

Cost comparisons between open-source and proprietary software

Dzhan Dimitrov - 11808940



The economics behind software development

- Procreation of valuable resources for the participating stakeholders
 - In every project the created value must exceed the expended resources
 - Clear vision for the risk-return characteristics
 - Cost-return characteristics in projects with hidden value
 - Combining of tactical and strategic matter
 - Accurate estimation of the costs
 - Options and synergies that may emerge by developing the project
-



What to consider by cost-value calculations

- Synergies and options on the market - Example Amazon (Times named Jeff Bezos Man of the Year, when Amazon was selling only books)
 - Sustainable design for advantages in the future
 - Evaluation of projects as value + option price
 - Delivery time of software - trade-off between opportunity costs and the lower efficiency by development costs
 - Lucrative chances
 - Rule of thumb
 - Advantage for proprietary firms in terms of strategic scheduling
-

Roadmap



to create a real value for existing demand



trade-offs between development time, effort put in work, quality, functional diversity



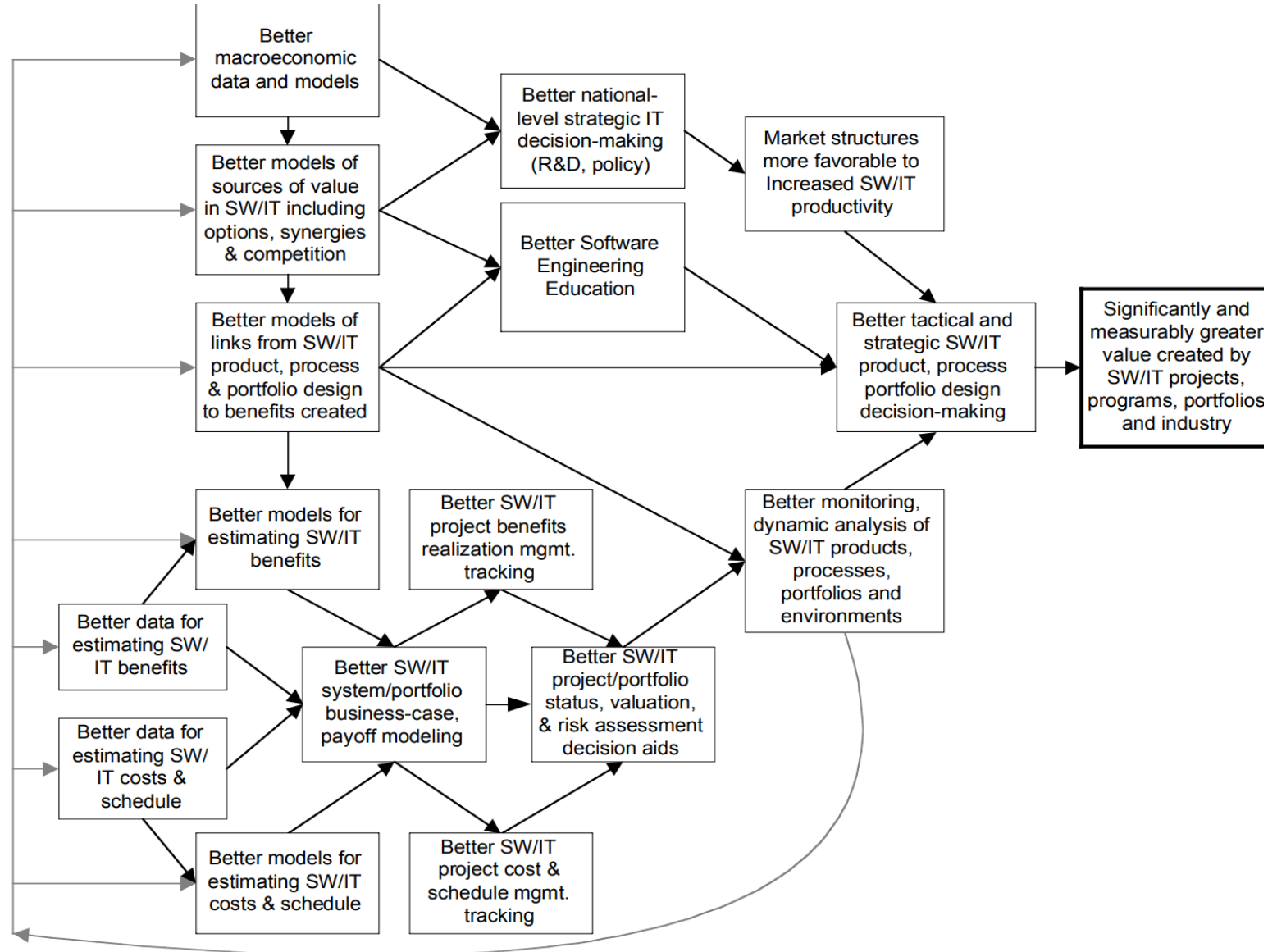
broad, dynamic, and strategic overlook to the matter



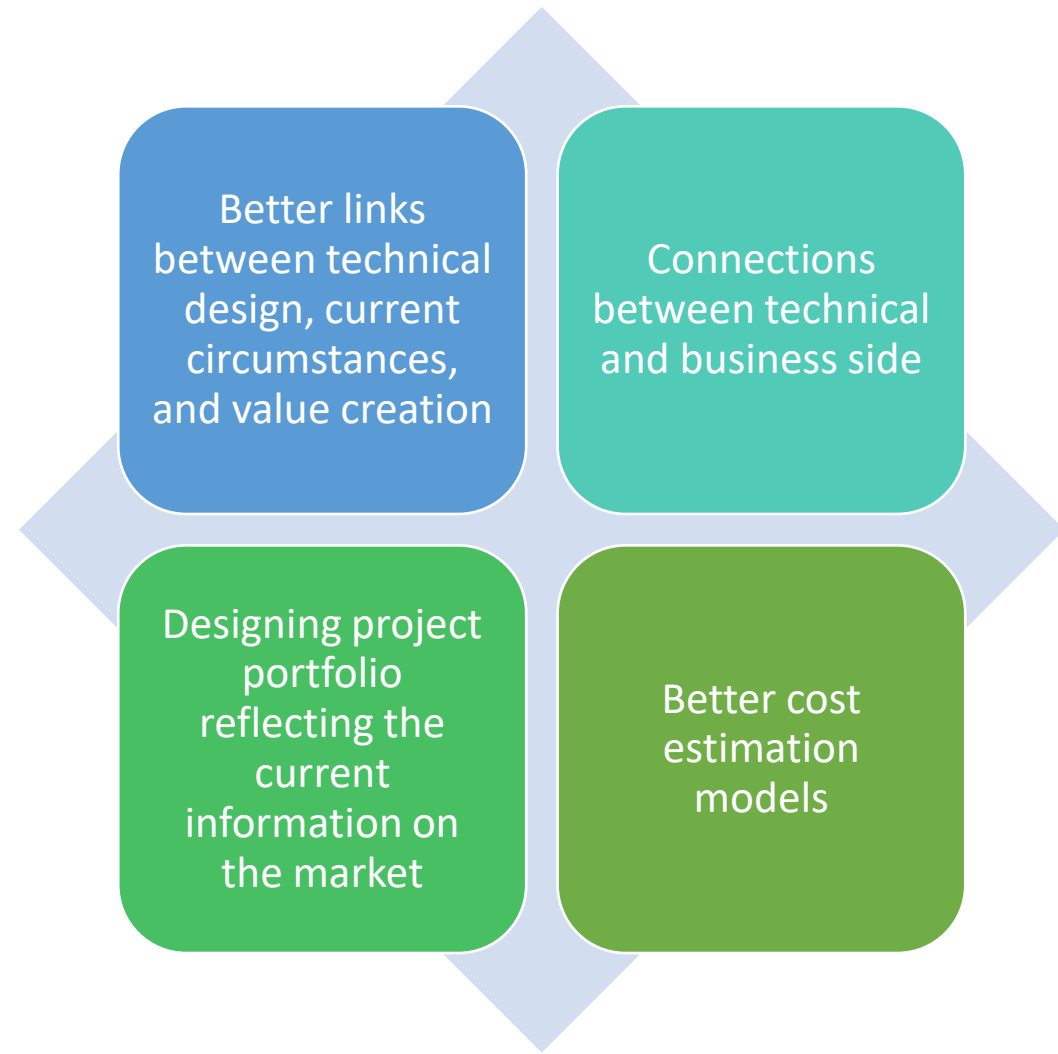
precise decision making by reflecting on different circumstances

parts above are linked to strategic concerns

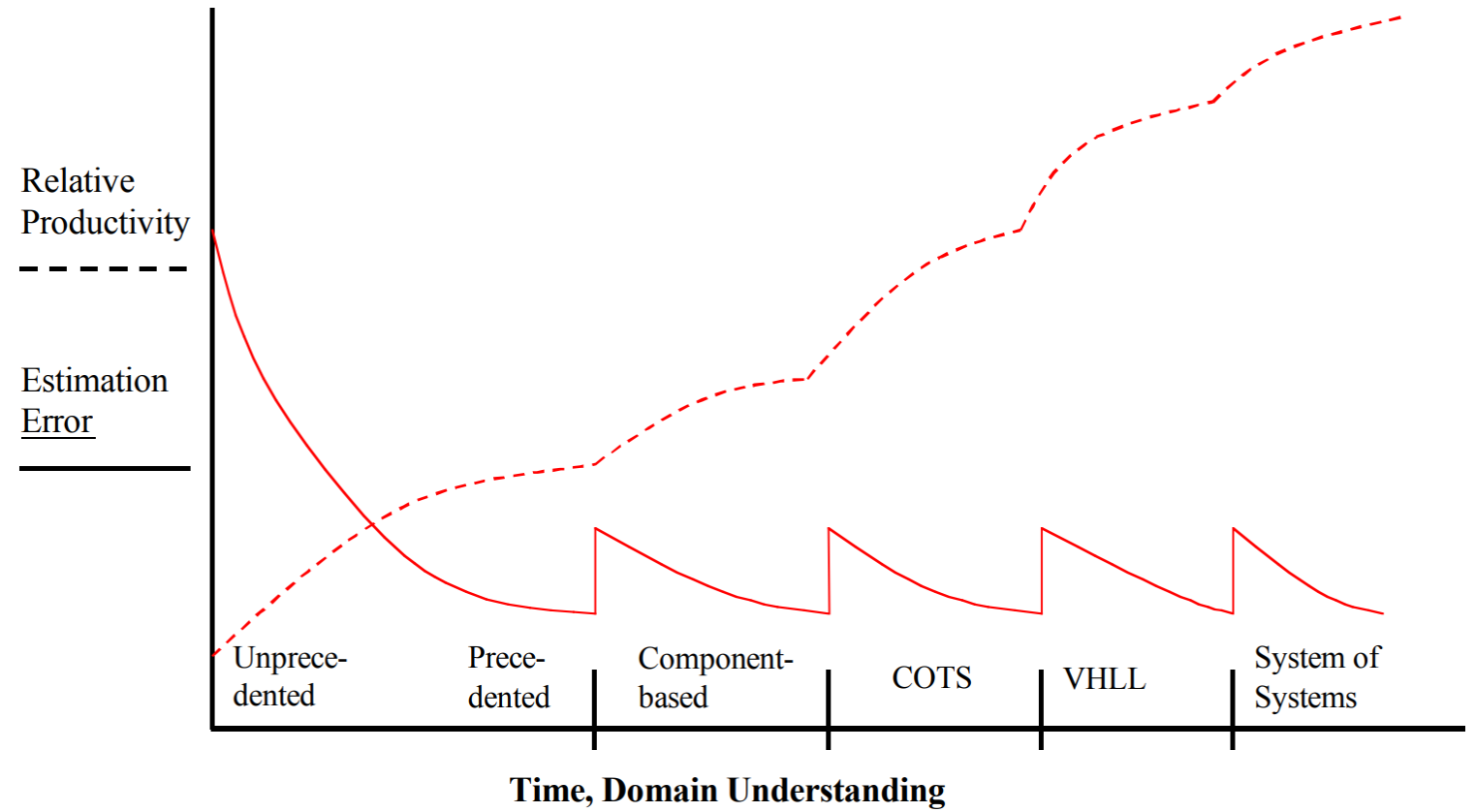
lower part the roadmap handles tactical matters



Improvement of software creation



Learning curve



Open source

- Community and Single-vendor commercial open source
- Effect over different business aspects
 - Support costs
 - Marketing and sales
 - Product management
 - Product engineering

Motivation to participate in open source

- Developing non-firm specific knowledge
- Increase of lifetime revenue
- Increase of bargaining power
- Recognition
- Merit to society welfare

How similar/different are open-source and proprietary firms in their production and selling approaches?

- Historically open-source firms relied only on consulting services
- Convergence toward dual-licensing strategies
 - Reach large user size
 - Reduce support costs
 - Open-source community to improve their product
 - Creating revenues through price discrimination
- Evolution of Microsoft and their expenditure on R&D (\$28,5 billion between 1989-2003)
- Evolution of Red Hat and their expenditure on R&D (\$40 million for the first 5 years of the company)

Why open-source firm invests so heavily in R&D (Red Hat's annual reports)

	<i>Revenues (US\$M)</i>	<i>R&D (US\$M)</i>	<i>R&D (% of revenues)</i>
1996	9.30		
1997	15.10		
1998	22.60	4.60	20.40
1999	37.80	8.40	22.10
2000	42.40	10.90	25.80
2001	80.80	15.70	19.40
2002	79.50	16.40	20.70
2003	90.30	21.30	23.60
2004	124.70	26.50	21.20
2005	196.50	32.50	16.50
2006	278.30	40.90	14.70
2007	400.60	71.00	17.70

How firms in ERP industry developed

- SAP
 - Kept rights for the software
 - Great amount of accumulated knowledge
 - From service to product (R/2 ERP)
- Compiere
 - Implementation of the new features from third parties
 - Allowed customers to keep right over modifications
 - Reduced innovation costs

Equalization in the selling and production approach

- Open-source firms rely on dual-licensing strategy to sell their products
- Proprietary firms give free versions on disposal
- Open-source firms must invest in R&D and acquisitions to keep advantage over the concurrence
- Open-source acquire talent and products from other firms to complement their products and create synergies
- Less contrast between open-source and proprietary