

# Motivation Revisited.

## The Open Question of User Motivation in the Light of System Theory

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### Introduction

The following study formulates a system theoretical approach to address the open question of user motivation in Wikipedia. Based on Niklas Luhmann's system theory it aims to enhance the hitherto existing descriptions of the phenomenon. To this end, a system theoretical point of view allows the explanatory combination of motivational and structural levels. Therefore, the processes on a textual layer are examined that produce a state of system identity, which is, in conclusion, a feeling of community involvement that motivates the users to take part.

### Recent Research

#### FLOSS

- concepts of gift economy, epistemic community and community of practice
- group structures define member interactions / identity reorganizes itself through interactive patterns
- concept of 'reflexive identity' as important element of community engine (Rullani 2005)
- identification with team goals as motivational factor - VIST- + EK-model (Hertel / Niedner / Herrmann 2003)

#### Wiki

- intrinsic and extrinsic motives, identification with the Wikipedia project (Schroer / Hertel 2006)
- intellectual challenge and group work (Rafaeli/Hayat/Ariel 2005)
- rewards within the project - 'merit based social order' (Stvilla et al. 2005)
- community aspects and norms
- 'praise' for contribution as a possible motive (Tobacman 2005)

Most works are based on reactive methods. Contrary to that, Niklas Luhmann's system theory provides the background for a non-reactive explication of the structural emergence of user motivation.

### System Theoretical Approach

The motivation of Wikipedians can (partly) be described by the internalization of the system identity which is a form of community feeling.

### System Identity (Luhmann 1991; 1997)

#### Complexity

- system is unable to structure cognitive content for creating information
- outsourcing of subsystems that observe just a few criteria of the environment
- subsystems only detect other subsystems as their environment
- observation load per single subsystem heavily reduced

#### Self-referentiality

- systems allude to each other to actualize representations of sense
- meta-discourses allow for reflecting such sensual representations
- creation of representations of other's representations of sense
- representations regarded when choosing for connective communication

#### Autopoiesis

- communicative behaviour redounds to corporate reproductions of expectations of expectations
- subjective representation of collectively shared sense within the system
- systemic identity stabilized

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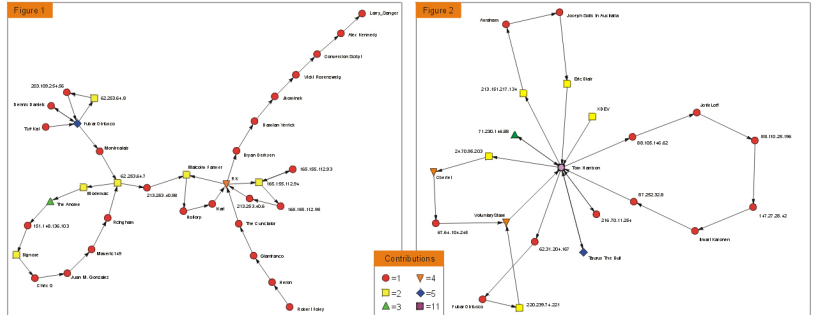
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### Social Network Analysis

Social Network Analysis provides the methods and tools that help to analyze and visualize the structural emergence of motivational aspects in Wikipedia usage. Therefore, it can be utilized to statistically and graphically verify our system identity approach.

The following network graphs on [[Conspiracy theory]] at the beginning (figure 1, 50 entries, 2001-11-12 to 2002-10-22) and the current end (figure 2, 50 entries, 2006-06-25 to 2006-07-11) of the writing process give first evidence towards motivation on a structural level (tool: Ucinet/NetDraw). The different shapes refer to different amounts of submitted text. Consequently, users characterized by higher amounts of text are visible as centered nodes within the network. They are referred to more often than others. Thus, they are surrounded by a plurality of directed arrows. It can be concluded, that users with higher amounts of text (that is often followed by texts of other users) have to be characterized as motivated users. Whereas, other users appear to be less involved and therefore less motivated. These become peripheral nodes in the graphs. The changes in the network appearance could be interpreted as a form of specialization that is reflected in heightened symmetry.



### Conclusion

Community feeling is one of the most important elements of user motives. Wikipedians share a kind of collective sense that sticks them together making them experience a form of identity, which is inherent to the system.

In future research, all previous theoretical considerations should be statistically verified with further appliance of social network analysis. Thereto, single articles will be examined at different points of time focussing on the interactional structure of involved users. Over the time, a network should evolve based on a feeling of being part of the community and its essential operations. This is considered to be a kind of intrinsic motivation that results in an ongoing activity of the users. Moreover, the appearances and disappearances of old and new user will be made visible with the help of analyses of time flows. The actions of changing and commenting as well as forms of feedback will be further considered, too. Therefore, it will be essential to include the discussion pages and comment tags in the history of the article. Correlations of these shared representations of identity will also be visible. In addition to that, splitting the process into certain time segments should reveal specified centrality and prestige measures in this social network. This could lead to a more comprehensive observation of the elements of identity construction.

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