |   |  |      |  |  |
| Success Criteria  | •  |             |              |   |  |      |  |  |
|                   | •  |             |              |   |  |      |  |  |
|                   |  |             |              |   |  |      |  |  |
| Stakeholders      | (Identifies key  | business sp | ponsors      | who will be sup                             | porting the initiativ  | ve)  |  |  |
| sponsors          |  |             |              |   |  |      |  |  |
| Users and market  | ts affected  | (Describ    | e the us     | er community                                | of the solution and  | anv  |  |  |
|                   |  | markets     | affecte      | d)  |  |      |  |  |
|                   |  |             |              | -   |  |      |  |  |
| Products, program | ns, services   | (Identifi   | es prod      | ucts, programs,                             | services, teams,   |      |  |  |
| affected          |  | departm     | ients, et    | tc. that will be i                          | npacted by this epi  | ics) |  |  |
| Impact on sales,  | distribution.  | Describ     | es any i     | most on how I                               | he product is sold,  |      |  |  |
| deployment        |  |             | -            | (eployed)                                   | and produces to solid,   |      |  |  |
| capation and      |  |             |              | aproposition of                             |  |      |  |  |
| Estimated         | Story points:  |             | 6            | est:  |  |      |  |  |
| investment        |  |             |              |   |  |      |  |  |
| Weishesd as the s | 0.017.072  | The second  |              | diama di sa                                 | and a local sector of the sect |      |  |  |
| Weighted rating   | (WSJF)   | Type of     | return       |   | tential return. Revi   |      |  |  |
|                   |  | I           |              | market share,                               | new markets serv   | ed)  |  |  |
| In house or       | (describes recommendations for where the epic is to be developed)                |             |              |   |  |      |  |  |
| outsource         |  |             |              |   |  |      |  |  |
| development       |  |             |              |   |  |      |  |  |
|                   |  |             |              |   |  |      |  |  |
| Estimated         | Start Date:  |             | Contract (1) | Completion date:                            |  |      |  |  |
| development       |  |             |              | (Estimated calendar date or number of PSIs) |  |      |  |  |
| timeline          | (calimated calendar date or number of PSIs)                                      |             |              |   |  |      |  |  |
| Incremental       | (Breaks initiative down into preliminary epics or sub-epics that fit the         |             |              |   |  |      |  |  |
| Implementation    |  |             |              |   |  |      |  |  |
| Strategy          |  |             |              |   |  |      |  |  |
|                   |  |             |              |   |  |      |  |  |
| Reevaluation      | (If the epic is la   | rge, identi | fies pot     | ential milestone                            | s or checkpoints fo  | e    |  |  |
| checkpoints       | reevaluation)  |             |              |   |  |      |  |  |
| Analysis          | (Brief summary of the analysis that has been formed to create the business       |             |              |   |  |      |  |  |
| summary           | case. Pointers to other data, feasibility studies, models, market analysis, etc. |             |              |   |  |      |  |  |
| y                 | that was used on the creation of the business case)                              |             |              |   |  |      |  |  |
|                   | 1001 000 0000  | the crea    | 1.14         | and address cal                             |  |      |  |  |

#### 1/2

| Epic Name                     | Go or NO Go<br>Recommendation: |  | Date entered<br>Backlog: |               | Analyst<br>Epic Owner:    |  |
|-------------------------------|--------------------------------|--|--------------------------|---------------|---------------------------|--|
| Version                       |                                | Changes  |                          |               |                           |  |
| Description of<br>the Epic    |                                | I  |                          |               |                           |  |
| Success Criteria              | :                              |  |                          |               |                           |  |
| Stakeholders<br>sponsors      | (identifies key                | business sp  | onsors                   | who will be s | upporting the initiative) |  |
| Users and marke               | ts affected                    |  | e the us<br>affected     |               | y of the solution and any |  |
| Products, program<br>affected |                                | (Identifies products, programs, services, teams,<br>departments, etc. that will be impacted by this epics) |                          |               |                           |  |
| impact on sales, o            |                                | (Describes any impact on how the product is sold,<br>distributed, or deployed)                             |                          |               |                           |  |

| Estimated<br>development<br>timeline      | Start Date:   | Completion date:<br>(Estimated calendar date or number of PSIs) |  |  |
|---|---|---|--|--|
| Incremental<br>Implementation<br>Strategy | (Breaks initiative down into pro<br>companies PSI cadence)  | eliminary epics or sub-epics that fit the                       |  |  |
| Reevaluation<br>checkpoints               | (If the epic is large, identifies potential milestones or checkpoints for reevaluation)   |   |  |  |
| Analysis<br>summary                       | (Brief summary of the analysis that has been formed to create the business<br>case. Pointers to other data, feasibility studies, models, market analysis, etc.<br>that was used on the creation of the business case) |   |  |  |

|               | Attachments  | Project Stakeholder Needs Assessment (see Chapter 7) |
|---------------|--------------|--|
|               |              | System Stakeholder Needs Assessment                  |
| 10 April 201/ | Other notes  |  |
| 10 April 2014 | and comments |  |

## Initial Take

- Is moving in the direction of Planguage for specification
- But, does not go near the concepts of managing value by means of quantified value and quality directly
- Does not understand dynamic prioritization via values and costs (see the weighting scheme)