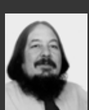
How can you maintain integrity when accounting for software development costs?

UKSMA– 15th October 2009

Software
Measurement
Services

SEIPartner

Your presenter



P. Grant Rule,

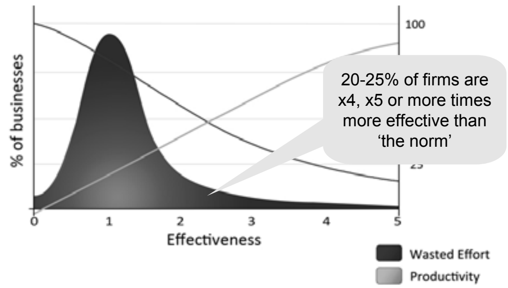
Managing Director, SMS

As a founder of the UK Rightshifting Network, with over 35 years experience in the field of softsystems, I am committed to leading firms in learning how to be more effective at creating value and achieving desired outcomes for all stakeholders.

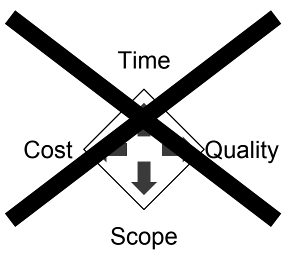
This talk is about understanding & sustaining value… …in extended value streams such as outsourced partnerships

- Outsourcers & outsourcees can simplify contracts, and reduce costs & risks by focusing on value and by using Outcome-Based Agreements
- To understand value we must determine what constitutes ‘value’ for all stakeholders
- Maintaining & sustaining integrity and a wealth-creating value stream requires an holistic analysis of value
- Clear communication of desired outcomes allows alignment of incentives with goals
- Suppliers should behave as ‘stewards’ of their customers’ intellectual property
- Objective measures of output assure customers they will receive value-for-money and their desired outcome

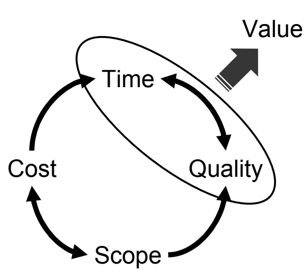
Myth #1: being as effective as ‘the norm’ is good enough in an age of global competition



Myth #2: firms must trade-off cost, quality, time & scope… you can’t have it all at once



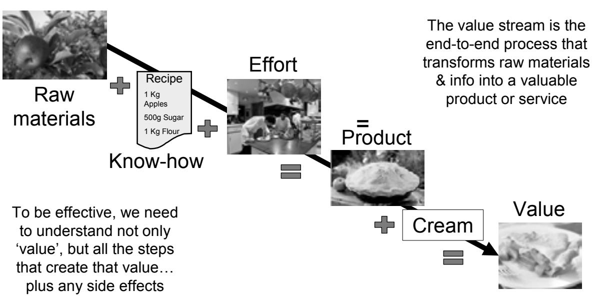
A focus on value pulls speed & quality… avoids non-value-adding work, preventing defects



So what do we mean by 'value'?

- If 'value' is the key to faster delivery, driving costs down & quality up, we'd better understand what 'value' means

Value is defined and pulled by the customer's stakeholders' desired outcome



The value stream is the end-to-end process that transforms raw materials & info into a valuable product or service

To be effective, we need to understand not only 'value', but all the steps that create that value… plus any side effects

The value stream(s) ***are*** the business… to understand we use a standard balance sheet

- Assets
  - Cash + debtors (liquid assets)
  - Fixed assets
  - Stock
- Liabilities
  - Creditors
- Capital

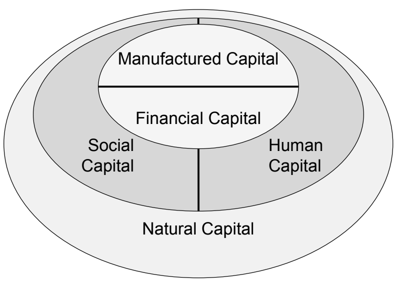
Integrity demands the balance sheet accounts for all the contributions that sustain business

- Cash →
- Production →
- Raw materials →
- Know-how →
- People →

- Income & expenditure
- Facilities & equipment
- Natural resources
- Intellectual property
- Culture

When we consider all the stakeholders, not least the business itself, it is evident that the desired outcome includes creating a value stream that can sustain the delivery of value over time

Humans derive value from five types of capital that sustain & improve the quality of our lives



The Five Capitals model

- Financial Capital (‘treasure’ - a means of exchange):
  - Finance has an important economic role as a means of exchange, but it has no inherent value. It represents natural, human, social or manufactured capital (e.g. as shares, bonds or banknotes) and facilitates trade.
- Manufactured Capital (‘the built environment’ – including softsystems):
  - Products, fixed assets & infrastructure e.g. tools, machines, buildings, roads, etc.
- Human Capital (including intellectual property):
  - People's health, talent, education, know-how, guidebooks, instructions, skills, creativity, motivations & morale… all of which contribute to productive work.
- Social Capital (the institutions of ‘civil society’ and community):
  - Institutions that help people maintain & develop human capital in partnership e.g. families, communities, businesses, trade unions, schools, voluntary organisations, local and central government. Community spirit, team spirit, loyalty, culture.
- Natural Capital (renewable & non-renewable resources):
  - Any stock or flow of energy or renewable and non-renewable resources; sinks that absorb, neutralise or recycle wastes; natural processes & cycles that regulate the environment, growth & decay, etc.

Each capital has matching debts and flows

Five Debts

- Financial debt : represents labour and/or tradeable assets
- Physical debt : aka technical debt – incomplete or missing quality, defects that will need correction
- Knowledge debt : aka ignorance – lack of know-how needed to achieve some goal
- Social debt : unfair social conditions, poor education, inadequate healthcare, unemployment, inter-community tension, disloyalty to family & community, favours owed
- Environmental debt : pollution, damage to the natural regulatory cycles, disruptive change to habitats, non-sustainable land use

Five Flows

- Cash flow : invoicing, accounts payable
- Trade : flow of made goods
- Knowledge flow : training, education, communication, creation & loss of intellectual property
- Community spirit : human interactions, will to cooperate & collaborate, exchange of favours
- Flow of natural resources : H_2O, CO_2/O_2, N_2 cycles; growth & decay; population dynamics; oil & gas cycle; tectonic movement; evolution;

How can we ensure our enterprises deliver value?

- By managing the balance sheet to grow & sustain wealth creation in all five capitals
- By avoiding hidden debts
- By thinking holistically & continuously improving the end-to-end performance

Dysfunction is avoided through objective measurement

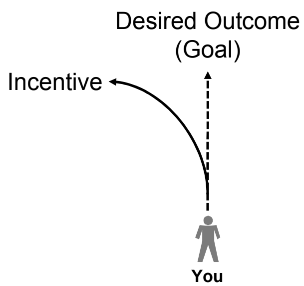
Don't confuse activity with results

- Facts
- Evidence
- Visibility

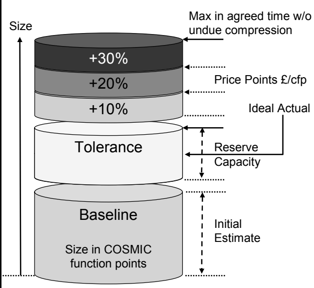
cf.

- Myth
- Opinion
- Hidden agendas

To achieve the desired outcome, activities must be aligned with the intended direction of travel



Outcome-Based Agreements align incentives to suppliers with the customers desired outcomes



- The customer identifies a need
- A rough functional scope is estimated in function points
- An allowance is made for scope creep & change
- The customer & vendor agree a price per function point
- The customer & vendor teams cooperate to refine requirements & deliver value incrementally
- Scope, change & progress is monitored throughout by an objective 3rd party Scope Manager
- Undue change & schedule compression is managed

The supplier is ‘steward’ of the customer’s intellectual property, providing competencies & capabilities not otherwise available

- Customer responsibilities – define & prioritise ‘business value’:
  - Establish & communicate a clear vision and direction of travel
  - Retain control of the intellectual property (IP) that constitutes their business
  - Transfer know-how to the supplier by proven, approved processes
- Supplier responsibilities – for a ‘customer-intimate’ partner:
  - Gain, sustain & improve know-how of the customer’s business over time
  - Maintain know-how of the customer’s systems (IP) to agreed standards
  - Make the customer’s IP available for audit at any time
- Key elements:
  - Capture, verification & publication of necessary & sufficient know-how of systems to be ‘stewarded’
  - Effective suppliers can quote a fixed (unit) price if relevant know-how is available
  - An approved & agreed process for the return of ‘stewarded’ IP to the customer with warranties at termination for any reason of the outsourced partnership

The Basic OBA Method has four phases designed to enable work to start quickly

1.Demand Phase	• OUTCOME: Identify the need, the business case and the business value with stakeholders • CONTEXT: Determine an outline architecture (i.e. N x sub-systems), context, purpose, etc. • SIZE: Assess the size range using Rule's Relative Size Scale (S, M1, M2, L, XL, etc) • PROFILE: Quantify non-functional requirements / project type to assess impact on price/fp • PRICE: Determine an acceptable range for the unit-price, total price and duration

2.Select & Negotiate Phase	• RFP: Issue a Request For Proposal (minimise risk using at least 2 vendors)
	• EVALUATE: If the risk warrants
	  • Conduct capability evaluation of vendor (CMMI-DEV)
	  • Conduct appraisal of customer acquisition practices (CMMI-ACQ)
	• AGREE: Agree a simple, short contract
	  • Expected scope = baseline + tolerance
	  • Unit price regime for expected scope + price for late changes

3.Value Delivery Phase	• DESIGN: Cooperate to develop detailed product architecture; compile Product Backlog • PRIORITISE: Prioritise items in the Product Backlog; determine size of high-priority items • DELIVER: Iteratively develop and deliver value (using agile methods e.g. Scrum)
4.Review Phase	• REVIEW: Conduct a retrospective of results quarterly, half-yearly, annually • Frequency depends on risk, customer satisfaction, level of cooperation, etc.

Summary:

- Value pulls speed & quality, reducing costs
- Understand value if you want to create it
- Consider all 5 capitals… and 5 flows & debts
- Objectivity & visibility mitigate against waste
- Outcome-Based Agreements align the customer & supplier activities to 'True North'
- Value, Value Stream, Pull, Flow, Perfection

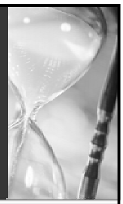
Think holistically, deliver incrementally

- From concept to consumption

Questions?

?

SMS are specialists at improving business outcomes from software-intensive systems



.

For further information, please contact:
T: +44 1732 863 760
E: g.rule@measuresw.com

If you have been…
…thanks for listening