

ANALYSING COMMUNICATION MEDIA AND ACTIONS - EXTENDING AND EVALUATING THE BUSINESS ACTION MATRIX

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Abstract

In this paper we analyse how different communication media affect, restrict and facilitate business actions. This paper aims to attain a further understanding of what consequences decisions about offering or relinquishing a certain medium would have for the company and its customers. We are also interested in finding feasible ways to make such analyses of business actions and communication media. For this purpose, we use a business action matrix to analyse three kinds of business actions in a Swedish mail order company. The studied business actions are placing orders, posing questions and making complaints. This is an important field to study since in distance selling companies, the more or less innovative communication media must be carefully evaluated from both the customers' and the company's point of view. Used in the right way, the business communication media might lead to a well-functioning customer communication, which facilitates closer customer relationships, customer loyalty and customer satisfaction. Used in an ad-hoc manner, without a proper communication media strategy, the company might lose its chance to offer media that satisfy both the customers' and the company's needs. In the paper we discuss what makes the business action matrix a useful tool for analyzing a company's communication media portfolio.

Keywords: Distance selling, Communication media, Business actions, Business action theory (BAT), Business interaction analysis.

1 INTRODUCTION

All kinds of commerce, either being performed face-to-face or in a distance setting, involve a supplier and a customer who perform business actions directed towards each other. In a traditional business process, the business actions are often performed face-to-face. In distance selling, as for example mail order companies or electronic commerce, the business actions instead are performed through different communication media. In this paper we analyse how different communication media affect, restrict and facilitate the business actions. This paper aims to reach a further understanding of what consequences different decisions about offering or relinquishing a certain medium would have for the company and its customers. We are, thus, interested in finding feasible ways to make such analyses of business actions and communication media. In an earlier paper, we came to the conclusion that a business action matrix could be used when examining communication media in distance selling companies (Johansson & Axelsson, 2004). The aim was to illustrate which communication media were accessible for each business action (i.e., media offered by the selling company) and which communication media were preferred by customers and by the selling company.

In this paper, the business action matrix is used as a point of departure. We will use the matrix to describe empirical findings from a distance selling company, in order to explore how understanding of communication media and business actions might be visualised and elaborated. The purpose of the paper is to apply the matrix when analysing different dimensions of our empirical case. The result will be an extension of the matrix and an evaluation of the matrix's usefulness for this kind of analyses.

This is an important field to study since the more or less innovative communication media must be carefully evaluated from both the customers' and the company's point of view in distance selling companies. Used in the right way, the business communication media may lead to a well-functioning customer communication, which facilitates closer customer relationships, customer loyalty and customer satisfaction. Used in an ad-hoc manner, without a proper communication media strategy, the company might lose its chance to offer media that satisfy both the customers' and the company's needs.

We see several possibilities in using a business action matrix to analyse different dimensions of business actions and communication media. It could be used for analysing the cost-effectiveness of communication media in a certain company. Another way to implement it would be to analyse what communication media are more or less preferred by the customers. Such information might affect what media to be implemented in a company's communication strategy for a long or short-term plan. The business action matrix can also be used before acquiring and implementing new IT-based communication media. Based on the matrix, an analysis of needs and consequences of new media can be conducted. The needs and consequences might differ depending on what customer groups the company attracts as well as what kind of products the company offers.

Another possible application area of the business action matrix is to visualise, analyse and evaluate what it means if a certain material action, for example delivery, is conducted through the same media as the communicative business actions. These actions could be labelled digital material business actions (*ibid.*), and they are central to many e-business models (cf. e.g. Timmers, 1999). New media for business actions, like web-based interfaces, make innovative products and services possible. Activities may be outsourced and there are possibilities to create totally new business models (*ibid.*).

After this introduction, business actions and communication media are discussed in the next section. In section three the case study method is presented, followed by the empirical examples of business actions analysis in section four. Based on these empirical data, we discuss the evolving business action matrix in section five. The paper is summed up in section six with some final remarks.

2 BUSINESS ACTIONS AND COMMUNICATION MEDIA

In this section we will introduce the business action theory and its main theoretical sources of inspiration; speech act theory and conversational analysis. The business action matrix that we will apply to our case and evaluate later in this paper, originates from business action theory and builds on its notion of business actions and communication. In this paper business action theory has two roles; it serves as our theoretical framework for understanding business actions and it is part of our result as a refined business action matrix. In the section we also discuss what it means to conduct communicative actions through different communication media.

When a customer and a supplier interact in a business context, they perform business actions directed towards each other. Goldkuhl and Lind (2002) refer to this as action pairs, i.e. two interrelated business acts (patterns of triggers and responses) (see also Sacks, 1992). Parts of this business interaction consist of exchange of information (i.e. business communication) and parts of it can be labelled as exchange of value, i.e. exchange of products (goods/services) versus money. The business communication cannot be seen as solely information transfer. Instead, this communication should be conceived as business actions (Austin, 1962). Thus, we separate between communicative business actions, comprising exchange of information, and material business actions, comprising exchange of value.

In this paper we focus on three certain communicative business actions: placing orders, posing questions and making complaints. Common for these and other communicative actions is that they are not just examples of information transfer but they imply that someone is doing something when communicating. This way of apprehension has its origin from speech act theory (Austin, 1962; Searle, 1969; Habermas, 1984). When translating speech act theory into a business context, this implies, among other things, that orders, offers, contracts, invoices, etc. are not just information being sent from the supplier to the customer or vice versa, but they also represent business actions. The offer of the supplier involves a willingness to produce and deliver the offered products or services. The customer order implies a promise about a future willingness to pay for the product or service. The contract means a mutual agreement between two parties. The invoice is a request for payment, and so on. All these examples show how we use the language when communicating; we order, promise, confirm, ask, threat, etc., i.e. we perform actions.

Speech act theory has been used in the area of information systems development for a long time. An early contribution was made by Winograd and Flores (1986). Speech act theory has also inspired several business development approaches; i.e. Action Workflow (Winograd, 1988), SAMPO (Auramäki et al., 1988) and DEMO (Dietz, 1994).

If we turn to the three business actions, highlighted in this paper, they are all customer-initiated. This means that it is the customer who takes initiative to (triggers) the business communication, and the supplier responds in different ways to this trigger, using concepts from conversational analysis (Sacks, 1992). The action pairs look different according to which business action we view. An order is either accepted or turned down by the supplier, a question is answered if possible (either direct or indirect by the supplier), and a complaint can be handled in different ways such as offering a discount or a new product as compensation, but it can also be handled by giving more information if the complaint is due to a misunderstanding of any kind. When responding to a question, the response given by the supplier can also be an initiative to a second response by the customer. This is an example of the multi-functional character of an utterance (ibid.). The three business actions can also be interrelated in the sense that an order might give rise to both questions and complaints. Further, a complaint might be expressed by posing a question.

Business actions are often performed with several purposes. If we place an order, it is of course a *request* for a certain product or service to be delivered and a *promise* to pay for the ordered product or service. Furthermore, it is a *determination* of the business roles, that is who is the customer and who is

the supplier in this business transaction. And finally, it is also a step in a longer business conversation; the order is a response to the offer and it is an initiative for the order confirmation.

Both speech act theory and conversational analysis have been important sources of theoretical inspiration for business action theory (BAT) (cf. e.g. Goldkuhl, 1996; 1998; Melin & Goldkuhl, 1999; Goldkuhl & Melin, 2001; Axelsson et al., 2002; Axelsson, 2003; Johansson & Axelsson, 2004; Melin & Axelsson, 2004; Goldkuhl & Lind, 2004). An important basis for business action theory is a phase model which divides the business process into six generic phases. Within each phase the customer and the supplier perform business actions directed to each other. The business actions in the model are both communicative and material actions. The BAT phase model illustrates the exchange of information and value between the two roles supplier and customer. In figure 1 below the phase model is illustrated.

The generic phases are as follows: 1) Establishing the business prerequisites phase, where no interaction between customer and supplier takes place. 2) The exposure and contact search phase, where business interests are exchanged. 3) The proposal phase, where bids and counter bids are exchanged. 4) The contractual phase, where mutual commitments are exchanged. 5) The fulfilment phase, where value are exchanged (products or services versus money). 6) The assessment phase, where acceptances or claims are exchanged.

If we try to place the three business actions in the phase model, we find that there is a difference between the order that is being placed in the contract phase and the other two business actions, which might be performed during several phases. Questions can be made before, during and after the business interaction, which means that this business action can be performed in all phases. Complaints are probably most common in the assessment phase, but can of course also be made during other phases.

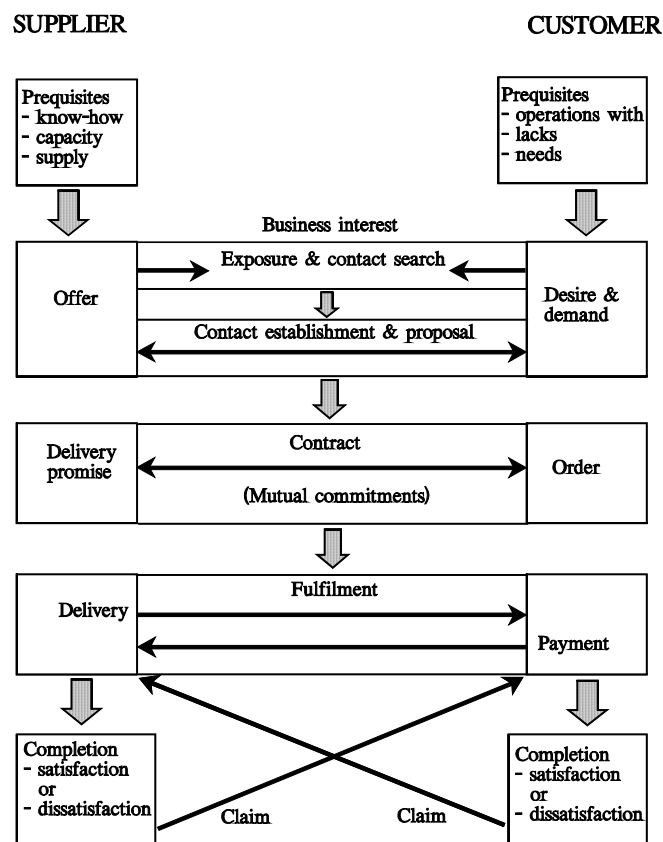


Figure 1. The BAT phase model (Goldkuhl, 1998)

As we noted earlier in the paper, distance selling settings imply that business actions are performed through different communication media. This means that there is a communication medium serving as an agent between the customer and the supplier. If a supplier instead meets his customer face-to-face, the supplier acts as an agent for a company, since there are always human beings that perform business action in the name of an organisation. The agents represent the organisation. The organisation cannot act on its own (Ahrne, 1994). In cases where a communication medium (for example a web based interface) is the agent, it is important to remember that this interface has been designed by human beings in order to handle business actions in a desirable way, according to the business idea of that organisation.

An important challenge for this kind of organisations is to choose which communication media to offer their customers and also to understand how different media complement each other (Johansson, 2003). Johansson (*ibid.*) studied a distance selling company where a diverse communication media portfolio was used; including telephone, fax, letter, printed order forms, email, voice response system, and web-based interface. Her findings show, first of all, that it is not possible to conduct every business action through all media. The character of diverse media also differs; some media only allow automated actions while other media imply that a human being perform some additional manual actions. There are media which store performed actions. Stored information about previously conducted actions can be seen as an organisational memory, which helps actors to reconstruct and remember historical situations. This might be important in customer contact situations where questions should be answered about earlier promises or other communicative actions. The communicative business actions might be spoken or written, depending on which medium is being used. Some media restrict the actor concerning what actions are possible to be performed, i.e. the action performance might be more or less formalised. Some media give feedback to the actors and others do not. (*ibid.*)

Different theories try to explain why people choose one way to communicate or another. One of the most referred, although highly criticised, theories is the media richness theory (Daft & Lengel, 1984; 1986). Its purpose is to explain managers' choice of communication media and to explore how to make communication more effective by choosing the appropriate communication medium. This study focuses on aspects that are central in media richness theory, but it is also taking the criticism towards this theory into account; that there is not one effective way to communicate for all people or in all contexts (see Fulk, Shmitz & Steinfield, 1990; Markus, 1990; 1994; Yates & Orlikowski, 1992; Lee, 1994; Carlsson & Zmud, 1999). The context for this study is customer-company communication in distance selling; a context with its specific needs and constraints.

3 CASE STUDY METHOD

The case study is part of a larger research project where two more companies are studied. The aim of the research project is to analyse how the management of customers' complaints and questions through different communication media can be improved and what hindrance there might be for these improvements. We are not focusing on how a certain communication medium in the studied case might reinforce or inhibit business actions in this paper, though. Instead, we use empirical data from the case study to examine how a business action matrix might be used for analysing communication media and business actions.

The case study here presented was carried out in a Swedish mail order company with about 250 employees and an annual turnover of around \$100 million. The company was established some fifty years ago. The main target group for the company is women between 25 and 45 years old. The company sells clothes for all ages and both sexes, as well as products to be used in the environment of the target group, e.g. furniture, curtains, and fitness products. The product repertoire is presented to the customers twice a year in product catalogues distributed to all registered customers.

The case study was conducted from February to October in 2004. It is a qualitative, interpretive study (e.g. Walsham, 1995). The methods for gathering data on the company perspective were observations

of employees working with the different communication media used by the company and interviews with employees at the customer service department and at the IT department. The observations entailed listening to telephone calls from customers, observing the registration of customer coupons and answering of e-mails as well as letters and faxes. Different documents such as product catalogues, advertising leaflets and internal statistics are also included in the study, as well as e-mails from customers. The triangulation of the data gathering methods (Patton, 2002) was necessary to get an accurate picture on the company's perspective on customer communication. Answers supplied in the interviews were either confirmed or led to a need for new interviews when observing the actual work at the customer service department.

Apart from the e-mails, a questionnaire was used to study the customers' perspective on communication. The questionnaire was complemented by interviews with some of the respondents in order to receive richer data. Some of the questions in the questionnaire had predefined options and, in order to give the respondents the possibility to express themselves more freely, some questions were open (Merriam, 1988). The questions aim to explore the reasons behind the choices of communication media. The following two questions illustrate the nature of the questions in the questionnaire:

If you have used e-mail: Why did you choose e-mail to contact the company?

If you have a question to the company: in what way do you try to get it answered?

- Phone the company Send an e-mail Send a fax Write a letter
 Use the voice response system Search on the web site

Why do you use this/these ways?

In the first question the customers who have used e-mail to contact the company are asked to state the reasons for their choice. For each communication medium, the same question is posed. In the second question the favoured medium used for a specific task and the reasons behind are asked for. The same is done for the other communicative actions studied, i.e. complaints and orders.

The questionnaire was sent to 200 customers, resulting in a 40% response rate. In Table 1 the age and sex of the respondents are shown. The respondents had all been customers for more than two years, had made at least one purchase during the four months prior to the questionnaire and at least two purchases during the previous year.

	Women				Men			
Age distribution	20-29	30-39	40-49	>50	20-29	30-39	40-49	>50
Age distribution	9	20	18	27	0	1	2	3
Total	74				6			

Table 1. Age and sex of respondents

4 EMPIRICAL EXAMPLES OF BUSINESS ACTIONS ANALYSIS

The three communicative actions in focus of the study are placing orders, posing questions and making complaints. In Table 2, the communicative actions are placed in the different phases of the BAT phase model, according to where they occurred in the studied case. Orders are, naturally, presented in the contractual phase and complaints are primarily presented in the assessment phase. Questions are, however, posed in different phases. The character of the questions differs, depending on whether they are posed in the proposal, contractual or assessment phase.

BAT phases	Communicative actions
1. Establishing business prerequisites	
2. Exposure & contact search	
3. Proposal	Posing questions
4. Contractual	Placing orders Posing questions
5. Fulfilment	
6. Assessment	Making complaints Posing questions

Table 2. *Communicative actions related to the BAT phases*

To perform the different communicative actions, the customers are offered the following communication media:

- Telephone
- Fax
- Letter
- Printed order forms
- E-mail
- Voice response system
- Web-based interface

All but the voice response system and the web interface are attended by the employees at the customer service department, which is manned from 8.00 a.m. to 9.00 p.m. during weekdays and from 10.00 a.m. to 3.00 p.m. on Saturdays and Sundays.

4.1 Placing orders

Orders are communicated by all the different communication media offered. Printed order forms are registered by an external company. The studied company only handles the defective orders, about 8% of the total. Problems included in these orders are e.g. customers overdrawing their purchase limits or entering incorrect article numbers.

Orders communicated by e-mail are not favoured by the company. To handle the administration of e-mail orders, they are printed and manually entered into the IT-based order system. If the article number is incorrect, the customer has to be contacted resulting in a very time-consuming procedure. Orders sent by fax or letter are handled in the same way as e-mail orders, but are not frequent.

The most cost-effective communication media for receiving orders, from the company's perspective, are the voice response system and the web interface. The customers administer their own orders and do not need any personal service. However, although resource demanding, the customer service manager prefers telephone communication. Personal communication results in more cross-selling than the other communication media. The telephone is also considered to be the most efficient and easy way to handle customers' many different questions related to their orders. The customers prefer to place orders by the telephone, followed by the web interface and printed order forms.

4.2 Posing questions

The questions posed by the customers are very diverse. We focus on questions posed in three of the BAT phases (see Table 2). Questions in the proposal phase are made before the customer decides to

place an order. Typical questions in this phase include delivery costs, size and the quality of the products.

Questions in the contractual phase are posed during the actual order placement (i.e. the communicative action *to order*), for example when the customer has decided to place an order but needs some complementary information such as place of delivery. The questions in the assessment phase relate to a previously placed order and include questions about invoicing, how to return a product and when a delivery is due.

Many of the general questions, e.g. sizes and how to return a product, are answered on the web interface and in the product catalogue. The company does, however, notice that many customers use the telephone to get their questions answered. The voice response system offers personalized answers, but only to very few questions, i.e. if a returned product or payment has been received by the company. The answers in the voice response system are based on the personal customer identification number entered by the customer. As there are no personal pages on the web interface, this kind of information is not available by this communication medium.

The most common communication medium for questions is, by far, the telephone. The customers can receive any information by telephone, the questions might be general or order specific and the possibility to pose attendant questions is unlimited. As with orders, the company prefers the telephone for handling customer questions.

4.3 Making complaints

Making complaints is the communicative action the customers perform when they are dissatisfied with a delivered product or service. Complaints are mainly communicated by telephone. This communication medium can more effectively solve misunderstandings and dissatisfactions than any other communication media, according to employees and the manager of the customer service department. Even complaints received by e-mail are often responded to by telephone, in order not to add any further confusion or misunderstanding. Complaints received by letter or fax are normally responded to in the same way.

5 AN EVOLVING BUSINESS ACTION MATRIX

In Table 3 the business action matrix is used to illustrate the communication media accessible for the different studied communicative actions. It illustrates which communication media are preferred by customers and customers in each communicative action. What is new in this application of the matrix is the inclusion of communication media that the company does not want the customers to use for a specific communicative action. The company does not want customers to send their orders by e-mail as this is a very time-consuming way for the company to handle orders. In Table 3, this expression possibility is illustrated as “ Co ”, showing that the company is negative to the medium, although still offering it.

Media/ Business actions	Telephone	e-mail	Web – based interface	Printed order forms	Voice response system	Fax	Letter
Placing orders	a Cu Co	a Co	a Cu Co	a Cu	a Cu	a	a
Posing questions	a Cu Co	a	a			a	a
Making complaints	a Cu Co	a				a	a

Media accessible for each business action (a), media preferred by customers (Cu), and company (Co), and media non-preferred by company (Co)

Table 3. Business action matrix

This expansion of attributes possible to express in the matrix (compared to the former version in Johansson & Axelsson, 2004) enables us to illustrate a wider range of viewpoints related to business communication media. The possibility to focus on media offered, but not favoured, by the company is very important when discussing and deciding upon a communication strategy for distance selling companies. There might be reasons for continuing offering some media although they are expensive or ineffective from the company's point of view, including good-will, requests from important customer groups, etc. These reasons, however, are important to focus on and compare to the inconveniences it entails for the company. The business action matrix might be used to help focusing such comparisons.

The matrix clearly illustrates that different communication media vary in efficiency depending on which communicative action is being performed. This is in line with media richness theory (Daft & Lengel, 1984; 1986). In line with this criticism against the theory, we realize that the matrix probably would look dissimilar when analyzing another company's communication media portfolio, depending on which products they offer or which customer segment they address.

As stated in the case, the studied company does not give their customers the possibility to log in to personal pages on the web site. A new web interface with this possibility is, however, under construction. Table 4 illustrates how the business action matrix can be used to analyse consequences of a new IT-based communication media. In this case, only two communication media are compared in the matrix. This analysis could be fruitful to do before implementing the new web based interface in the company. In the matrix, the most common communicative actions, detected in the customers e-mail conversation with the company, have been related to the business action they belong to. When identifying that many of the customers' questions concern the trace of an order or how to get account information, the matrix helps us to understand the implications of a new communication medium. In this case, the matrix shows that much of the e-mail conversation would be unnecessary if the customers could get access to personal web pages. It is, thus, possible to calculate what this would mean for the amount of e-mails each day.

Focused communicative actions	E-mail	Web-based personal pages	Type of business action
Placing orders	☹	Co	Placing orders
Update order	☹	Co	Placing orders
Change customer data	☹	Co	Placing orders
Find out if web order has been registered	☹	Co	Placing orders
Get product information	☹	-	Posing questions
Trace order/delivery	☹	Co	Posing questions
Get account information	☹	Co	Posing questions

Media preferred by company (Co) and media non-preferred by the company (☹)

Table 4. The business action matrix used to analyse consequences of an IT-based communication medium

Another possible use situation for the matrix would be to insert a list of common communicative actions that customers perform and the company wishes to handle more efficiently. The matrix gives

the possibility to evaluate what possible effects different communication media would have on these communicative actions. In this use situation the business actions would be divided into smaller units of analysis, i.e. a business action can be viewed as a number of related communicative actions. This implies that a business action consists of several utterances that together form the conversation between a customer and the company such as when a posed question is to be answered (cf. Sacks, 1992).

6 FINAL REMARKS

In this paper the business action matrix has been applied to a distance selling case. It has shown to be a useful tool for analysing a company's communication media portfolio, in this case focusing on three communicative actions; placing orders, posing questions and making complaints. The business action theory, which is the theoretical basis for the business action matrix, has helped us when analysing business actions conducted through different communication media. It has provided us with a distinct phase division, which makes the relation between different actions clear. Business action theory has a symmetrical way of viewing the business dyad, where equal attention is paid to both the customer and the supplier. This notion has helped us examining our case from both perspectives, and, thus, getting a richer understanding of the case.

The business action matrix has been extended and evaluated in this paper, resulting in two outcomes:

- During the application of the matrix, there emerged a need for complementing the matrix. In addition to showing which media are available and preferred by customers and the company, we needed a tool for analysing non-preferred media (as in the case with customers using the e-mail to place orders).
- The application of the matrix has also been extended to analyse a new IT-based communication medium (personal web pages) before its practical implementation.

This study focuses on customer-initiated communication. To further test the business action matrix, it would be interesting to study company-initiated communication, including offers and delivery-related communication. This perspective would probably add some more understanding to the field of business actions and communication media.

References

- Ahrne, G. (1994). *Social Organizations. Interaction inside, outside and between organization*. Sage Publications, London.
- Auramäki, E., Lehtinen, E. and Lyytinen, K. (1988). A speech-act-based office modeling approach. *ACM Transactions on Office Information Systems*, 6(2), 126-152.
- Austin, J.L. (1962). *How to Do Things with Words*. Oxford University Press.
- Axelsson, K. (2003). Analysing Business Interaction in a Virtual Organisation – Using Business Action Theory to Study Complex Inter-Organisational Contexts. *Journal of Electronic Commerce in Organizations*, 1(3), 1-27.
- Axelsson, K., Melin, U. and Goldkuhl, G. (2002). Understanding B2B Interaction – A Model to Accentuate Inter-organisational Systems Design Issues. In *Proceedings of the 10th European Conference on Information Systems (Wrycza, S. Ed.)*, pp. 541-550, Gdansk, Poland.
- Carlson, J.R. and Zmud, R.W. (1999). Channel expansion theory and the experimental nature of media richness perceptions. *Academy of Management Journal*, 42 (2), 153-170.
- Daft, R.L. and Lengel, R.H. (1984). Information Richness: A New Approach to Managerial Behavior and Organizational Design. In Cummings, L.L., Straw, B.M. (1984, Eds.) *Research in Organizational Behavior*, 6, Homewood, IL: JAI Press, pp. 191-233.
- Daft, R.L. and Lengel, R.H. (1986). Organizational information requirements, media richness and structural design. *Management Science*, 32 (5), 554-571.

- Dietz, J. (1994). Business modelling for business redesign. In Proceedings of the 27th Annual Hawaii International Conference on Systems Science, IEEE.
- Fulk, J., Shmitz, J. and Steinfield, C.W. (1990). A social influence model of technology use. In J. Fulk and C. Steinfield (Eds), *Organization and Communication Technology*, Newbury Park, CA, Sage Publications.
- Goldkuhl, G. (1996). *Generic Business Frameworks and Action Modelling*. In Proceedings of Conference Language/Action Perspective '96, Springer Verlag.
- Goldkuhl, G. (1998). The Six Phases of Business Processes – Business Communication and the Exchange of Value. In Proceedings of the 12th biennial ITS conference (ITS'98), Stockholm.
- Goldkuhl, G. and Lind, M. (2002). Continuing the dialogue: Generic layers for business interaction. In Proceedings of the 7th International Workshop on the Language Action Perspective on Communication Modelling (LAP2002), Delft.
- Goldkuhl, G. and Lind, M. (2004). Developing e-interactions – a framework for business capabilities and exchanges, in Proceedings of the 12th European Conference on Information Systems (ECIS2004) (Leino, T., Saarinen, T., Klein, S. Eds.), Turku, Finland.
- Goldkuhl, G. and Melin, U. (2001). Relationship Management vs. Business Transaction: Business Interaction as Design of Business Interaction. In Proceeding of the 10th International Annual IPSERA Conference, pp. 431-443, Jönköping, Sweden.
- Habermas, J. (1984). *The Theory of Communicative Action. Reason and the Rationalization of Society*. Vol. 1, Beacon Press.
- Johansson, B-M. (2003). Customer communication at a distance – a study of the importance of communication media in business transactions. Licentiate thesis, FiF-a 65, Department of Computer and Information Science, Linköping University. [in Swedish]
- Johansson, B-M. and Axelsson, K. (2004). Communication Media in Distance Selling – Business Interactions in a B2C Setting, in Proceedings of the 12th European Conference on Information Systems (Leino, T., Saarinen, T. and Klein, S. Eds.), Turku, Finland.
- Lee, A. (1994). Electronic Mail as a medium for rich communication: An empirical investigation using hermeneutic interpretation. *MIS Quarterly*, 18 (2), 143-157.
- Markus, M.L. (1990). Toward a “Critical Mass” Theory of Interactive Media. In Fulk, J. and Steinfield, C. (1990, Eds.), *Organization and Communication Technology*. Sage Publications, Newbury Park, pp. 194-218.
- Markus, M.L. (1994). Electronic Mail as the Medium of Managerial Choice. *Organization Science*, 5 (4), 502-527.
- Melin, U. and Axelsson, K. (2004). Emphasising Symmetry Issues in Business Interaction Analysis and IOS, In Proceedings of the Sixth International Conference on Electronic Commerce, ICEC'04, Delft University of Technology, The Netherlands.
- Melin, U. and Goldkuhl, G. (1999). Information Systems and Process Orientation – Evaluation and Change Using Business Action Theory. In Wojtkowski, W., Wojtkowski, W.G., Wrycza, S., & Zupancic, J. (1999, eds.) *Systems Development Methods for Databases, Enterprise Modelling, and Workflow Management*. Kluwer Academic/Plenum Publishers, New York, pp. 233-244.
- Merriam, S.B. (1988). *Case Study Research in Education*. Jossey-Bass Inc. Publishers, San Francisco.
- Patton M. Q. (2002). *Qualitative Research and Evaluation Methods* (3rd ed.), Sage Publications, Newbury Park.
- Sacks, H. (1992). *Lectures on conversation*. Blackwell, Oxford.
- Searle, J.R. (1969). *Speech acts. An essay in the philosophy of language*. Cambridge University Press, London.
- Timmers, P. (1999). *Electronic Commerce – Strategies and Models for Business-to-Business Trading*. John Wiley & Sons Ltd, Chichester.
- Walsham, G. (1995). Interpretive case studies in IS research: nature and method. *European Journal of Information Systems*. 4, 74-81.
- Winograd, T. (1988). A language/action perspective on the design of cooperative work. *Human-Computer Interaction* 3(1), p 3-30.

- Winograd, T. and Flores, F. (1986). *Understanding computers and cognition: A new foundation for design*. Ablex, Norwood.
- Yates, J. and Orlikowski, W.J. (1992). Genres of Organizational Communication: An Approach to Studying Communication and Media. *The Academy of Management Review* 17 (2), 299-326.