Application baselining just got cheaper

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Session Objective

Understand…

- A wrapper theory on what we already know on Application Baselining
- How to improve accuracy & confidence: Can Statistics can tell us more ?

Application baselining – There's more to it than meets the eye !

Agenda for the next 30 minutes.

- Application Baselining – Refresher
- The Baseline process
- The three approaches in FP Analysis
- Understanding where and how we can make a difference

Application Baselining – Refresher (1)

- Need to know the installed size of your Application portfolio and in turn, the cost per unit size?
- Curious to see which of your applications are turning out costly to maintain so that you can sunset them sooner?
- Torn between a 'Make-Vs-Buy' decision for that Payroll module in ERP?
- … Or are you just plainly interested in recording all data & transaction functions of your applications to help in subsequent FP Analysis?

Solution: Baseline your Application Portfolio and get started !

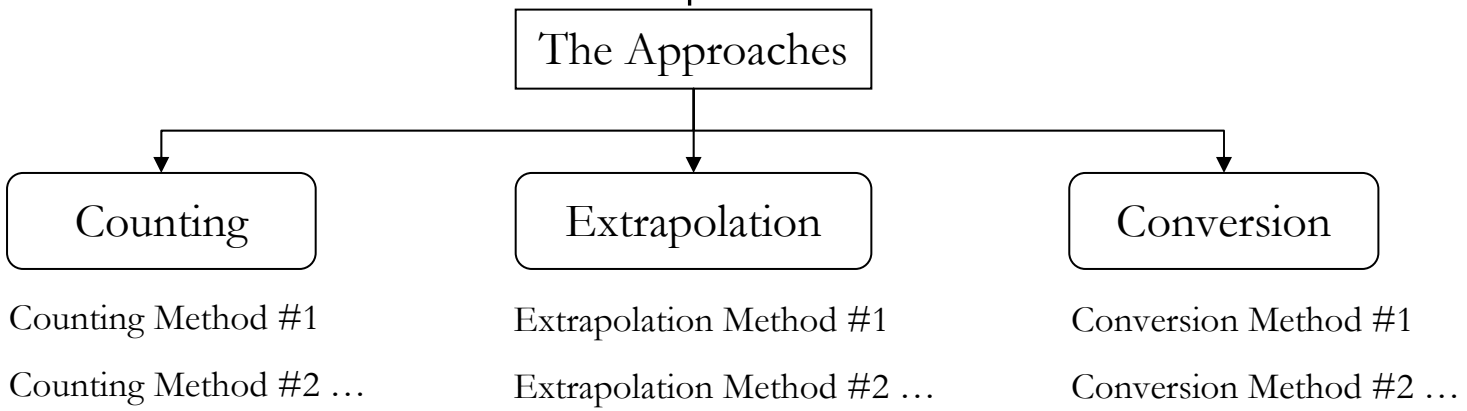
Application Baselining – Refresher (2)

- Common constraints:
  - The easiest solution to recommend ('Just count it') is also the costliest to implement.
  - A typical Portfolio may contain hundreds of applications. Balancing the three aspects of Schedule, Cost & Quality is a nightmare.
  - Even if cost was not such a big constraint, ever tried assembling a 'skilled' team to do this activity?

Solution: Embrace the constraints, you have no option anyway !

Application Baselining – The process

1. Identify the Purpose
2. Identify the Scope
3. Determine the Logical boundaries
4. **FP Analysis**
5. Presenting the results.



There are good amount of studies done in the past, under each of these approaches

Application Baselining – The approaches in detail

1. Counting Approach: Counting applications as per IFPUG standard.

- Features:
  - High accuracy
  - The only option when purpose is to blueprint the portfolio
  - Relatively costly, as it is time-consuming.

- Methods in this approach:
  - Various levels of counting based on desired level of accuracy.
  - Basic classification: Three levels – Detailed, Simple, Casual
  - Some studies show six level classification also.

Fact: Most organizations have their own ways of defining what is 'Detail' and what is 'Accuracy' in FP counting

Application Baselining – The approaches in detail

2. **Extrapolation Approach**: Extrapolate the size of an application based on the size of one or more of its' components (ILF, EIF, EI, EO, EQ).

- Features:
  - Moderate accuracy
  - Methodology may be simple or complex
  - Effort considerably reduced. Most balanced of the three approaches.

- Methods in this approach:
  - ILF models like for example: **Application count = #ILF * 35**
  - Contribution models like: **EI:ILF = 2.66, EO:ILF = 3.14**
  - Regression models like for example: **Application count = 7.3 * #IO +56**
    (where IO = EI+EO)

Fact: The number of methods in this approach can be endless

Application Baselining – The approaches in detail

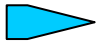
3. Conversion Approach: Derive the FP size of an application by converting size from other dimensions.

- Features:
  - Relatively less accurate
  - Usually the fastest approach. Effort can be reduced by 60-80%.
- Methods in this approach:
  - Backfiring from LOC to FP
  - Converting from measures like Use Case points, Object points etc to FP
  - Converting Application elements like Number of Screens, Number of Reports, Pages of documentation etc to FP

Fact: Almost all methods in this approach are purely Empirical (Derived from experimentation and observation without much theoretical basis).

Application Baselining – The difference

- So where can we 'practically' make a difference to improve the accuracy of the whole process?

The Budget:		(No)
Skill of the personnel		(Very little)
Effective project mgmt		(Maybe)
Choice of approach / methods		(To a good extent)
Analyzing the results from methods		(To a great extent)

Improve **Accuracy** of estimates ⇨ Build up **Confidence**.

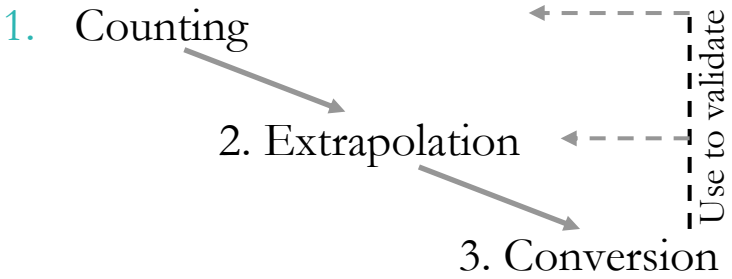
Application Baselining – Where is the difference?

#1 Choosing the right approach:

Basis:

1. The Purpose of baselining
2. The constraints specified

Suggested order of preference:



Communicate Assumptions & details about the chosen approach/method (including expected levels of accuracy) clearly to the stakeholder.

Application Baselining – Where is the difference?

#2 Using Cluster Analysis :

- Basis: Not all applications are same. But some aren't all that different !
- Clustering: The process of grouping the Applications based on certain criteria so that each cluster behaves as a homogenous entity from a particular perspective.
  Typical options:
  - Cluster by Technical areas (platforms mainly, languages not so often)
  - Cluster by Business domains (Billing, Web self-care channels, Business Intelligence etc)
  - Cluster based on other parameters (Business significance, Age of the applications etc)
- What doesn't work at the portfolio level, might be applicable at a cluster level.

'Clustering' need not be specified in the objective. Still, it is worth exploring it !

Application Baselining – Where is the difference?

#3 Using Calibration:

- Calibration is used mainly on extrapolation & conversion methods.
- Computed by comparing the FP counts obtained from extrapolation/conversion method with the actual FP count (counted using IFPUG standards) for a sample of applications in the portfolio.
- This calibration ratio can then be used to 'adjust' all FP counts in the portfolio.
- Calibration may not necessarily be simple. Complex calibration (ratios that work under specified conditions on a specific group of applications) are possible.
- It is recommended to check how the calibration works on a sample of applications.

Calibration identifies the initial variance between Estimate & Actual. This realization itself improves our confidence in the estimation. Correcting the variance is only the second part.

Application Baselining – Where is the difference?

#4 Using multiple methods in Conjunction:

- If not choosing the counting approach, it is advisable to use at least 4-5 methods and compare results from each method.
- For any single application, analyze the deviation between results from different methods. Identify outliers. Observe central tendency. For example,

	M1	*M2*	*M3*	*M4*	*M5*	*M6*	*M7*	*Mean*	*Deviation*
App - 1	180	265	250	275	340	326	196	261.7	45.5
App - 2	233	263	250	281	255	267	259	258.3	10.5
App - 3	-	333	352	355	-	-	-	346.7	9.1
App - 4	…	…	…	…	…	…	…	…	…
…	…	…	…	…	…	…	…	…	…

While comparing results, consider weighting certain methods more than the others.

To conclude..

- Application Baselining can become a long arduous exercise if not conducted properly.
- Choosing the right methods/approach for baselining is as important as having a clear plan and a well-stated purpose.
- Spend enough time in analysing the results. Observe trends & anomalies in the data.

As someone once said, 'Beat the data till it confesses'

Q & A

Convinced or Confused ?