

The value of accreditation and governing bodies for the IT industry

Cobus van Eeden

- 
- Excellent
 - Good
 - Average
 - Poor

Agenda

- Why do software projects fail?
- Standish Report (Chaos Report)
- Flyvbjerg Report
- Accreditation and Standards
- Suggestions
- Discussion

What is a failed project ?

- **Standish Report Classification**
 - Delivered over budget
 - Delivered late
 - Delivered with reduced functionality

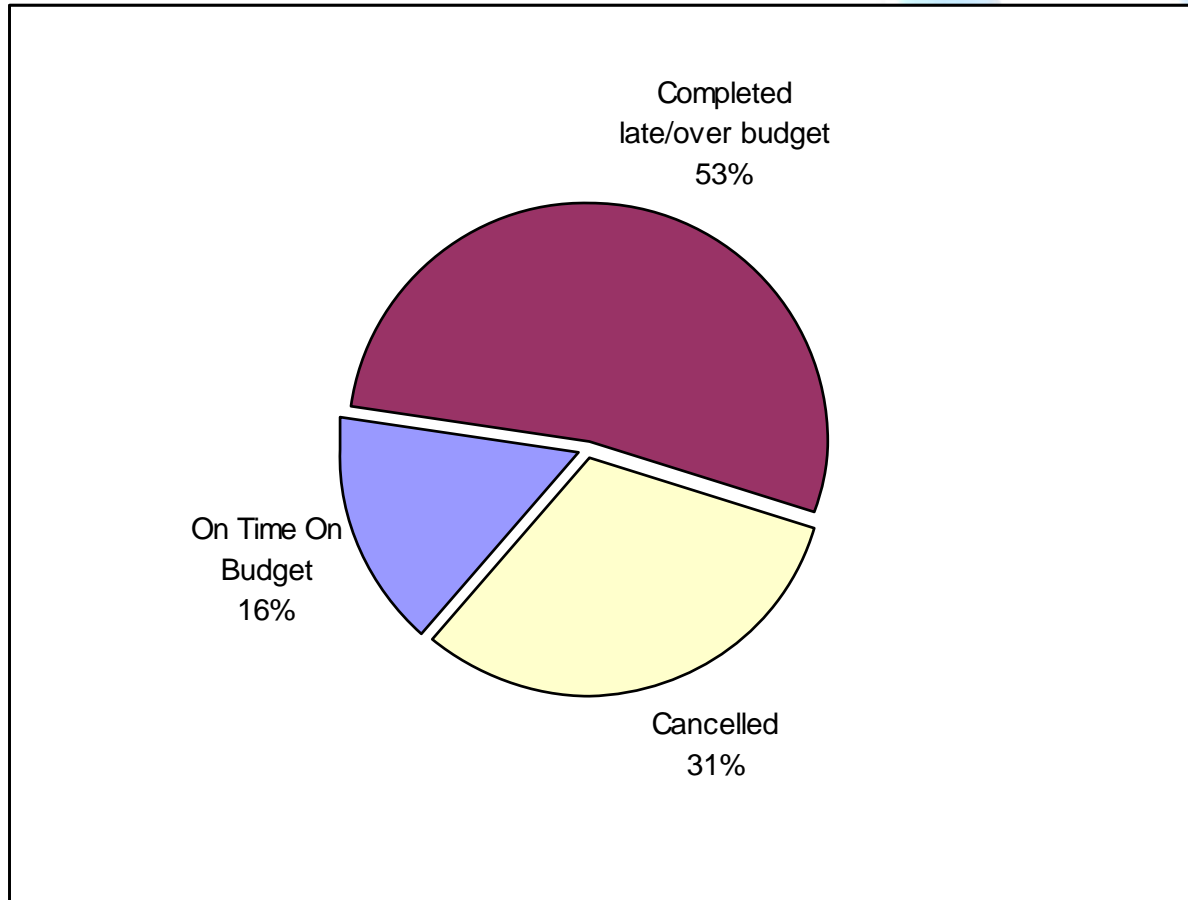
Why do software projects fail ?

- Lack of technology ?
- Immense complexity ?
- Bad business requirements ?
- Incompetence of technical resources ?
- Bad planning ?
- Incorrect Estimates ?
 - Time required
 - Work effort involved
 - Costs

Standish Report

- Published in 1995
- Measures software project success rates
- 365 Companies Surveyed
- 3682 projects in progress
- At time of publication only 12% (431) were running on time and on budget

Standish Report results



Standish Report

- Reasons for failures
 - Incomplete Requirements (13.1%)
 - Lack of user involvement (12.4%)
 - Lack of resources (10.6%)
 - Unrealistic Expectations (9.9%)
 - Lack of executive support (9.3%)
 - Changing requirement specifications (8.7%)
 - Lack of planning (8.1%)
 - No longer needed (7.5%)
 - Lack of IT Management (6.2%)
 - Technology Illiteracy (4.3%)
 - Other (9.9%)

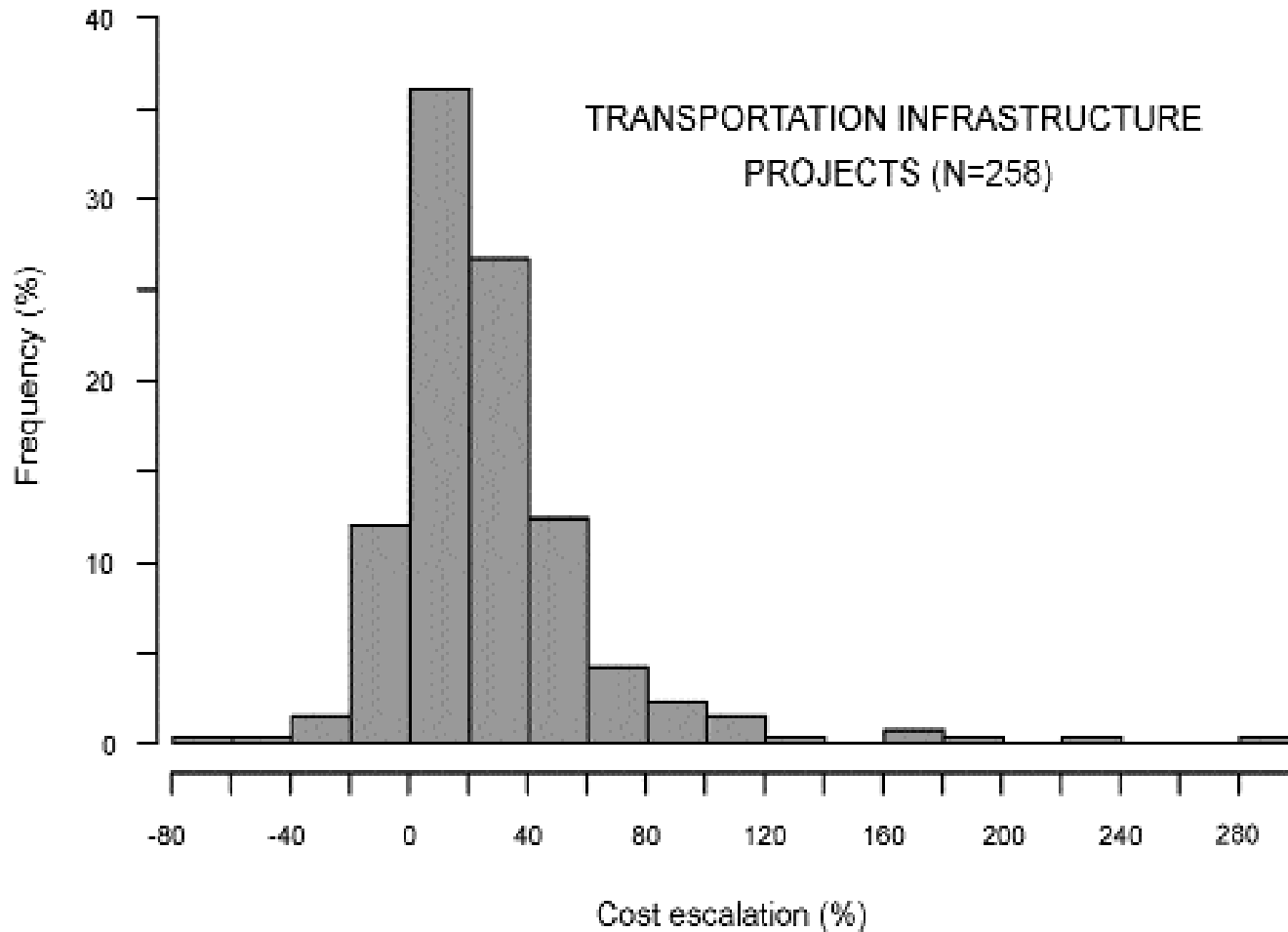
Standish Report

- **Project Management (PMBOK)**
 - Lack of user involvement (12.4%)
 - Lack of resources (10.6%)
 - Unrealistic Expectations (9.9%)
 - Lack of executive support (9.3%)
 - Lack of planning (8.1%)
 - No longer needed (7.5%)
 - Lack of IT Management (6.2%)
- **Requirements Related**
 - Incomplete Requirements (13.1%)
 - Changing requirement specifications (8.7%)
 - Technology Illiteracy (4.3%)
- **Other (9.9%)**

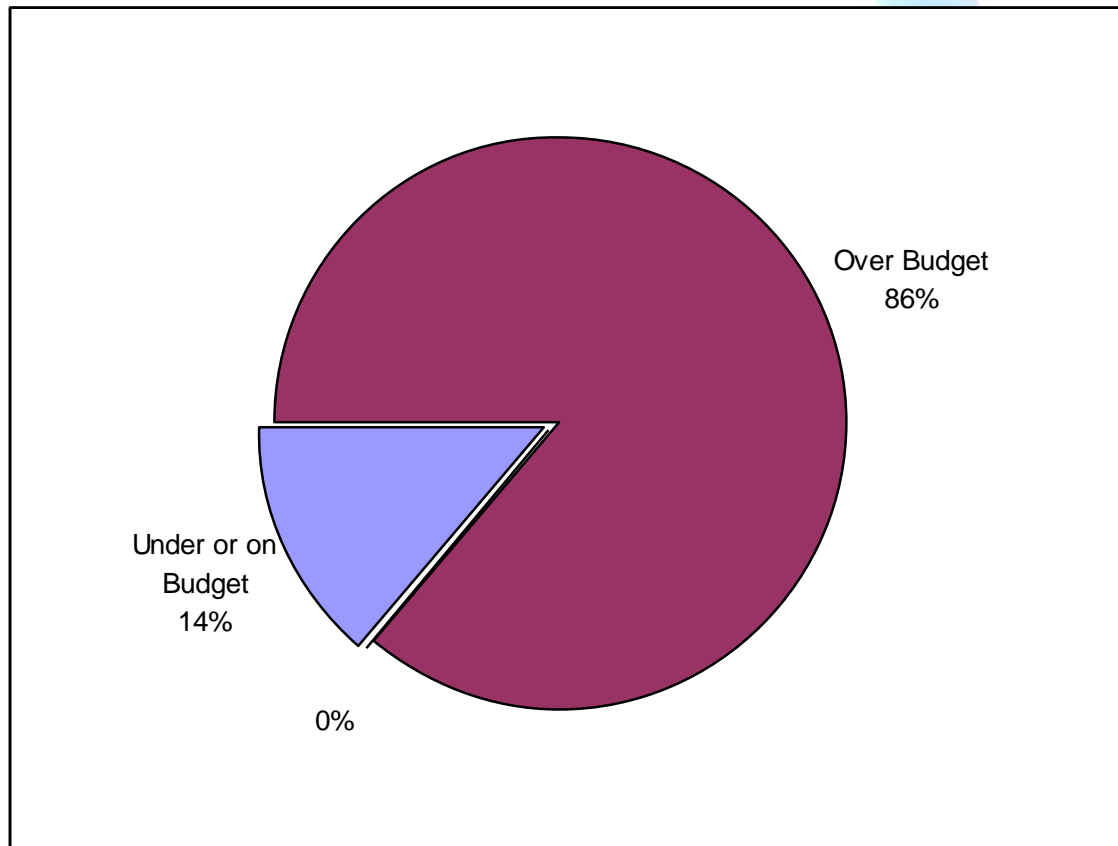
Flyvbjerg et al

- Published 2002
- Construction/Public Works Industry
- 258 projects worth US\$90 Billion
- Cost underestimation has not decreased over the past 70 years

Flyvbjerg et al

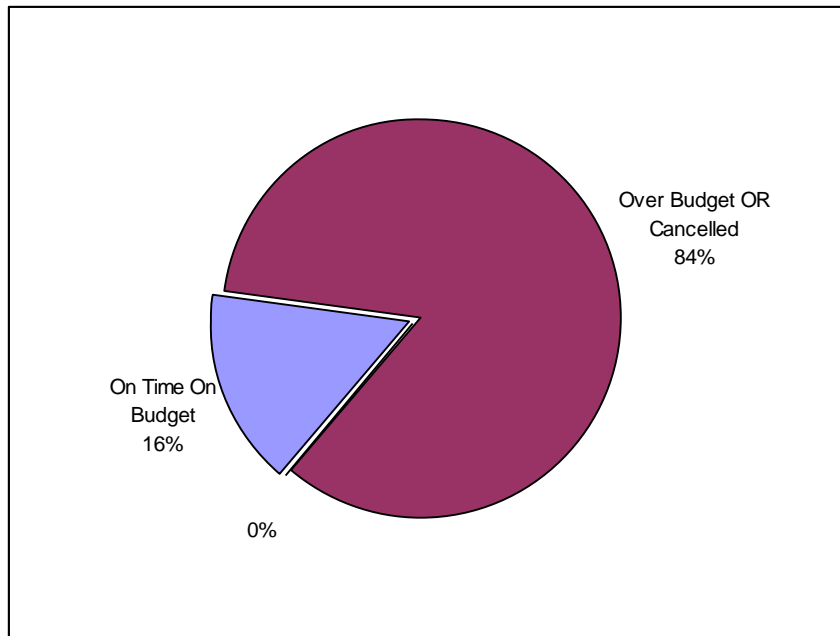


Flyvbjerg et al

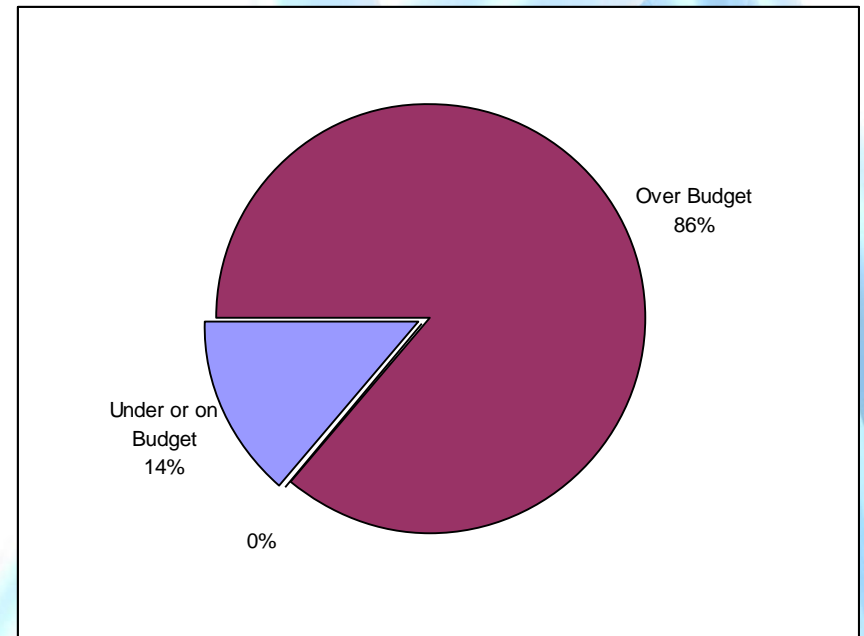


Comparison

Software Industry (Standish)



Construction Industry (Flyvbjerg et al)



WHY ?

- According to Flyvbjerg et al
 - Technical Reasons
 - Unlikely. Should show symmetry around 0
 - Economic Reasons
 - Overestimate value, underestimate cost to get the project
 - Psychological Reasons
 - Inherent Optimism
 - Everything goes according to plan fallacy
 - Political Reasons
 - Optimism/Deception in order to get projects started (Appraisal Optimism)

WHY ?

- **Because Software Projects are Complex**
 - “The complexity of software is an essential property, not an accidental one.”

Fred P Brooks

- Lack of accountability for inaccurate estimates
- Lack of project management skills (Standish Report)
- Lack of Business Architecture (Standish Report)
- Deception (Lying) regarding estimates (Flyvbjerg)

WHY ?

- Jeff Sutherland was quoted as saying:
 - Industry incentives now are for projects to be late.
 - Many vendors only make money if the project is late and over budget due to change requests and building functionality the end users do not want.
 - CIOs participate in this dysfunctional behavior using their current proposal and contracting process.
 - The whole industry could be viewed as driven by bad incentives and faulty practices.

Solutions

- This seems to be in line with Flyvbjerg conclusions!
- So what can we do improve this state of affairs?
 - Registration of practitioners
 - Disciplinary action and deregistration as penalties
 - Keep Official track record
 - Accreditation of qualifications (quality of resources)

Accreditation

- Legitimacy
- Recognition of qualification
- Certification of competency
- Credibility

Accreditation

- Current state of IT Industry Certification
 - Too many certification authorities
 - Lacks legitimacy
 - Lacks quality
 - Predominantly vendor accreditation (marketing?)
 - Diminished Value
 - Software Engineering Degree does not differentiate

Standards



REGISTRATION NUMBER 181509



THE *Open* GROUP



Accreditation

- Required
 - National Standards Framework
 - ISO
 - SANS
 - Legislative Backing
 - ECSA

Engineering Profession Act

- Original Act promulgated in 1978
- Provides for establishment of ECSA
- Facilitates
 - Creation of Governing body
 - Registration
 - Investigation and Enforcement (Prosecution)
 - Classify and control works of engineering
 - Accreditation of Qualifications
- Governing the execution of specific work identified as engineering work

Engineering Profession Act

Identification of work

26. (1) The council must consult with
- (a) all voluntary associations;
 - (b) any person;
 - (c) any body; or
 - (d) any industry,

that may be affected by any laws regulating the built environment professions regarding the identification of the type of engineering work which may be performed by persons registered in any of the categories referred to in section 18, including work which may fall within the scope of any other profession regulated by the professions' Acts referred to in the Council for the Built Environment Act, 2000.

(2) After the process of consultation the council must submit recommendations to the CBE regarding the work identified in terms of subsection (1), for its consideration and identification in terms of section 20 of the Council for the Built Environment Act, 2000.

Engineering Profession Act

- (3) A person who is not registered in terms of this Act, may not—
- (a) perform any kind of work identified for any category of registered persons;
 - (b) pretend to be, or in any manner hold or allow himself or herself to be held out as a person registered in terms of this Act;
 - (c) use the name of any registered person or any name or title referred to in section 18 or 21; or
 - (d) perform any act indicating, or calculated to lead persons to believe, that he or she is registered in terms of this Act.
- (4) Subsection (3)(a) may not be construed as prohibiting any person from performing work identified in terms of this section, if such work is performed in the service of or by order of and under the direction, control, supervision of or in association with a registered person entitled to perform the work identified and who must assume responsibility for any work so performed.

Engineering Profession Act

- Software Engineering the “*black sheep*”?
 - Software and Computer engineering are recognised and accredited by ECSA
 - No specific engineering work has been identified by ECSA for the software engineering field
 - No Voluntary Associations for Software Engineering

Engineering Profession Act

- Voluntary Associations
 - Aeronautical Society
 - Concrete Society
 - Lift Inspectors Association
 - South African Asset Management Association
 - Consulting Engineers South Africa
 - South African Institute of Marine Engineers and Naval Architects
 - Etc.
- Software Associations ???

Suggestions

- **Governing Body**
 - Voluntary association accredited by ECSA
 - Legislative backing
 - Registration of practitioners
 - Division of Labour
 - Prescribed work
 - Accountability
 - Guidance of fees
 - Feedback and rating system similar to CIDB ratings

References

Standish Report; <http://www.projectsmart.co.uk/docs/chaos-report.pdf>

Flyvbjerg Report; <http://flyvbjerg.plan.aau.dk/JAPAASPUBLISHED.pdf>

ECSA; www.ecsa.co.za