

A Paralel Between the Models of Communication and the Models in Information Behaviour Research

Elena Macevičiūtė

Vilniaus universiteto Komunikacijos fakulteto docentė
Vilnius University, Faculty of Communication, doctor, professor associate
Universiteto g. 3, 2734 Vilnius
Tel. 76 89 53;
El. paštas: elena.maceviciute@kf.vu.lt

During last decades the relations between Communication studies and Information science became closer. The concepts of integration of Information and Communication studies are spreading more and more widely.

What is communication? It is the concept very much like information and culture in the sense that it is very difficult to define it. I can start saying that there are over 500 definitions of communication and then present and analyse over a hundred of them. The only unbeatable in its elegance definition was offered by George Gerbner (1962): **communication is social interaction through messages**. If we accept the definition of information **“as a result of interpretation of a message that reduces uncertainty”**, we will have a nice link between the two concepts.

Further looking at the definitions of information behaviour or information seeking behaviour we find that often they receive a communicational interpretation, either as *interaction of a user with a text* (N. J. Belkin), *either sense-making through interaction with environment and self* (B. Dervin), or *peoples interaction with information or information objects*, not to speak of interaction with information professionals. As R. S. Taylor puts it “negotiation of reference questions is one of the most complex acts of human communication”. In this article the author unashamedly draws upon the material presented by McQuail and Windhall (1993) hoping that the selection of the models will stimulate the interest of information specialists in using them for relevant research.

From information searching and acquisition modes identified by T. D. Wilson and C. Walsh the first two relate to communication behaviour only.

passive attention: e.g. listening to the radio, watching TV;

passive search: acquisition of relevant information as a result of other behaviour;

active search: active seeking of information;

ongoing search: going on after the active search has established framework of ideas, beliefs, and values. (Wilson, Walsh, 1996)

On the other hand, some communication scholars support the view that conditions of uncertainty and disequilibrium (Heider) or cognitive dissonance (Festinger) motivate vigorous communication activity, i.e., information giving, information seeking or information exchange, that are subjects of information behaviour research.

The models are used widely in communication studies during the last decades. The model describes the main elements of a structure or a process and the relationships between the elements. According to Deutsch (1966) models may perform several functions:

organising (ordering and relating elements or systems to each other and giving a picture of a whole);

generalising (abstraction, a picture of a range of particular circumstances free of unessential details);

explaining (simplifying complicated and ambiguous information);

heuristic (guiding to key points of a process or a system);

predicting (serving as a basis for assigning probabilities to alternative outcomes).

It is necessary to remember that a model is a consciously simplified graphic description of a part of reality.

Usually two paradigms or schools of thought in communication studies are identified.

The first and dominating one may be illustrated by the most influential model in communication which comes from the information theory. It was developed by Shannon and Weaver (1949) and is still widely taught. It is a perfect illustration of the first paradigm. The model depicts communication as a linear process of a message transmission from a source in the form of a

signal over a communication channel to a receiver which transforms the signal back into a message for a destination. The sent message and the received message are different because of the noise in the channels. This model led into a linear, effects oriented approach to human communication. The “process” paradigm (as it was named by J. Fiske) treats communication as a process of a message transmission. It is still dominant, though the other one which sees communication as production and exchange of meanings (a semiotic paradigm) is quickly gaining strength and attention. The semiotic paradigm has risen as an alternative to oversimplification of human communication, to the neglect of cultural influences and meanings of texts, to the diminished and passive role of a receiver in communication (a receiver was just a target for “magic bullets” and “hypodermic needles” in communication; these were the metaphors to describe media effects).

Despite evident differences in approaches both paradigms are overlapping from time to time and enrich each other. Both schools have produced a number of interesting models.

Shannon’s and Weaver’s model was developed and enriched by others. There is a model developed by DeFleur (1970). He adds another set of components to the original model to show how the source gets its **feedback** and adapts more effectively its way of communication to the destination. DeFleur introduces “meaning” which is transformed into “information” by a source, sent by a transmitter over a channel and transformed into a “meaning” by a receiver for a destination. Feedback increases possibility of achieving isomorphism (a correspondence between the “meanings”). This model accounts for a lack of feedback and is not so linear as the original one. The concept of the feedback is well known in information science as an element for control of the informations service quality.

A clear break of linearity of communication is shown by a model produced by Shramm and Osgood. It is highly circular and does not make a distinction between functions performed by a sender and a receiver (encoding, interpreting and decoding of a message are performed by both). Roughly encoding corresponds to transmitting, and decoding to receiving. This model fits for description of interpersonal communication very well. But it suggests equality in communication which is an oversimplification. Often communication is

unbalanced with regard to resources, time, power and other factors which is usually a case in communication within the frame of information behaviour.

There are the developments of model representing the potential changes based on disagreement and conflict among senders and receivers (consonance/dissonance by van Cuilenburg and Nooman). More often the interests of senders and receivers of messages are potentially consistent, when they share information in order to reach mutual understanding.

Roger and Kincaid (1981) offer a convergence model of communication. Communicative interaction between participants is a cyclical process where understanding of each other is reached by exchanging information. The process requires several cycles of information exchange and reached understanding may not be complete.

The most general model of communication that may be applied for different purposes was created by George Gerbner. It has a verbal formula as well as a graphic form.

Verbal:	1 someone	6 to make available materials
	2 perceives an event	7 in some form
	3 and reacts	8 and context
	4 in a situation	9 conveying content
	5 through some means	10 with some consequence

The basic graphic model is simpler than the verbal formula. It starts with an act of perception of an event (E) by perceiver (M). The perceived event (E') is not identical to E. The relations between E, M, and E' may have different interpretations. G. Gerbner himself suggests two approaches:

1) the perceived event E' is a function of the factors related to M (background, experience, beliefs, education, etc.);

2) the perceived event E' depends on the context of E, availability of other events to M, M's ways of selecting events, etc.

The second step of a model starts when M communicates about perceived event (E') to someone else. M produces a message SE (statement about event having a "shape" S and content E). S does not exist without E, unless it is noise. To send SE, M depends on channels and media which he controls to some degree. Another communication agent M² perceives SE in the same ways as M perceives E, as SE'. The model is built up as a perception –

production – perception chain. Each building block may be repeated as many times as it is necessary. M may stand for any agent of communication (human or technical). The model implies that human communication is subjective, selective, unpredictable; human communication systems are open systems. Gerbner's model is flexible and may be used for different purposes (in information behaviour research as well) and on different levels (of McQuail's pyramid).

The conceptual model of mass communication by Westley and McLean was applied, used, and developed for research of real mass communication situations, media organisations, as well as roles of communicators. It became a basis for later "gatekeeping" models. The omission of communicator in the model still leaves it valid. As such it represents a common case in interpersonal communication where information is being given by one individual to another or sought by an individual from an expert source. It is very suitable for investigation of a wide range of information processes.

One of the most complex and multi-factor type models is a model built by the German scholar G. Maletzke. It is built on traditional basic elements: communicator, message, medium and receiver. However, two more components are inserted between Medium and Receiver:

- 1) pressure or constraint from medium;
- 2) the receivers image of the medium.

Pressure means that different media demand different adaptation of the receiver.

Characteristics of the Medium influence the way in which Receiver experiences media content and is affected by it (M. McLuhan: media is the message). The medium image held by a receiver causes expectations and effects the choice of content and the way of experiencing it (the important variables of the receiving process). Independent from the process variables may influence the receiver's decisions and the ways in which he is affected: receiver's self image and personality structure, his position as the member of the audience and his social context.

The second half of the model represents the variables related to the Communicator. This is the Communicator's choice to transmit a message (one or another) in one or another way and to shape it (selection and structuring of

content or communicator's communication behaviour). However, the choice is not entirely free. There is a pressure (constraint) of the medium and the message. The factors outside the communication process are as important as in the case of the receiver: communicator's self-image, personality structure; working team, organisation, public character of media content and social environment limit freedom of the communicator.

If we look at the complete model we see other relevant factors: receiver's and communicator's image of each other (receiver – credibility, identification with communicator; communicator – picture of a receiver) and spontaneous feedback from the receiver.

The model draws attention to the important features of any process of planned communication and may serve as a check list of the relevant factors and relationships to be taken into account and studied.

The effects of communication is a popular subject of communication studies. The stimulus-response principle and social learning theory have been of great importance in this context. A message in this case is treated as a stimulus, received by an organism (receiver) and causing its response (making an effect). For a long time the receiver was treated as a totally passive element, reacting to the messages (especially in mass media research). If the message was well designed and planned the desired reaction was received. DeFleur has modified the stimulus-response model on the basis of individual difference theory that allows for personality variables. Only if the internal psychological structure of an individual is modified by a message, a desired behaviour will be achieved. This model gave rise to a concept of a communication as a process of persuasion. We may see its influence in many later theories, e.g. news learning and reception or innovation diffusion.

Roger and Shoemaker (1973) see four steps in innovation diffusion process:

knowledge: the individual is exposed to an awareness of the existence of the innovation and gains some understanding of its functions;

persuasion: the individual forms a favourable or unfavourable attitude towards innovation;

decision: the individual engages in activities which lead to a choice to adopt or reject the innovation;

confirmation: the individual seeks reinforcement for the made innovation decision, but may reverse it if exposed to conflicting messages.

This process is one of learning, attitude change and decision. Different kinds of means as well as agents of communication may be involved in each stage (mass media, official agencies, opinion leaders, etc.).

One of widely used hypothesis about the effects of communication is known as agenda-setting. It states that media sets the topics of importance for the society (what to think about) focusing on some issues more than on the others. The hypothesis developed gradually and in the model offered by **Rogers and Dearing** we see three different kinds of agenda and relations between them:

1. Mass media influence the public agenda directly by weight of attention and media authority.
2. The public agenda (public opinion) influences policies agenda as politicians seek to respond to the voters wants.
3. Media agenda influences policy agenda as a guide of public opinion to politicians.
4. Policy agenda has strong and direct influence on media agenda on some issues.
5. Real world events and other sources influence all agendas.

Media agenda depends on gatekeepers and most influential media.

The agenda-setting theory has many flaws and its status is weak as too many unestablished factors are in work. However, some information centres may use it to predict immediate users' needs (UN depository, EU business information centre in Lithuania).

The last models are based on the assumption that media chooses audience. On the other hand, some research shows that receivers tend to match the choice of channels and contents to their needs and tastes. Uses and gratification research that emerged in seventies is concerned with

- (1) the social and psychological origins of
- (2) needs, which generate
- (3) expectations of
- (4) communication and information sources, which lead to
- (5) differential communication activities, resulting in
- (6) needs gratification and other (maybe unintended) consequences.

The receiver (or audience) becomes an active participant making motivated choices based on previous experiences with information sources and other media.

Rosengren has elaborated the model starting with basic needs (according to A. Maslow's hierarchy) that are influenced and shaped by society and individual characteristics. The needs are perceived as problems and the possible solutions are envisaged. They lead to formulation of motives for media use or other kinds of behaviour. The gratification, satisfaction of the needs is the last stage of the process.

This model mirrors the transmission model of the process paradigm. However, the gratification and uses approach was used to describe cultural experience with the media and explain escapist uses of media texts.

The model of uses and gratifications produced by Renkstorff enhances the role of interpretative methodology, requires more case studies and biographic enquiries, a qualitative approach. The basic frame remains the same: an individual defines the situation, perceives and interprets it either as problematic or not. A problematic situation requires to formulate motives and decisions about actions. The unproblematic situation may lead to routine media use or information acquisition. In either case media use has to be (or is) evaluated.

The most radical departure from the transmission version is rooted in critical theory, semiology, and discourse analyses as well as cultural and anthropologic studies. The essence of the "reception approach" is to locate the construction and attribution of meaning (to the message derived from media) with the receiver. Media messages are always open and polysemic. They are interpreted according to the culture and the context of receivers.

Stuart Hall has emphasised the stages of transformation through which any media message passes on the way from its origins to its reception and interpretation. This critical theory challenged not only transmission theories but the basic principles of structuralism and semiology which embeds the meanings in the encoded texts (i.e., encoder gives the message a preferred reading).

The development of new telematic media requires to consider the implications of the changes that it brings. Dutch telecommunication experts J. L. Bordewijk and B. van Kaam have developed four basic communication patterns

to show the **alternative types of information traffic** and balance between them (1986):

1. Allocation – when information is distributed from a centre simultaneously to many peripheral receivers (public speaking, TV broadcasting).

2. Conversation – individuals interacting directly with each other without intermediary, choosing partner, time, topic (talk, e-mail, telephone). The parties are equal in exchange.

3. Consultation – different situations when an individual looks for information at a central store of information (library, data base, archive). Receiver determines time, place, topic. The decision is peripheral.

4. Registration – centre requests and receives information from a participant at the periphery (usually without awareness) (Record's systems). The pattern is not new but the technical possibilities have increased.

These patterns complement and overlap with each other. They can be related in terms of:

- 1) central versus individual control of information;
- 2) central versus individual control of time and subject.

I have tried to show though not explicitly the communication models that can be used in the studies of information behaviour. The parallels between communication studies and the research of human information behaviour can be drawn:

1) In communication studies there is a move from communicator centred to receiver (audience) centred models. In information behaviour research a move from system centred to user (person) centred models.

2) In both cases there is a shift to sense-making and meaning generating and exchange paradigms from plain information or message transmission process.

3) Information needs at present is one of the central concepts in both fields.

4) Scholars in both fields are keen on model creation. I would like to warn together with McQuail against the risks in model usage. They are inevitably:
incomplete,
oversimplified,
involve concealed assumptions,
are not suitable for all purposes.

Having said all this one should admit that a model is an appropriate tool for communication and information behaviour studies. The subject of research in both cases is a "binding force" in social life and at the same time lacks permanent visibility and tangibility. Communication acts and information behaviour are interwoven into social structures and processes but are not readily open for observation. Models give possibility to capture and show the structure, links, direction of relations, helps to fix verbal abstractions in graphic forms.

References

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Komunikacijos ir informacijos ieškos tyrimo modelių sugretinimas

Santrauka

Straipsnyje aptariamos komunikacijos modelių naudojimo informacijos ieškos tyrimams galimybės. Autorė gretina, kaip skirtingi autoriai, rašantys apie komunikaciją ir informacijos iešką, supranta informacijos vartojimą, kokie yra bendri tos sampratos bruožai ir skirtumai. Aptariami komunikacijos „proceso“ mokyklos atstovų (Shannon ir Weaver, DeFleur, Shramm ir Osgood, Gerbner ir kt.) sukurti komunikacijos modeliai ir siūlomi kai kurie jų taikymo informacijos ieškai aspektai.