UKAIS panel discussion on EBP in IS: EBP in Software Engineering – a Comparison
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- SE - some effort in this e.g. (Kitchenham, Dyba et al. 2004; Kitchenham, Pearl Brereton et al. 2009; Kitchenham, Pretorius et al. 2010) via SLRs. Tried conventional approaches to SLRs - problem of lack of suitable data.
- A number of publications are reviews of SLRS.
- Comment from Dybå and Dingsøyr (2008) re lack of synthesis and need to move towards Pawson type approach.
- SE suffers the same issues as IS - publications are typically either theoretical/technical papers or discrete contextually based empirical studies - often with limited insight into the context, data, methodology.
- This all makes extraction of the evidence base difficult. ... nothing directly considered about how practitioners get access to any evidence-base.

The start in SE: 2000(ish)

- First papers from 2004 arguing for EBSE and focusing on traditional SLRs (primary, secondary,tertiary studies).
- Primarily from Kitchenham, Dybå, Jørgensen,Brerton, Budgen.
- A trickle of papers continue to be published.

EPSRC supported projects

- Budgen et al (2005-2007) Evidence-Based Software Engineering

... *"investigating the viability of adopting the evidence-based paradigm for software engineering. As part of this, we propose to establish a software engineering equivalent of a Cochrane Group to provide rigorous systematic reviews of evidence relating to the use of component-based software development."*

- Budgen EPIC (20080-2009) Evidence-based Practices Informing Computing (EPIC)

  "... we (and others) have demonstrated that it is quite practical to employ evidence-based practices in software engineering, ... [now] address such questions as where they might be most effectively deployed, what limitations upon the outcomes of studies might arise from the characteristics of the domain, and how researchers, practitioners and decision-makers might be persuaded (with evidence!) of the value of this approach?
  ... adopt a multiple-case... participant-observer ... case studies, we expect to be able to determine how effective the use of evidence-based practices are likely to be as a means of delivering solid evidence to software engineers, managers and policy-makers."

Recommendation to develop beyond "traditional" SLRs and focus on lack of synthesis

- Cruzes and Dybå (2011) *"The key objective of research synthesis is to analyze and evaluate multiple studies and select appropriate methods for integrating or providing new interpretive explanations about them .... , in SE, primary studies are often too heterogeneous to permit a statistical summary and, in particular, for qualitative and mixed methods studies, different methods of research synthesis are needed ."*

Attempts at EBSE repositories:

- EBSE http://community.dur.ac.uk/ebse/
  Budgen, KItchenham et al – from 2005 – last updated 2011. Include primary, secondary, tertiary studies. A number of studies plus support for "doing".
  - No opportunity to engage as a community.
  - Ceased to be maintained 2011
- SEED http://www.evidencebasedse.com/
  Set up as a "community" Software Engineering Evidence Database (SEED). **Not SLRs**
  - Summaries of papers – with review ratings of 0-5 stars (based on paper not quality of review).
  - Constructed by Janzen and Ryoo (2009):
  - Initial content was supplied by students on Software Engineering I course at Cal Poly in Fall 2007 and Winter 2009.
  - Difficult to tell if anything added further to this.

Journal support

- Kitchenham drove the interest in SLRs via the Journal of Information and Software Technology *"Information and Software Technology is the premiere outlet for systematic literature studies in software engineering*" (Elsevier-Publishers 2014)

Main messages to take away

- Small number of people interested
- Mainstream interest not built
- No community as such.
- Nothing directly about how practitioners get access to any evidence-base.
- Key positive outcome: I&ST highlights interest in SE-SLRs.
- EBIS thus needs to develop a community and a repository for resultant materials/discussions: this needs to be on-line and open to all – researchers AND practitioners/decision-makers.
  - HENCE NEED FOR EBIS JOURNAL

References

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