Change Factors in Enterprise 2.0 Initiatives: *A multi-case comparison.*

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Agenda

- Motivation
- Research Approach
- Coding results
- Theoretical Perspective
- Change factors in Enterprise 2.0 and ERP
- Conclusions, Limitations, Outlook

Motivation

- Increasing use of collaborative technologies and Web 2.0 applications in enterprises (McAfee, 2006; O'Reilly & Battelle, 2009)
- "Enterprise 2.0 is the use of emergent social software platforms within companies, or between companies and their partners or customers." (McAfee, 2006)
- Demand for selection and implementation support for collaborative technologies within enterprises (EIU, 2007; Andriole, 2010)
- Focus has been rather on functional aspects in current studies (e.g. Williams & Schubert, 2011)
- "This raises a plethora of research questions with regards to applicability, implementation, usefulness, adoption and appropriation, interaction with other technologies, and impact for organizational change." (Riemer, Seidel, & Watson-Manheim, 2011)

Research Approach

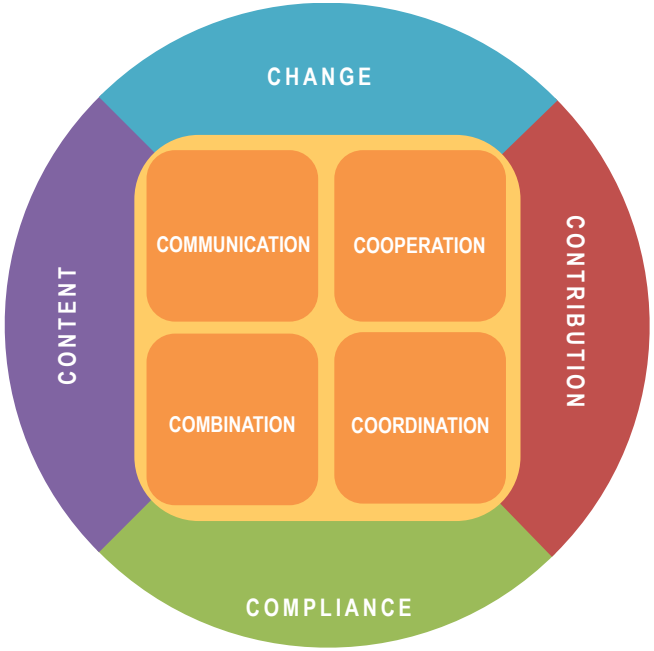

Figure 1: Theoretical lens - 8C-Model (Williams, 2011)

Primary Research Question

- What contextual factors influence introduction initiatives of collaborative technologies (Enterprise 2.0 initiatives)?

Research Question for Change

- What factors of change can be identified during the implementation of collaborative technologies within a business?

Research Approach

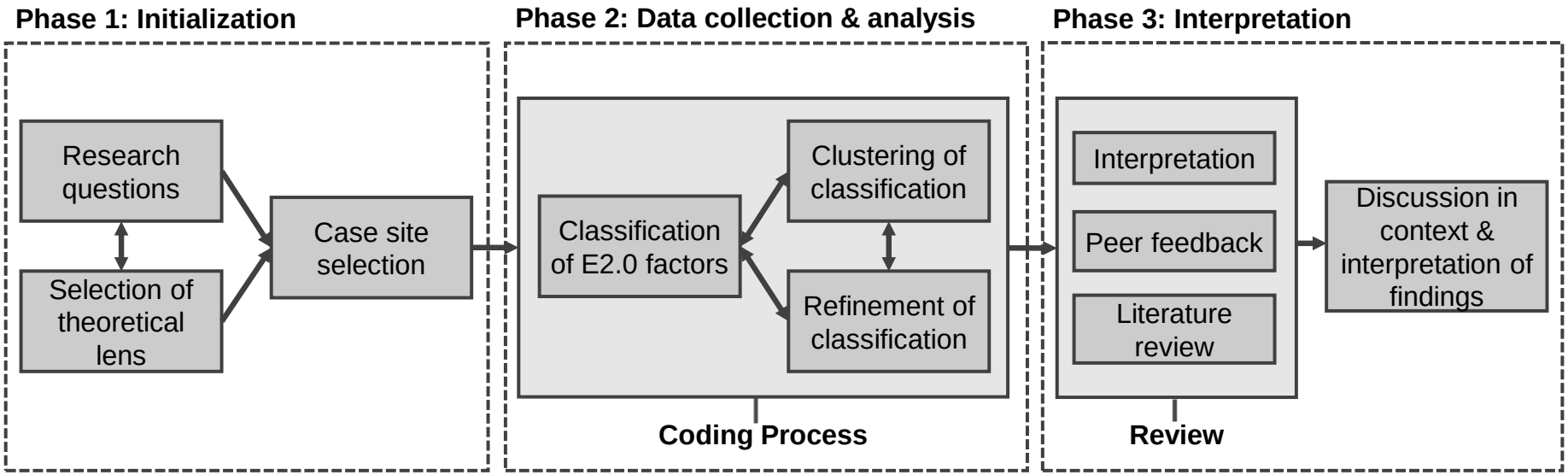

Figure 2: Research Process

Major categories and common change topics in Enterprise 2.0 initiatives

Prerequisites	Management involvement & support	54 %
	(open minded) Culture	36 %
Measures	Implementation strategy	41 %
	User training	23 %
	Regulations	17 %
	Internal promotion	16 %
Implications	User acceptance	48 %
	Design of processes and access management	21 %
	Innovation capabilities	7 %

Table 1: Quotation frequency of common topics in major categories

Classification scheme

Major categories (Grouping)	**Inferential codes**	**Area of action**
Prerequisites (Culture)	Agile approach	Processes
	Cultural change not yet achieved	Organization
	Different employee behavior in social networks as within meetings	People
	Different employee behavior in blogging as within meetings	People
	Culture improved (more open minded)	Organization
	Culture not yet open minded	Organization
Prerequisites (Attitude / Acceptance)	Reduced barriers	People
	Employee fears proactively addressed	People
Prerequisites (Involvement of employees)	Management attention realized	People
	Management as paragon	People
	Management interaction with employees improved	People
	Management support realized	Organization

Table 2: Excerpt from classification scheme for the area of change in Enterprise 2.0 initiatives

Theoretical Perspective

Coming from the cross-case analysis of Enterprise 2.0 case studies, findings need to be put back into context as suggested by Urquhart et al. (2010).

In doing so, our objective is to contribute to understanding the following questions:

- *How do the case study findings relate to research in the IS field, specifically the issue of socio-technical change in information systems?*
- *Are the findings consistent with socio-technical change issues in enterprise resource planning (ERP) settings?*
- *What constitutes the characteristics of socio-technical change in the context of Enterprise 2.0?*

Socio-Technical Change (STC) – Socio-Technical Systems (STS)

- Change is a complex and challenging issue in IS
- STC has been a focus area of IS research, as inhibitor or enabler in the successful adoption and use of information systems (Bostrom and Heinen, 1977)
- STS were first conceptualized in the 1960s by Bamforth, Emery and Trist (Trist, 1981)
- STS evolved into an important theoretical lens in IS, and especially in context of STC (Ropohl, 1999).

➢ Socio-technical change as context for our findings

The Nature of Socio-Technical Change in IS

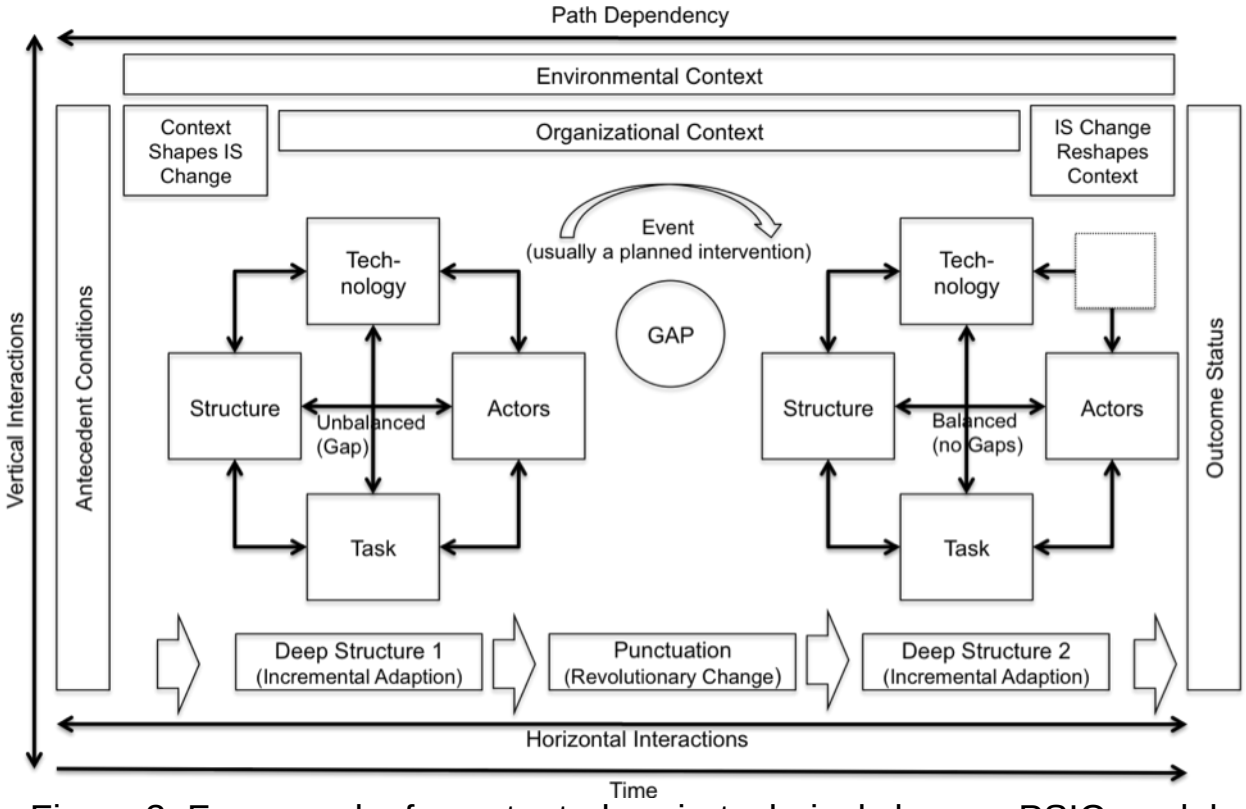

Figure 3: Framework of punctuated socio-technical change: PSIC model
(adapted from Lyytinen and Newman, 2008)

Change Factors in Enterprise 2.0 vs. ERP

Factor	ERP	Enterprise 2.0
Top management support	Setting objectives, communicating strategy, IT's potential and limitations	
Project team competence	Skill-level, technological and business requirements	Lean project teams, users as project team, lower degree of specialization
Interdepartmental communication and cooperation	Cross-departmental, cross-company alignment	Promotion-focused, use-inspiring
Clear goals and objectives	Constraints management, measurability, meta-level	Implementation-focused, set of rules
Project management	Large-scale, complex project organization	Lean project teams
Education on new business proceses	Alleviate fears, gain support, training programs	Inspire to use, lean training or learning-by-doing

Table 3: Factors in ERP context compared to Enterprise 2.0
(see Somers & Nelson, 2001)

Change in IS is Diverse in Nature: Enterprise 2.0 Context Differs Significantly from ERP

Traditional (ERP) Context	Enterprise 2.0 Context
Revolutionary change	Evolutionary change
Large-scale projects	Small-scale projects
Cross-departmental business processes	Often project-team focused
High degree of planning and foresight	Flexibility and adhocracy
Mandatory use	Often voluntary use

Table 4: Nature of socio-technical change in Enterprise 2.0 vs. ERP

Conclusions, Limitations, Outlook

Conclusions

- Findings contribute to the understanding of STC in the E2 context
- Identified common patterns of pre-requisites, measures and implications
- Similarities and differences between change in ERP & E2
- Identified common change factors
- Difference in revolutionary (ERP) and evolutionary (E2) change
- Practitioners can benefit from caution when applying traditional change concepts
- Starting point for researchers to further examine characteristics of E2 change

Limitations

- Small sample, qualitative study
- Investigation on broader empirical basis should be carried out

Outlook

- Integration of E2 specifics into STC framework

References

- Andriole, S. J. (2010). Business impact of Web 2.0 technologies. *Communications of the ACM*, *53*(12), 67–79. doi:10.1145/1859204.1859225
- Bostrom, R.P. & Heinen, J.S. (1977) MIS problems and failures: a socio-technical perspetive. Part I: The causes. *MIS Quarterly*, September issue, 17-32.
- EIU. (2007). *Serious business: Web 2.0 goes corporate* (White paper). Economist Intelligence Unit Report. Abgerufen von http://replyweb20.files.wordpress.com/2008/01/web_20_goes_corporate.pdf
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating Rigor Using Thematic Analysis: A Hybrid Approach of Inductive and Deductive Coding and Theme Development. *International Journal of Qualitative Methods, 5*(1), 80-91.
- Mayring, P. (2000). Qualitative content analysis. Forum: Qualitative social research. Retrieved February 19, 2012, from http://www.qualitative-research.net/index.php/fqs/article/view/1089/2385

- McAfee, A.P. (2006). Enterprise 2.0: The dawn of emergent collaboration. *MIT Sloan Management Review, 47*(3), 21–28.
- Miles, M.B., & Huberman, A.M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- O'Reilly, T., & Battelle, J. (2009). Web squared: Web 2.0 five years on. *Proc. of the 6th Annual Web 2.0 Summit*.
- Riemer, K., Seidel, S., & Watson-Manheim, M.-B. (2011). ECIS 2012 - Social Computing and Collaboration track. Abgerufen November 25, 2011, von http://www.ecis2012.eu/tracks/social-computing-and-collaboration.html
- Ropohl, G. (1999). Philosophy of socio-technical systems. *Society for Philosophy and Technology, 4*(3), 59-71.
- Schubert, P., & Woelfle, R. (2007). The eXperience Methodology for Writing IS Case Studies. *Proceedings of the Thirteenth Americas Conference on Information Systems (AMCIS).* Keystone, Colorado.

- Somers, T.M., & Nelson, K.G. (2001). The impact of critical success factors across the stages of enterprise resource planning implementations. *Proceedings of the 34th Hawaii International Conference on System Sciences.*
- Strauss, A., & Corbin, J.M. (1998). *Basics of qualitative research: techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Trist, E. (1981). The evolution of socio-technical systems. *Occasional paper 2*.
- Urquhart, C., Lehmann, H. & Myers, M.D. (2009). Putting the 'theory' back into grounded theory: guidelines for grounded theory studies in information systems. *Information Systems Journal*, 20, 357-381.
- Williams, S., & Schubert, P. (2011). An Empirical Study of Enterprise 2.0 in Context. *Proceedings of the 24th International Bled eConference.* Bled, Slovenia.

Thank you for your attention.

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Backup

Research Approach

Data: 16 Enterprise 2.0 case studies of customer firms

- Size: 10 to 120.000 employees
- Background: Differing industries (IT, building industry, automotive, …)
- Systems (IBM Connections, MS Sharepoint, Atlassian Confluence, sales-force.com, …)

Applied techniques

- Case studies based on the eXperince method (Schubert & Wölfle, 2007)
- Cross-Case comparison of independent sources (Fereday and Muir-Cochrane, 2006)
- Qualitative, interpretive textual analysis - Coding process (Strauss & Corbin, 1998)
- Application of the „Open Coding“ approach (Miles & Huberman, 1994)
- Computer Assisted Qualitative Data AnalysiS using ATLAS.ti (e.g. Mayring, 2000)

Change

Wilson (1992) stresses changes multi-faceted nature and conceptualizes a change matrix, which characterizes change as either *planned* or *emergent*, and distinguishes between change as a *process*, and change as part of a strategy of *implementation*.