

Communication in the virtual space



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Agenda

1. Online communication
2. Media choice in computer-mediated communication (CmC)
3. CmC media features
4. CmC modes
5. Communication tools
6. Selection of communication tools



1. Online communication

Internet as a medium

*"If we conceive of communication as symbolic interaction (...), then media can be seen as means of communication that enable **intentional sign processes** between people across **spatial, temporal, or spatiotemporal distances, and** in such a way that **understanding** can take place. Media **technicize, reproduce, and modulate** symbolic processes of interaction" (Beck 2006, p. 12).*

*"Media as technically based sign systems that are used in the social coexistence of people for the purpose of **understanding in an institutionalized and organized** form" (Beck 2017 after Beck & Jünger, 2019, p. 9).*

1. Online communication

Media character of online communication 1

- **As a technical medium**

- Transmission, processing and storage technologies
- Markup and programming languages as well as applications such as web browsers or e-mail clients as a basis enable processing / presentation of different character types as well as their combination

- **As a sign system**

- No different media → combination of differently coded data or "multicode"
- In a non-linear whole text → linked
- Strongly interlinked, differently coded data and different character systems → Hypertext/Hypermedia

1. Online communication

Media character of online communication 2

- **As an organized medium**

- Extremely complex organization → diverse layers implemented by different organizations
- Access provider: Technical access to the telecommunications network
- Service provider: Provider of specific services (mail, social networking, etc.)
- Content provider: Content provider with legal responsibility

- **As an institutionalized medium**

- Starting from habits (habitualization) to the formation of permanent sets of rules (institutions)
 - ✓ For basic manners (netiquette)
 - ✓ Legally binding framework (copyright, protection of minors, etc.)

Beck & Younger, 2019, p. 9)

2. Media selection in the CmC

Rational: Social Presence Theory

- Rational choice of media = selection of the medium that best meets the factual and social requirements of the communication task (media appropriation)
- Basic idea: Media mediation impoverishes interpersonal communication

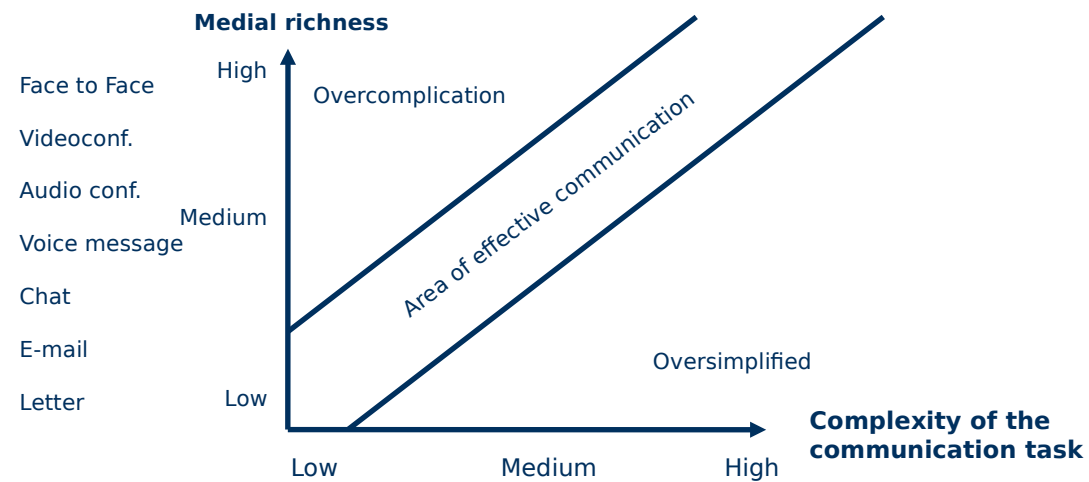
Social presence

- Extent to which an conversation partner is perceived as a natural person when communicating via electronic media
- Decisive for perception: non-verbal and para-verbal parts such as gestures, facial expressions and intonation, but also the clothing and appearance of people

2. Media selection in the CmC

- Rational Media Richness Theory

Media Richness Theory



(Daft & Lengel, 1984)

2. Media selection in the CmC

- Rational Media Richness Theory



2. Media selection in the CmC

Rational: Media Synchronicity Theory

Media Synchronicity Theory

- Not richness but synchronicity is decisive
- Five factors of the media:
 1. Immediacy of feedback: Possible speed of response
 2. Symbol variety: Possible ways of conveying information
 3. Parallelism: number of channels on which people can communicate simultaneously in different communication processes
 4. Revisability: possibilities for contribution revision
 5. Reusability: Possibilities for reuse
- Media use dependent on communication processes
 - *Convergent processes* serve to condense information → eliminate ambiguities → high synchronicity
 - *Divergent processes* serve to transmit/distribute information → reduction of uncertainties → low synchronicity

(Schwabe, Hesse & Friedrich, 2001; Dennis & Valacich, 1999)

2. Media selection in the CmC

Normative and interpersonal media choice

Normative media choice

- Media choice influenced by social norms and operating competence
→ not a rational decision
- Must harmonize with social norms of the reference group (e.g. colleagues at work)

Interpersonal media choice

- Aligned with counterpart → may evade individual media preferences (e.g., not reading emails regularly) or impose certain media choices (e.g., persistent calling afterward)
- Success of media communication depends on consensual negotiation of media preferences
- Deviations from rational media choice can be explained by personality dispositions (e.g., shyness), sociodemographic characteristics (e.g., age), media experiences, evaluation and acceptance of different media (perceived usefulness/user-friendliness)

(Doehring, 2013)

3. Media selection in the CmC

Group communication problems

Technical problems

- Hardware and software problems
- Acceptance problems
- Lurking = difficulty in getting group members to participate actively in network-based scenarios at all (Hesse & Giovis, 1996).
- Lack of ability to select the right tool for a given task



Continuously losing importance due to technical progress and increased user-friendliness

Problems due to deficient knowledge sharing

- Under text-based conditions, less unshared than shared knowledge is exchanged → compared to face-to-face situation, less shared knowledge is contributed
- Under videoconferencing conditions, no less unshared than shared knowledge is exchanged → compared to face-to-face situation less shared knowledge is contributed

(Reinmann-Rothmeier & Mandl, 2002).

3. Media selection in the CmC

Group communication problems

Problems due to lack of social cue stimuli

- De-personalization of the individual → uncontrolled communication and violent emotional outbursts, so-called flaming
- Reduced feedback opportunities → make consensus building difficult

(Reinmann-Rothmeier & Mandl, 2002).

Problems due to lack of common ground

- Creating Common Ground - shared task understanding is more difficult in computer-based environments due to the lack of nonverbal cues (Lauer et al., 2006).
- Grounding = creating/maintaining common ground (Baker et al., 1999) → not only sharing information, but also building a common understanding regarding the meaning of the information and the terms used (Clark & Schaefer, 1989)

(Niegemann et al., 2008).

3. Media selection in the CmC

General approaches

Social Awareness

- (Personal) information about the members of the group (e.g. illustrated profiles) lead to positive group effects, especially in the perception of the group feeling as a whole

Action Awareness

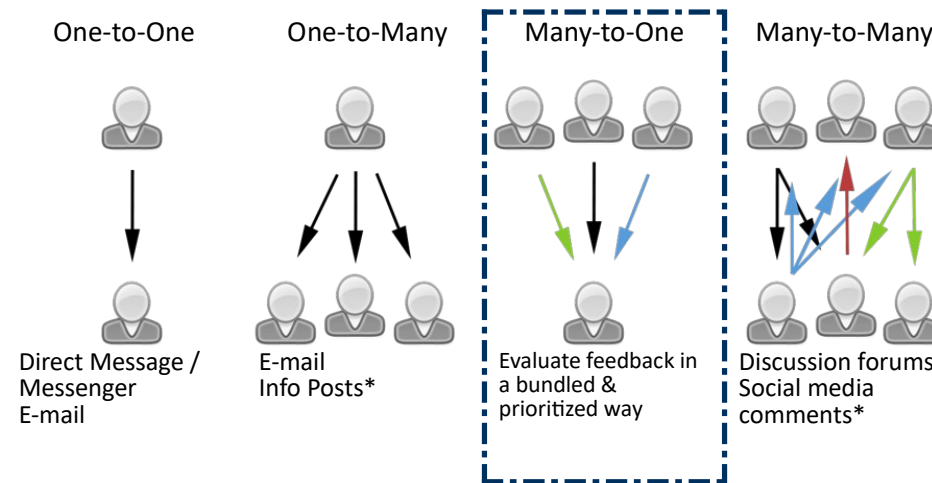
- Information about the activity of other group members leads to an adjustment of one's own behavior
 - On info that the other group members are very active ↑ own activity.
 - Own activity ↓ with info that the other group members are little active

(Niegemann et al., 2008).

4. Modes of CmC

Configurations

Differentiation according to the number of communication partners and structure



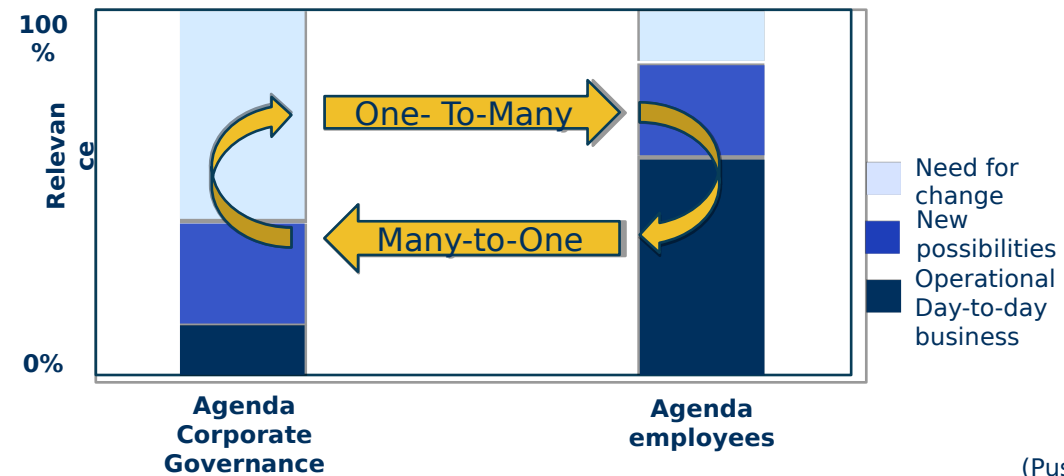
<https://www.wrike.com/blog/knowledge-decays-how-organization-can-keep-up/>



4. Modes of CmC

Configurations - Many-to-One

Agenda matching with Many-to-One



(Puschkin, 2013)

Concrete implementation using the case study: [Airbus](#)



4. Modes of CmC

Temporal and social order criteria 1

Synchronous forms of communication

- Synchronous simultaneous communication - communication partners react to each other in real time (e.g. audio and video conferences, instant messenger/chat*)
 - Location-independent and direct exchange between different persons or groups permanent internet connection required
- Advantages:
 - ✓ Enables tangible presence to directly answer questions or conduct meetings → topics can be quickly resolved
- Disadvantages:
 - ✓ Compulsion to react ad-hoc → lack of reflection time
 - ✓ Lack of controllability of the time spent

*opposite simultaneously online

(eteaching.org, 2015)

4. Modes of CmC

Temporal and social order criteria 2

Asynchronous forms of communication

- Asynchronous non-simultaneous communication - response with time lag (e.g. forums, e-mail)
- Location and time-independent exchange between different persons or groups of persons
- Advantages:
 - ✓ There is no need to respond immediately to a request or contribution to the discussion → greater flexibility in terms of time and space, as well as the opportunity to take time and be more thoughtful in making a statement
- Disadvantages:
 - ✓ Responses may arrive too late or be forgotten. Information may be harder to find and the references of messages unclear → misunderstandings
 - ✓ Lack of consideration of whether information is truly important to others (FYI, cc).
 - ✓ No control in which mood the message is interpreted

(eteaching.org, 2015)

5. Communication tools

- Social Networks & Wikis

(Enterprise) Social Networks

- Collective term for all tools:
 - For the presentation of the own person
 - For exchange and maintenance of contacts in networks
- Basic form = illustrated profiles based on personal data

- used for**
- Yellow Paging
 - Quick exchange
 - Infrastructure for informal network-based learning
 - File exchange

(Bernhardt & Kirchner, 2007, p. 60; Reißing, 2010, p. 33; Spiro & Jehng, 1990).

Wikis

- Collective term for simple content management systems:
 - For online development of networked content
 - Readable by others
 - Changeable by others

- used for**
- Establishment of individual knowledge platforms
 - Content discussion
 - Linking conceptual worlds, dynamically developing knowledge networks
- Structure allows individual learning paths
 - "Criss Crossed Landscapes.
 - "Random Access Instruction"

5. Communication tools

- Blogs & Microblogs

Weblogs - Blogs

- Composed of web and log (diary):
 - Regularly updated, downward chronologically linked online journals
 - Content on a wide range of (specialist) topics

**used
fo
r**

- Research on current topics
- Further evaluation of new findings
- Accompanying learning/project diary

Microblogging

- Short form of blogging:
 - Focused on exactly one statement
 - Contributions thereby quick to capture
 - Categorized via #hashtags

**used
fo
r**

- Communication
- Current information
- (Expert) networking

(Reichmayr, 2006, p. 1; Robes, 2012; Kerres & Preußler 2010, p. 5).

5. Communication tools

- Media Sharing Forums & Tools

Forums

- Virtual space for asynchronous exchange and archiving of...
 - Thoughts
 - Opinions
 - Experience
- Specific main topic, divided into several subtopics with their own directory → subforums
- Contiguous posts responding to each other → thread or topic

used
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- Advice on a specific topic
- Discussions
- Professional exchange and news

Media sharing tools

- All applications for sharing...
 - > Image material (e.g. Flickr)
 - > Presentations (e.g. Slideshare)
 - > Video material (e.g. Youtube)
 - > Audio material (ex. educational podcasts)

used
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- Research on current topics
- Further evaluation of new findings
- How-tos & Tutorials

(Ebner, 2008; Bernhardt & Kirchner, 2007, p. 62.)

5. Communication tools

- Project management tools

Tools for collaborative work

- Allows multi-authored text, tables and presentations
- Mostly platform independent
- Allows multiple people to work on documents
 - Synchronous
 - Asynchronous
 - Cooperative
 - Collaborative

used
for
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- Document exchange
- Parallel editing
- Trace and undo changes

Project management tools

- Serves for planning and pre-structuring of projects
 - Support project management tasks and operational project work
 - Enables collaborative project management through
 - Clear representation
 - Central data storage
- used
for
- Distribute tasks
 - Setting milestones
 - Include files

(Bernhardt & Kirchner, 2007, p. 62 ; Peipe, 2011, p.186).

6. Selection of communications tools

Recommendations for the use of synchronous communication

Synchronous media

- **Unclear level of knowledge of the counterpart**
Quick clarification of facts or questions when it is unclear how well the person being contacted knows about a topic
- **Joint, quick decisions with a good relationship of trust**
In the case of time-critical tasks/projects, waiting times and blockades can be reduced by a quick conversation
 - ✓ Not recommended in case of mistrust or uncertainty between dialogue partners → lack of time for reflection
- **New conversation partners - Scanning**
As an early form of communication to get a better picture of each other and to better assess each other in terms of competence and personality

6. Selection of communications tools

Recommendations for the use of asynchronous communication

Asynchronous media

- **Much need for explanation or high complexity, high competence gap**
If topics are difficult to survey → written explanations more efficient, counterpart can look things up
- **Topics not critical in terms of time**
Communication at the personally preferred time → more concentrated work possible
- **Need for documentation or low confidence**
What is written down remains verifiable → in case of doubt, it can be clearly proven who handed over which instructions or information

(Mueller-Zielke, 2018)

6. Selection of communications tools

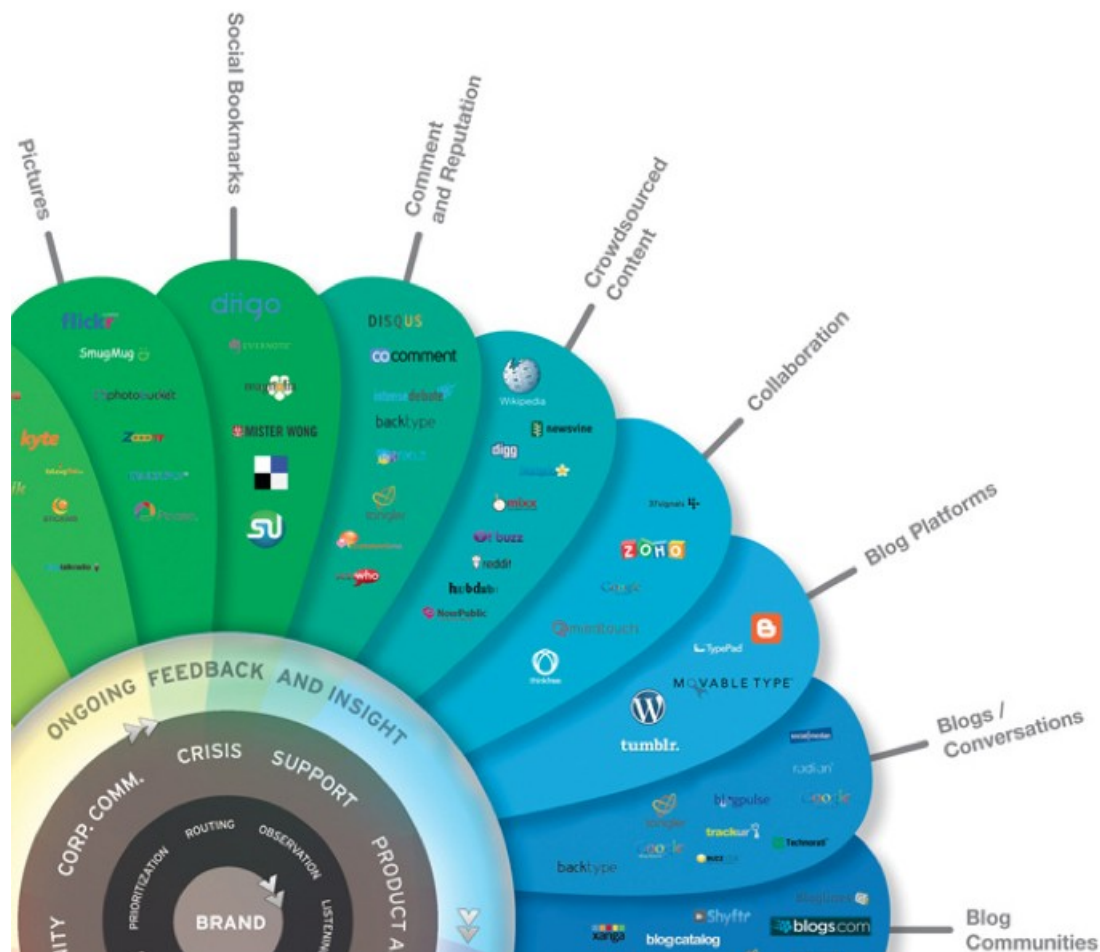
Recommendations for the use of messenger services

Mixed form

- **Important: it is** essential and critical to success that **rules** and the **preferred messenger are** defined, especially to clarify professional use
- Coordination of the **times of availability** as well as the **handling of working hours**
- **Synchronous:** Both at the same time in messenger - quick coordination and documentation at the same time vs. short consideration time and disadvantages of written communication
- **Asynchronous:** No simultaneous action, feedback time scheduled.
Only availability and simple topics to be discussed quickly! High risk of confusion → topics and information expected to be used multiple times via e-mail.

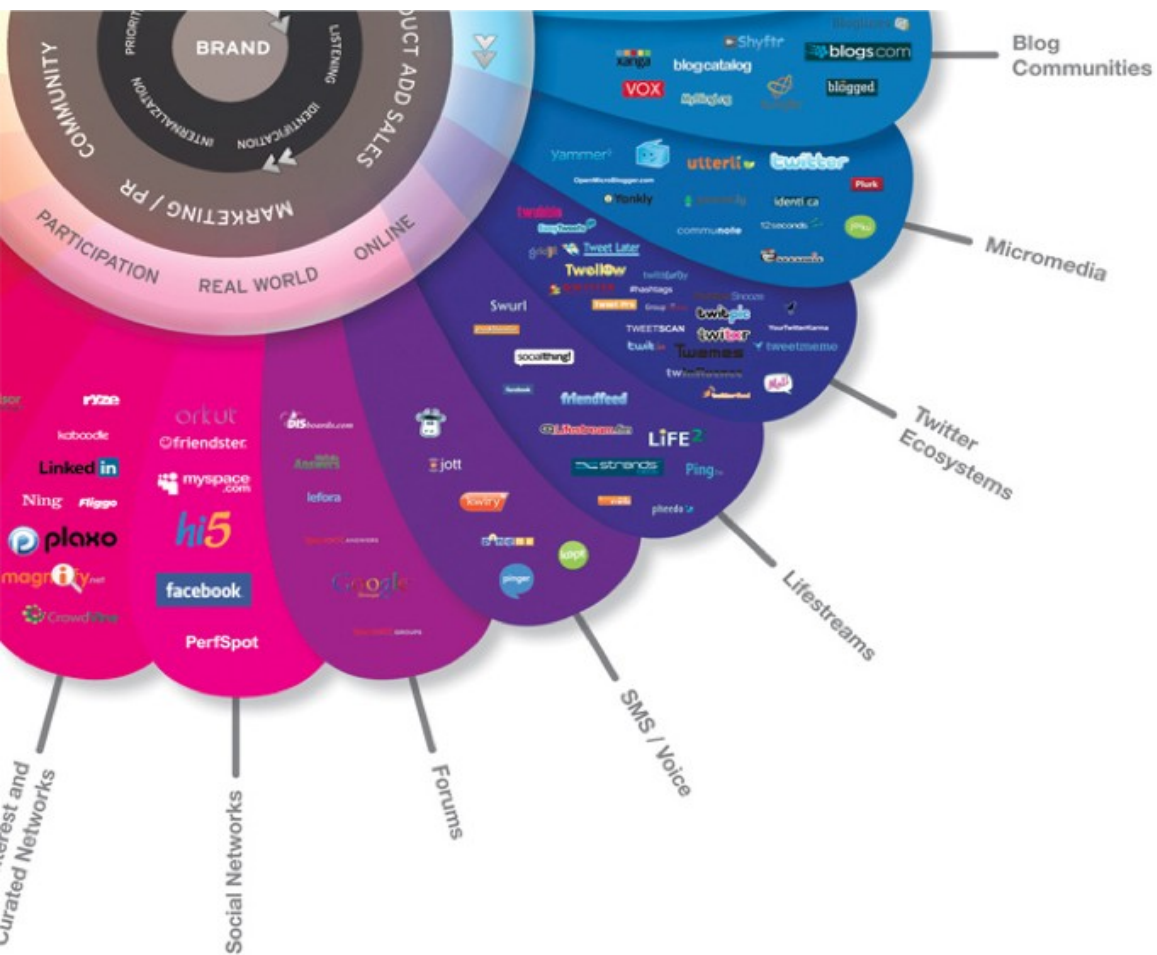
(Mueller-Zielke, 2018)

6. Selection of communication tools



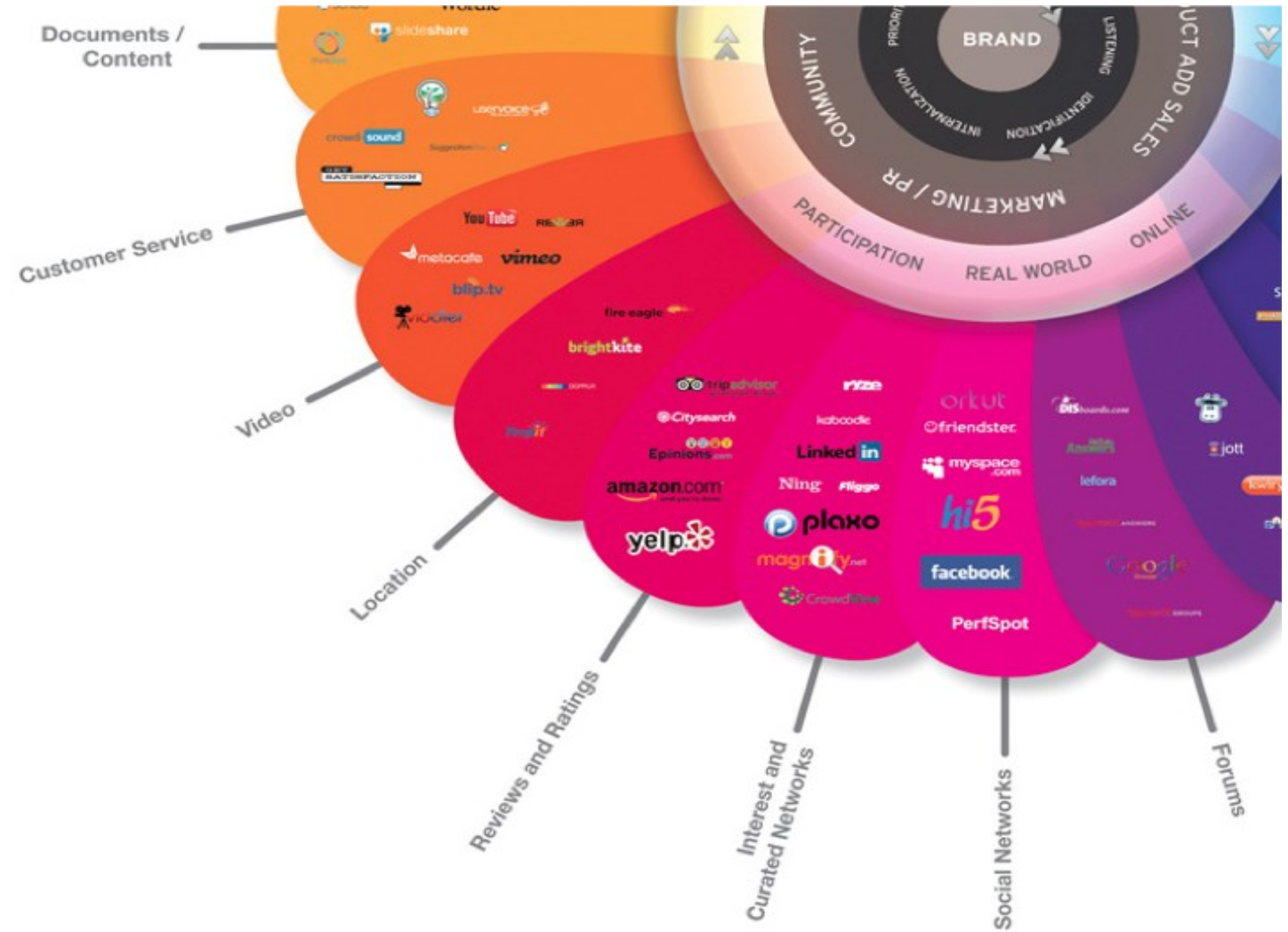
https://commons.wikimedia.org/wiki/Category:Social_media#/media/File:Conversation_prism.jpeg

6. Selection of communication tools



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6. Selection of communication tools



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