User-heterogeneity in Collaborative Search-Teams

Presentation of a PhD-Project
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Outline

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  - Trigger and Examples
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Collaborative Information Seeking – Definitions

" […]a group of participants intentionally working together in an interactive manner for a common goal […]"

(Shah 2010, S.96)

"[…] the activities that a group or team of people undertakes to identify and resolve a shared information need […]"

(Poltrock et al. 2003, S. 239)

Collaborative Information Seeking – Triggers and Examples

- Situations which call for CIS instead of individual searches are usually complex and involve searching through several sessions
- Examples for CIS-Triggers are:
  - Complex Tasks
  - Lack of Expertise
  - Lack of immediately available information
- Examples for areas in which CIS occurs:
  - Emergency Department/Hospital (Reddy et al. 2008)
  - Scientific Research Teams (Spence et al. 2005)
  - Military Context (Sonnenwald&Pierce 2000)
- CIS is a relatively young research field – many aspects are still understudied

Collaborative Information Seeking - State of the Art

- Variety of tools for collaborative Information Seeking (CIS)
  - Usefulness? Users prefer established and familiar tools for CIS, i.e. Email, telephone, smart phone …
  - Tools for CIS are inadequately evaluated
- Surveys and Experiments on CIS in different Domains, i.e. Healthcare, Military context …
  - Main subjects: approaches and appearance
- Surveys and Experiments on CIS-triggers
  - Which factors trigger CIS?

Collaborative Information Seeking - State of the Art II

- Open questions in CIS Research:

- What tools are required to enhance existing methods of collaboration, given a specific domain?
- How to evaluate various aspects of collaborative information seeking, including system and user performance?
- How to measure the costs and benefits of collaboration?
- What are the information seeking situations in which collaboration is beneficial? When does it not pay off?
- How can we measure the performance of a collaborative group?
- How can we measure the contribution of an individual in a collaborative group?
- What sorts of retrieval algorithms can be used to combine input from multiple searchers?
- What kinds of algorithmic mediation can improve team performance?

(Shah 2012)

User-heterogeneity

- People working or searching together in teams are not a homogenous mass but individuals
- So far there exist no studies in regards to user-heterogeneity in collaborative search teams
- Assumption: depending on inter alia personal traits people behave variably in teams, i.e. have a different affinity to team-work and team-building, behave differently in teams, have different ways to communicate with each other and so on

Goals

- Identify influences connected with personality on team performance and collaborative search
- Deviate Search strategies from the findings
- Deviate recommendations and support measures for the design of collaborative search
- Development of a model which implements searcher-heterogeneity in regards to search role and preferred search strategy

Research questions

- How do Teams organize collaborative search?
  - Which Search Strategies are carried out?
  - Which resources are used?
  - What kind of processes can be examined?

- How is Collaborative Search shaped?
  - Which keywords are used?
  - How do people discuss and compare search results?
  - How can the quality of search results be measured?

Research questions II

- Is it possible to examine a certain behavior in CIS which is connected with the personality of searchers?
  - Do there exist roles or personas which are carried out during CIS?
  - If there are such roles how do they, in connection with personality traits, shape their search?
  - In which way interact different personalities during CIS?

- Do the findings lead to a new model of CIS?
  - Is it possible to integrate user-heterogeneity in this model?
  - Is it possible to expand existing models and integrate CIS-structures?

Preliminary Thesis

- There exist differences in the search behavior of individuals when they search collaboratively
- Personality of searchers does have an influence on the search behavior
- Personality of searchers does have an influence on team performance
- Attitude and affinity towards Teamwork have an influence on search performance in collaborative search scenarios

Future Plans

- Online Survey of CIS in academic and collegiate teams
  - Survey to collect basic data in regards to frequency and implementation of CIS and personal trait influences on teamwork
- User Study
  - Examination of CIS in collegiate teams
- Diary Study
  - Still open

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