

An aerial photograph of a long, multi-lane bridge stretching across a vast body of blue water. The bridge is the central focus, receding into the distance. Several vehicles are visible on the bridge. The sky is a clear, pale blue. The Accenture logo, consisting of a chevron symbol above the word 'accenture', is overlaid on the left side of the image.

>
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Component Based Productivity
Measurement

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Agenda



- Productivity Measurement Methods
- Component Based Measurement Unwrapped
- Choosing a Measurement Method
- Productivity Levers

How Can Productivity be Measured?

The two primary reasons for measuring productivity are to show improvement over time and to compare productivity across organizations through external benchmarks

➤ Accenture has determined that the productivity of an organization's Application Development and Application Maintenance work can be measured using one of two methods*:

- Output Based
- Component Based

*Note: While Accenture has expertise in both methods, today's presentation is focused on the component based approach.



Output Based Measurement

The output based approach is the conventional productivity measurement approach which uses Function Points (FP)

- Measurement is typically defined as a ratio of output to input

$$\text{Productivity} = \frac{\text{Output}}{\text{Input}} \text{ or } \frac{\text{Size}}{\text{Effort}}$$

- Where size is defined as:
 - FPs Delivered for development work
 - FPs Supported for maintenance work
- And effort is typically defined in:
 - Hours
 - Mandays
 - FTEs

Note: Cost can also used to define the input



Component Based Measurement

The Component Based approach measures improvement in the time it takes to complete a standard component of work



The component based approach described in this presentation is based upon inventions for which Accenture has patent pending

- For development work, productivity is achieved through a year over year reduction in the estimate produced by standard estimating model for a fixed set of activities
- For maintenance work, productivity is measured as a ratio of the Number of Support Requests per Hour
 - Where a support request is defined as problem ticket, incident, etc.

Component Based Measurement for Development

Productivity improvements are applied as “tighter” adjustments to the estimating model each year

- Method assumes the work defined by the estimating model is repeatable
- Consideration should be given to whether unique estimating models should be defined by technology, size and methodology
- Must be implemented in conjunction with a budget adherence metric to confirm whether the reduced budgets are being met
- A formal baseline must be constructed to serve as the starting point from which to measure future improvement



A Simplistic Example - Development

- The baseline shows that it takes 1000 hrs (on average) to code every widget
- In year 1, you are committed to achieving a 10% productivity improvement (over the baseline value)
- The estimating model is adjusted to produce an estimate of 900 hrs to code every widget

- Note that improvements are cumulative, so an additional 10% improvement over the baseline in year 2 is actually only 9% ($10\% \times 90\%$)



Component Based Measurement for Maintenance

Productivity is calculated as a ratio of Number of Support Requests per Hour

- Method assumes there is a relatively fixed application portfolio (e.g. no significant additions or retirements year over year and no changes in level of responsibility or scope)
- A formal baseline must be constructed to serve as the starting point from which to measure future improvement
- Determine if ratios need to be defined by category
 - Level of support
 - Business priority
 - Application maturity



Considerations When Choosing a Method

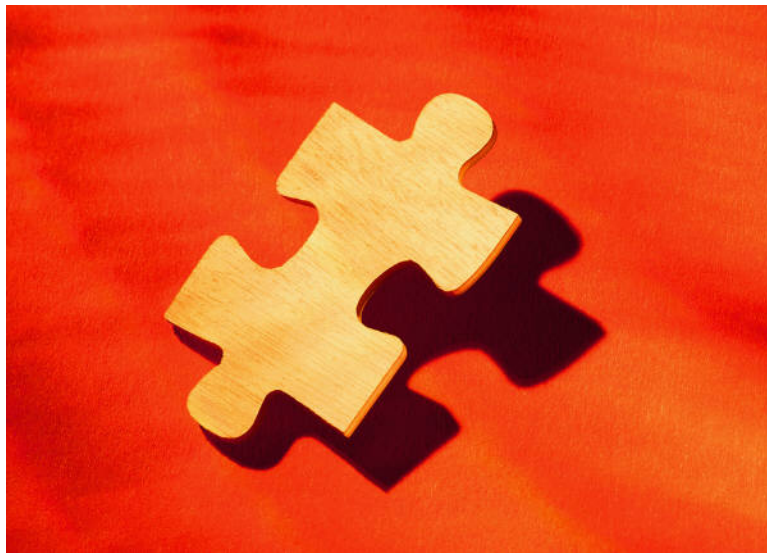
- Component Based Measurement
 - Simpler for the client to understand
 - Lower cost to implement and maintain (no FP counting required)
 - Useful for internal measurement, but not for external benchmarking
 - Approach varies between development and maintenance
 - Requires a standard calibrated estimating model for all types of development/ enhancements

- Output Based (FP) Method
 - Uses FPs which is the industry standard for sizing software
 - Useful for both internal and external benchmarking
 - FPs cannot be used to size some types of work (e.g. infrastructure, work process, 2-n implementations, etc.)
 - Requires specialized skill to count FPs



Productivity Levers

Our experience has shown that improving productivity requires a multi-faceted approach



- Integrated Organization
- Standard Methods, Processes & Tools
- Metrics & Performance Management
- Demand and Service Management
- Delivery Team Sourcing
- Portfolio Optimization
- Quality & Continuous Improvement

The Final Word

Accenture recommends implementing productivity measurement as part of a comprehensive metrics program to provide a complete understanding of the overall health of an organization and to drive continuous improvement

