

Technology-based Collaboration, Social Networks and Knowledge Management Processes in Journalism. A Pilot Study

→ Exploration in Austrian editorial offices and newsrooms

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Knowledge management processes in journalism depend on several preconditions, such as

→ Organizational structures (workflows, work shares, hierarchies, management, cooperation requirements and convergence – like newsroom concepts or multi-platform publishing);

→ Technical equipment and working facilities (which kinds of technologies support cooperation; Web 2.0. Social Software etc.)

→ Information Resources that are available in the editorial offices (databases, archives, dictionaries, special search engines) as well as the vocational training offered into the use of ICTs.

→ Architecture of the editorial office (whether it is separated in news offices, possibly spread over several floors of a building, or simply a one floor concept like a newsroom)

Which leads us to our **Research Questions**

1. How do Austrian editorial offices deal with the topics of content- and knowledge-management (from data recording, data storage and management up to data supply, securing and information retrieval)?

Which technological infrastructure (ICTs) is available for the editorial staff?

Which kind of knowledge management infrastructure exists?

Do the journalists have positive opinions of the ICTs and KMI? (Adoption)

What does the individual knowledge organization of the journalists look like?

Which vocational trainings on ICT use were on offer for the editorial staff?

2. In what way are the cooperation- and collaboration processes organized?

Is cross media collaboration required? (Convergence)

Are there imperative dependencies in the workflow/in the working process? (I.e. 24/7 production)

How do the journalists share their knowledge with others/colleagues? (Input to databases, CMS or editorial systems; E-mail, paper, face-to-face etc)

3. To what extent do social contacts have an impact on the information- and knowledge flow in editorial offices – as opposed to technical systems and facilities?

Is there computer-supported communication with colleagues in the case of knowledge sharing?

4. Does the “geographic of workplaces” have an influence on knowledge sharing?

Are newsroom workers better informed and do they share more knowledge?

Sample

To answer these questions we asked 26 Journalists¹ in Quality News Media (Print, Radio, TV, and Online) in addition to 9 of their responsible managers in information- and knowledge management (otherwise technical experts or members of the media management). Also 4 expert interviews with researchers in the field of knowledge management completed the academic view.

¹ 19 male and 7 female; 53% academic (14 Print, 6 TV, 2 Radio, 2 Online, 2 Agency)

In sum 39 interviews in 2008 plus 27 interviews in 2007 with a focal point on research practice and 2 academic experts were carried out. (68 interviews)

Definition of Knowledge

The sociologist Daniel Bell (1973)² made a distinction between data, information and knowledge. While data are rough material and information is a kind of processed data, knowledge shows an organized structure of information: *It is a number of organized statements on facts and ideas.*

This refers implicitly to the social aspects of knowledge, which were categorised by Polanyi (1966)³ distinction into *explicit* and *implicit* dimensions of knowledge: explicit knowledge is like a strategy book, which is relatively useless without a tacit dimension. “The tacit dimension allows people to see when to apply the explicit part.” (Brown/Duguid 2002: 134)

Based on this idea, information distribution, knowledge and learning in the organizational context of editorial offices must be discussed critically on the basis of social networks:

- Knowledge sharing seems to be strongly related to social interaction and social participation in knowledge creating processes (as Communities of Practice show).
- Learning from abstract definitions is far less successful than learning in everyday practice.
- Learning on demand is required, as people learn in response to need.

This kind of social driven learning and knowledge sharing might be carried out under several conditions, while two types of work related networks are critical for understanding learning, work, and the movement of knowledge. (I.e. Brown/Duguid 2002: 140f):

1. Firstly in so-called Computer Supported Social “Networks of Practice” where people have practice and knowledge in common (they share the same interests), but most members are unknown to one another. There is indirect communication and relatively little reciprocity in such networks. (Newsgroups, Newsletters, Blogs etc.) = weak ties
2. The second type of Work Related Networks (Communities of Practice) is knit more tightly, for it shows groups formed by people working together on the same and similar tasks, who know each other directly. There are usually face-to-face communications and coordination with each other directly in the course of work. The reciprocity is strong and the coordination is tight, so “ideas and knowledge may be distributed across the group” (Brown/Duguid 2002: 143), but such groups have limits to an extent. = strong ties

In the 9 analyzed editorial offices (quality news media) in Vienna/Austria we might find both prototypes of knowledge sharing. On the one hand **computer related information gathering**, which has become increasingly useful for journalists (actual, quick, global), and on the other hand the “**geographic of information flow**” is expected to enhance knowledge sharing, for people working together in the same department (news room, news desk) close to each other share more information than separated working people.

The positive search for knowledge depends often on who one is sitting close to. So-called “learning-networks” might be established with close contacts and shared spaces.

In both cases, the journalists build up specific kinds of social networks – which are comparable to social capital.

² Bell, Daniel (1973): The Coming of Post-Industrial Society. A Venture in Social Forecasting. New York: Basic Books

³ Polanyi, Michael (1966): The Tacit Dimension. Garden City, NY:Doubleday

Results (in brief)

Austrian journalists, as well as their German (Springer/Wollig 2007; Weischenberg/Malik/Scholl 2006) and Swiss (Keel/Bernet 2005) colleagues, are increasingly dependent on ICTs in working processes and information sources on the Internet.

Technical Resources: Do the journalists have adequate working equipment?

All of the respondents have a PC, Telephone/mobile phone and Internet access and use news agencies (96%), editorial systems (92%) and external (89%) or internal (65%), databases and local intranet (58%). Also, digital cameras (85%), data sticks (73%), mobile Internet/data cards (58%), digital recorders (58%) and Internet phones (42%) are in use frequently. But the editorial offices lack mobile technologies like desktop recorders (35%), PDAs or iPods (both 27%), navigation systems (23%), but especially mobile scanners (8%) and mobile printers (4%).

As the results of the two Pilot Studies show, journalists have adopted ICTs very quickly in their daily professional routines (searching, interviewing, writing...). Internet homepages (100%) and search engines/Google (96%) are frequently in use, and even Internet forums (58%), social networking Sites (53%) and blogs (50%) as well as RSS feeds (46%) become more popular.

But the spectrum of the used technical resources is still rather small, for the use of instant messengers (23%), internal blogs or Internet calls/Skype (both 19%), internal wikis (15%), internal chats (4%) or social bookmarking (0%) are not common either.

→ Journalists do not mainly use ICTs for collaboration but for single work (searching, news gathering...)

E-Resources	Percent	n = 26
Internet Homepages	100%	26
Search Engines/Google	96%	25
News Agency/Agencies	96%	25
Editorial Systems/CMS	92%/50%	24/13
External Databases	89%	23
Intranet	81%	21
Wikis (Wikipedia)	81%	21
Internal Databases	65%	17
Internet Forums	58%	15
Social Network Sites	53%	14
Blogs	50%	13
RSS feeds	46%	12
Instant Messaging	23%	6
Internal Blogs	19%	5
Internet Telephone	19%	5
Internal Wikis	15%	4
Internal Forums	15%	4
Internal Chat	4%	1
Social Bookmarking	0%	0

Equipment	Percent	n = 26
PC, Telephone/Mobile, Internet	100%	26
TV	89%	23
Laptop	85%	22
Digital Camera	85%	22
Data Stick	73%	19
Mobile Internet	58%	15
Digital Recorder	58%	15
Mobile Phone/Internet	42%	11
Digital Video Cam	39%	10
Desktop Recorder	35%	9
iPod	27%	7
PDA	27%	7
Navigation System	23%	6
Mobile Scanner	8%	2
Mobile Printer	4%	1

Cooperation & Collaboration: E-Mail vs. face-to-face

Special attention has to be paid to e-mail, for it is the most frequently used communication tool in Austrian editorial offices and even newsrooms. It is used as a tool for supporting information flows and communication.

While the journalists are not strongly integrated in so-called **1)** electronically “**Networks of Practice**” such as newsgroups or blogs on the Internet, they prefer e-mail in working processes (96%). In situations of information exchange they prefer face-to-face interaction to email, but also papers or phone calls or its combinations for collaboration. They are not seeking for advice on the Internet.

But: 17% of the journalists’ social contacts (87 persons from 501 totally) are mostly electronically supported. Only 1.6% (8 contacts) are exclusively digital, i.e. contacts with meteorologists, registrars or officials.

Search practice: Journalists prefer Internet search engine “Google” to professional Databases

In the case of information searching the journalists use only few semi-professional Internet services (blogs, newsgroups) but frequently use search engines/Google (96%) and also wikis/Wikipedia (81%) – not the text, but its added links and references.⁴ Some journalists explain, that professional Databases and Archives are not cost free and charge the budget of the offices.

The interviewed Journalists were mainly single workers and definitely not team players (despite cross-department-production being required of 39% of the respondents; and cross media production being required of 19%). They share personal research results only under

⁴ Responsible information managers of three editorial offices stressed the fact, that Wikipedia is prohibited for search.

special conditions (high complexity of a story or extreme time pressure) with other journalists. Therefore trust and confidence are basic preconditions.

Data Storage and Knowledge Sharing: Systems and Practices

Most of the editorial offices store only published articles within their Editorial- or Content Management Systems⁵, but not the underlying search information or the knowledge, how to find this information. Therefore journalists are self-reliant and get no assistance. They are not obligated generally by the editorial offices to store their research results in digital Systems. Data preservation is only usual in the news agency (APA), and large news companies (ORF/public broadcasting) or high quality newspapers (Der Standard; Die Presse) that have their own archives and database-specialists. Thus, only few journalists get support from database specialists in their research processes.

Some journalists complained about the complicated information retrievals or slowness of the systems/archives/databases.

Most of the private stored information is not given access to at all – especially contacts (personal data, phone numbers, addresses) are withheld/retained and saved in private mobile phones or e-mail folders. 12 journalists (43%) state that they provide free access to their private information for a few colleagues.

There were different strategies like storage on one's own desktop, the paper deposit (still very popular!), the e-mail system (sending e-mails to one's own address) or even bookmarking of Internet sites. Some journalists describe their practices as somehow unsystematical and chaotic. A few journalists don't even store anything – for information can be easily found on the Internet and is not expected to disappear.

→ Journalists notice personal information- and knowledge management as an individual task. Knowledge is a competition factor: the more explicit and tacit knowledge they have, the more valence for the company and the better their chances in pushing their careers (or even keeping the job).

2) “Work Related Networks” – Communities of Practice

Depending on the architecture of the editorial offices and agencies, different locations and situations of information exchange were identified.

Professional meetings and conferences are held mostly on the workplace or in meeting rooms (25 statements).⁶ Formal information is exchanged in meeting rooms, at workplaces but also at “third places” like smoking rooms or kitchens. (9 Statements).

Informal talks and information exchange seem to be strongly related to “coffee and cigarettes”: more than 20 statements were made on smoking rooms/areas/tables and coffee/tee kitchens as ideal locations for informal communication. Also, external bars/cafes/restaurants or cantinas seem to be appropriate. In some cases, the corridor or “on the point of leaving” were also mentioned. The topics of these informal communications are private talks, gossip, as well as work-related problems.

→ Brown/Duroid 2002 point out, that social contacts and social closeness improve the exchange of tacit knowledge. (= the social life of information)

19 interviewees also made statements on the improvement of information exchange and communication, focusing on the creation of comfortable “social locations” with tables and chairs and also demanding social events like celebration, parties or even a blackboard.

⁵ Generally the stored articles/stories are available for newcomers – so they get some information input and assistance from the internal Systems and are not required to build up all knowledge on their own initiative.

⁶ One newspaper prefers „standings“ is stead of „sit ins“.

Learning in the departments/offices (IT use) is strongly related to personal tips and advices from colleagues (15 statements). Only 4 persons prefer learning by themselves, and even fewer (3) use handbooks or hotlines. 12 interviewees mentioned the practice of “learning by doing” and “trial and error”.

Social Networks & Social Capital

The data of the ego networks were collected with a name-generator, comprising 12 questions on work relations, socializing, and trust. Thereby, distinctions between internal and external contacts as well as electronically supported contacts could be made.

The average size of the work-related social networks of 23 journalists is 21,8 social contacts (three elder journalists, two 50+ and one 40 + refused the network generator). Comparison with work related networks of team worker in a mobile-phone-company (28 social contacts) and university staff members/gender mainstreaming (37 social contacts) highlighted the fact, that this is rather low.

44% of all contacts (n=501) are department-internal contacts. Approximately 22% were external contacts, mostly with other journalists, media workers, PR agents or political representatives. While male journalists have only 18% external contacts, females have 29%!

Trust: 32% of the contacts are supportive in the dimension of trust, especially in the networks of the elder journalists (40-49 years): they sum up to 40% contacts of trust. In comparison the Younger (19-29 years) trust 27% of their contacts.

Compared to the mobile phone team workers this percentage of trustful contacts is average. 6 interviewees have strong ties and dense networks (4 male, 2 female) while working in single-floor offices!

Approximately 19% of the contacts are strongly electronically supported or exclusive digital.

The results show also barriers of knowledge transfer

- Mistrust
- Lacks of social contact
- A possible lack of specialized contacts in “Networks of Practice” on the Internet or Intranet?
- Lacks of room resources, esp. facilities that support social contacts and communication (“coffee and cigarettes”)
- Deficits in technical support and facilities

Outlook to the future of journalism research

Research into editorial knowledge management practices and ICT-training facilities for the editorial staff to ensure adequate professional news production will be essential: The understanding of information gathering and knowledge sharing processes is a fundamental task in communication research.

On the one hand information-documentation, cooperation and collaboration in editorial offices or newsrooms could enhance problem solving and also increase the speed of information processing; on the other hand, using social network facilities might prevent dysfunctions and drawbacks.

According to this a research focus on the organization of technology-based collaboration processes is required. For: Technology-based social networks have been revealed in other branches for their promotion of ideas and innovation as well as community building aspects. Also, several structural changes such as the decline of hierarchies or changing preconditions for cooperation have been found (Wellman 2001; Haythorntwaite et al. 2003; Götzenbrucker 2004, 2005)