



Irene Caulfield

Supervised by	Norah Power
Research Area	GSD
Project Title	Effective Requirements Practices in the Distributed Development of Automotive Aftermarket Software

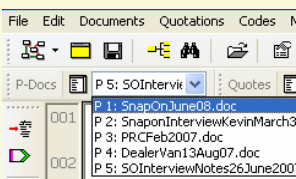
Categories	RE Challenges	Sources
RE Practices	Selecting appropriate RE practices for a project Lack of RE education and training Little knowledge transfer to practice Lack of empirical evidence to support RE practices	Jiang and Eberlein 2007, Nuseibeh and Easterbrook 2000, Sutcliffe 1997, Azar et al. 2007, Finkelstein 2004, Bubenko 1995, Zowghi and Coulin 2005, Kaindl et al. 2002, Sparrow et al. 2006, Sommerville and Ransom 2005, Damian and Chisan 2006, Wieringa and Ebert 2004
Domain Knowledge	Problem domains differ Lack of application domain knowledge	Björner 2006, Hull et al. 2005, Cysanetos 2002, Al-Rawas and Easterbrook 1996, Curtis et al. 1988
RE Process	Lack of a systematic process How to improve the RE process? RE process models are situation dependent	Kulor and Eberlein 2002, Damian 2000, Sommerville and Ransom 2005, Beecham et al. 2005, Marlin et al. 2002, Kotonya and Sommerville 1998, Macaulay 1996
Stakeholders	Numerous and diverse set of stakeholders Competing priorities and different expectations Increased global distribution of stakeholders	Jiang et al. 2005, Damian and Zowghi 2002, Kaindl et al. 2002, Finkelstein 2004, Nuseibeh and Easterbrook 2000, Sharp et al. 1999, Damian 2007, Cheng and Ailes 2007, Damian and Zowghi 2002
Global Software Development	Communication, coordination and control Distance - temporal, geographic, cultural Multiple RE practices across locations	Bhat et al. 2006, Lopes 2005, Kiel 2003, Ramesh 2002, Damian 2002, Mockus and Herbsleb 2001, Agerfalk et al. 2005, Carmel and Agarwal 2001, Herbsleb 2007, Bhat et al. 2006, Damian and Zowghi 2002
Market Driven Software Development	Lack of established theories Schedule Constraints Gap between marketing staff and developers	Regnell and Brinkemper 2005, Sawyer 2000, Aurum and Wohlin 2005, Karlsson et al. 2002, Jantunen and Smolander 2006, Soffer et al. 2005, Karlsson et al. 2002, Carlsheime and Regnell 2000
Measuring Success	How to measure RE process success? What do we mean by effective? Insufficient empirical evidence to date	Gorschek and Davis 2008, Standish Group 2003, Ebert 2006, Damian and Chisan 2006, Emam and Madhavji 1995

The literature to date has struggled to find measures of effectiveness and success of requirements practices. The relationship between effective practices and the situation in which they are used has not been explored enough.

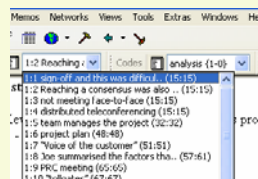
Analysis

Systematic coding using Qualitative Data Analysis Software ATLAS.ti

1. Assign Primary Documents

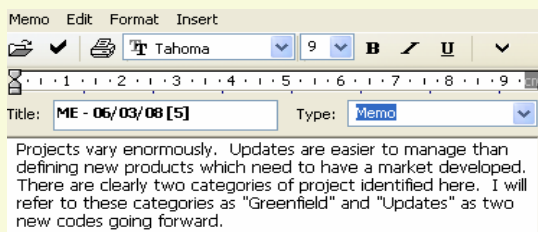
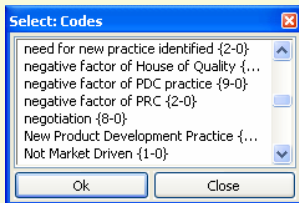


2. Select Quotations



3. Select Codes

- Open Coding
- Code In Vivo
- Code by List



4. Write Theoretical Memos

Research Strategy

- ❑ A **qualitative research** approach is used in order to ensure a thorough and detailed study of all the factors that may be influencing the requirements engineering practices in a particular situation.
- ❑ A **case study** was deemed to be the best approach because it can support the development of a holistic understanding of the situation and relies on multiple sources of evidence such as interviews, semi-structured interviews, field notes, direct observation, demonstration and documentation.

Research Method

- ❑ **Case study research** involves ongoing examination and interpretation of a vast amount of data.
- ❑ **Grounded theory** is being used as it provides a systematic method of discovering categories and relationships in empirically collected data and building theories based on them, which are, in turn, grounded in the data.
- ❑ The discovery of grounded theory is done through a process of three parallel activities

1. Data collection
2. Coding
3. Writing of theoretical memos

"Let the data speak for themselves" Glaser and Strauss, 1967

