

Using metrics for informed decision making

A personal perspective

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My Background

- ◆ 21 years in IT as a provider of software development services
- ◆ 3 years in Business as a consumer of software development services

A perspective from both sides of the fence

Can you imagine a business that doesn't measure its performance surviving in this competitive world?

Information for basic decision making

- ◆ The basics for any business initiative
 - How much will it cost?
 - What financial benefits will it bring?
 - When will it be delivered?
 - How long before I achieve a return on investment?

Information for basic decision making

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Where software development projects fail

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IT gets it wrong for over 30 years

Still.....most software development projects are undertaken without any basis of sound measurement

Work Breakdown Structures

◆ Why they fail?

- Lack standardisation
- Based on "educated" guesswork
- Oversights are inevitable
- Trimmed due to budgetary or sales pressures

Have you ever seen a project that tracked exactly to the tasks in a schedule?

27 years of FPA?

- ◆ Function Point Analysis has been around for 27 years

Why isn't the problem solved?

Why isn't the problem solved ?

- ◆ Business understands familiar measurements
 - Function Points are not familiar to business
- ◆ What does 500 Function Points look like?
 - I can see how long is a metre
 - I can feel the weight of a kilogram
 - But a Function Point?

Why isn't the problem solved?

- ◆ Why are Function Points hard for business to understand?
 - A Function Point has two dimensions
 - ◆ Functional dimension
 - ◆ Data dimension } An analysts domain
 - Familiarity requires repetitive use
 - Repetitive use = Multiple projects
 - Multiple projects = Years of experience

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Most people are not prepared to wait for years to understand

Access to Years of Experience ?

- ◆ Most companies do not sustain metrics collection
 - Technology changes quickly
 - People change jobs
 - Stakeholders change and so does the commitment to metrics
 - Most FPA trainees choose not to go on and count

Who has Years of Experience ?

- ◆ Metric Service Providers
 - Exposed to a wide variety of projects
 - Exposed to more projects over shorter time frame
- ◆ ISBSG Repository
 - International Software Benchmark Standards Group
 - ◆ Extensive metrics collection from around the world
 - ◆ Provides metrics for a variety of development platforms
 - ◆ Provides metrics for a variety of industries

Observations - ISBSG

◆ ISBSG Repository

- Reflects VERY highly productive projects
 - ◆ Probably more “mature” software development organisations
 - ◆ Reporting not compulsory – perhaps biased toward the more successful projects
 - ◆ Reflects best practice - the industry “benchmark”
 - ◆ Lags behind the industry – metrics for new technologies take time to collect

Observations – Metric Providers

◆ Metric Service Providers

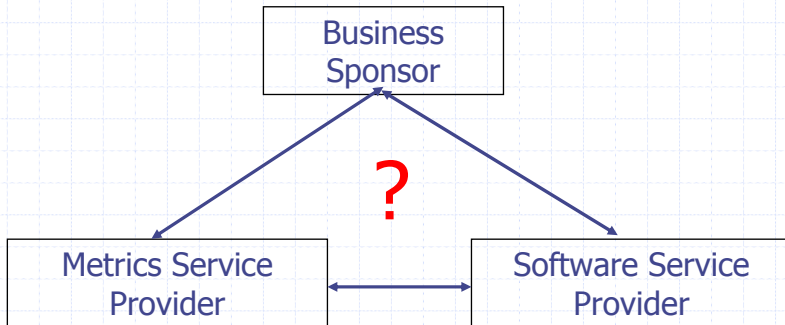
- Understand the ISBSG repository
- Understand the factors that effect productivity
- Exposed to wide range of projects and industries
- Expert Analysts
- Thorough and detailed

Now that I have access to
years of experience
How can I apply it?

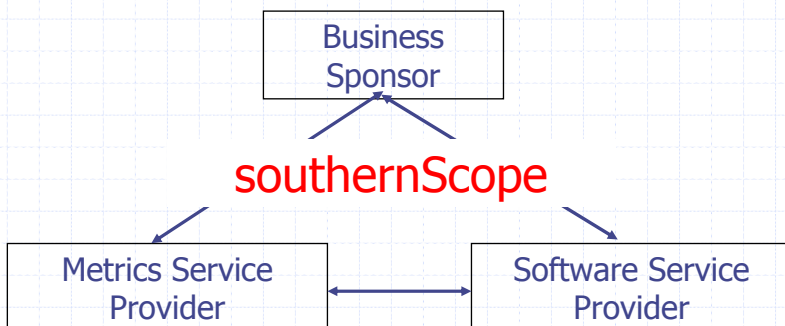
An effective partnership

- ◆ Decisions are made on a sound basis of shared information
- ◆ Accepted rules of engagement encourage stability, particularly during times of change

Shared information ? Accepted rules of engagement?



A common understanding ?



southernSCOPE – What is it ?

- A method of software acquisition based on a fixed price per function point agreement
- I would also describe it as a methodology that effectively manages the commercial engagement for software development

southernSCOPE – How does it work ?

- ◆ **Customer** undertakes a high level requirements analysis
- ◆ **Customer** selects a Software Metrics Service Provider to be appointed as the “**Scope Manager**”
- ◆ **Scope Manager** provides an indicative estimate of size, expressed in Function Points
- ◆ Software Development **Service Providers** quote a fixed price per function point
- ◆ **Customer** selects a **Service Provider**
- ◆ **Service Provider** develops detailed design
- ◆ **Scope Manager** provides a precise Function Point Count providing a cost to deliver

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- ◆ **Customer** scopes the project to fit the budget
- ◆ **Service Provider** proceeds with delivery
- ◆ **Scope Manager** assesses change requests for impact on size and cost and approved by Customer
- ◆ **Scope Manager** produces final function point count to determine payment
- ◆ Everybody's Happy
- ◆or are they ??

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- ◆ Two personal experiences as the provider of software using southernScope
 1. Business Licence Information System (BLIS)
 2. Unnamed (for reasons that will become apparent)

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BLIS	Unnamed
Customer and Provider fully committed to FPA	Customer and Provider sceptical about FPA
Generous time available for detailed design specification	Insufficient time available for detailed design specification
Clear and common understanding of delivery and cost	Vague and disputed understanding of delivery and cost
Trust sustained between customer and provider	Suspicion established between customer and provider
Development proceeds based on detailed understanding	Scope Manager dropped - just when needed most. Development proceeds with uncertainty

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BLIS	Unnamed
Scope Change minimal due to detailed understanding	Scope Change uncertain and frequently disputed
Project delivered within expected time frame	Project subject to considerable slippage
Project within expected cost	Cost blow-out for both customer and supplier
Project outcome exceeded customer expectation	Project outcome fell short of customer expectation

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◆ BLIS – What went right

- Realistic expectation of timeframe
 - ◆ Supported by Function Point Count
- Full commitment to the methodology
- Detailed specifications
- southernScope used as a tool for a successful engagement

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◆ Unnamed – What went wrong

- Unrealistic expectation of timeframe
 - ◆ Scope manager could not deliver as was not asked
- Lack of commitment to the methodology
- Lack of detailed specifications undermined understanding of requirements and effort to deliver
- Methodology abandoned for much of the project

Not southernScope as full methodology not applied

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◆ Properly applied –

- Allows for comparison amongst suppliers
- Provides for comparisons with ISBSG benchmark
- Provides a mechanism for balancing budget and functionality
- Encourages high quality, detailed specifications
- Encourage common understanding through detailed specification
- Manages scope in a way that minimises tension between customer and provider

Informed Decision Making

◆ Function Point Analysis provides the Information required for decision making

◆ southernSCOPE provides a framework that enables informed decision making

Suggested Resources

◆ southernSCOPE

- www.egov.vic.gov.au search for southernSCOPE
- Look out for the Computer Based Training Package

◆ Metrics Service Providers

- Total Metrics
www.totalmetrics.com
- Charismatek
www.charismatek.com.au