

Typology approaches for Enterprise 2.0 applications and Technologies

Christian Neubert

Software Engineering of Business Information Systems, TU München

Michael A. Stecher

Institute for Information, Organization and Management, LMU München

Stefan Taing

Institute for Information, Organization and Management, LMU München

1 Introduction and motivation

The rapidly growing number of different social software applications and web 2.0 technologies (coined as Enterprise 2.0 when used in an organizational context) in combination with shorter innovation cycles leads to the fact that many enterprises and increasingly also experts lose the overview and cannot keep pace with the development any more. A typology could provide valuable assistance for users, developers and researchers equally. New applications and technologies can be characterized according to certain characteristics, categorized according to their primary purpose and enables thus a thorough assessment.

2 Typology approaches

In principle several different approaches of a typology are conceivable, which are outlined briefly in the following.

2.1 Theory-based typology

The theory-based approach to the categorization of Enterprise 2.0 applications and technologies builds up on the taxonomy of media characteristic features as an aid for the appraisal and characterization of well-chosen media types. This taxonomy identifies eight theory-supported characteristics over six different medium choice theories for the characterization of six different medium types (meeting, videoconference, telephone, Instant Message, email, file deposition). An extension of this system around further characteristics (e.g. context integration, awareness, structuring of information, support of the cognitive information processing, media literacy etc.) and additional medium types (e.g. wiki, blog, forum, podcast etc.) appears promising. Necessary condition for this is an investigation to what extent further characteristics can be identified from other theories of the information system and organization research (e.g. adaptive structuration theory, information processing theory, task-technology fit etc.).

2.2 Service-oriented typology

The service-oriented categorization, called Services Catalog, is based on the functional analysis of seven commercial and open source Enterprise 2.0 tools. The catalog considers functionality provided out-of-

the-box by the main distribution of each tool. Plugin-mechanisms, open APIs and non-functional aspects (e.g. cost, performance) are not considered. The catalog differences the two concepts Content Types and Services. The first define carrier elements for any kind of content, e.g. Wiki, File, Tag. To make the content accessible different Services are provided upon, e.g. the service 'WYSIWYG-Editor' for the content objects Wiki-Page. Similar services are grouped to Service Categories. For instance, the category 'Link Management' contains services dealing with the handling of references between content objects. The context of a service is either focused on content objects or on aspects concerning the user of a tool. Thus the categories are classified in content-centric and user-centric.

2.3 Function-based typology

A function-based typology aims at categorizing according to their support of communication i.e. between employees. This forms the basis for cooperation, independent work processes in pursuit of a common goal, coordination, managing dependencies between activities and knowledge sharing, enabling efficient ways to find codified as well as personalized knowledge and extracting it. The objective of this approach is to provide a guideline which functions are suitable for different work scenarios according to the Genre-Media Fit.

3 Exemplary application – Typology of a Wiki

The following sections show how the outlined typology variations can be applied upon a Wiki and Wiki-Pages respectively.

After the theory-based typology introduced a Wiki can be characterized and arranged as follows. A Wiki is characterized by a good and iterative workability, reusability and an automatic documentation of the message. The (technical) structuration of the information is high and the cognitive information processing of the recipient is well supported in comparison to other media types. The communication direction is polydirectional and the communication form is primarily written and symbolic. Communication disturbances hardly appear. Possibly arising primary pathologies of information are rather knowledge-conditioned and the amount of pragmatic information is high. However, a Wiki scores only averagely within the spectrum of the transferable signals (primarily text and picture) and in the media competence that is necessary to use. Basically a Wiki is suitable particularly for structured to unstructured tasks and information with a high half-life.

According to the service-oriented approach (services catalog) following services for the content object Wiki-Page are provided. Users can create and edit Wiki-Pages collaboratively and concurrently (authoring), a WYSIWYG-Editor is used to add content. All content can be found utilizing search functions (search). It is possible to tag Wiki-Pages (tagging) and reference other content objects by using hyperlinks (link management). The evaluation within the Wiki-Pages life-

cycle is tracked in a version history (version management), comments and ratings can be added to a page (feedback). User can follow the page activities (awareness) and view statistics of access behavior (usage analytics). The alignment of all actions and view elements of a Wiki-Page is consistent compared to pages of other content objects (consistent GUI) and the look and feel of certain functional areas of a page can be customized (personalization).

According to the function-based typology a Wiki supports asynchronous communication. Information can be exchanged using articles and comments. Cooperation is supported for example when several authors work on a specific article not necessarily synchronous but in an iterative way. Coordination is not specifically supported by a Wiki. However it is conceivable to integrate team calendar functionality. The core functions however are clearly knowledge codification and sharing.

4 Outlook

The dynamic and relatively new concept of Enterprise 2.0 provides a plethora of research opportunities at the intersection of IT, organizational behavior and sociology. The dynamic character of the Enterprise 2.0 market however requires a sound framework to categorize and thus enable the assessment of potentials. The described typology with its multi-view approach provides a scientifically founded framework for such endeavors.