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A Communicative Action Analysis of Information Systems: A Sales Support System and its Effects

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Abstract

This report presents a case study of the implementation of a sales support system used by the Volvo/Renault retailers. The system is used when the car dealers are doing business with the customers. In this report the effects of the system on the business process are presented and analysed. The analysis is made from a communicative action perspective and the analyses show that the system cannot only be seen as a system that provides information to the car dealer and the customer, the system also affects the business process and the negotiation between the customer and the car dealer in a much more sophisticated way. The analysis also emphasizes how important the quality of the communication is in the business process and how the system has affected this quality.

1 A communicative action perspective of information

The basis for the communicative action perspective is human communication. The most elementary form of human communication is when two people are talking to each other face-to-face, but there are many other forms of human communication. Written communication can be made through personal letters or forms; today we can use computers to carry out the communication.

Important concepts in the communicative action perspective are **sender**, **message** and **recipient**. The sender's **intention** with the message is to influence the recipient in some way. The message has a content and this content is expressed in a language. In this context language means not only national language. People use a professional language [7] with linguistic expressions and concepts that has a very specific meaning depending on the social and cultural context where the communication is taking place. Another very important aspect of the message which is emphasized in the communicative perspective is the **action** aspect [5, 17]. Human communication implies both **content** and **action**. This understanding of human communication is based on speech act theory [9, 10, 16].

Figure 1 A basic model of human communication

(The figure from Goldkuhl, 1995 [5])

Important concepts in the communicative action perspective are **sender**, **message** and **recipient**. The sender's **intention** with the message is to influence the recipient in some way. The message has a content and this content is expressed in a language. In this context language means not only national language. People use a professional language [7] with linguistic expressions and concepts that has a very specific meaning depending on the social and cultural context where the communication is taking place. Another very important aspect of the message which is emphasized in the communicative perspective is the **action** aspect [5, 17]. Human communication implies both **content** and **action**. This understanding of human communication is based on speech act theory [9, 10, 16].

There are many different **action types**: the sender can for instance perform the following actions with a message [6]:

- **report** something to someone
- **order** someone to do something
- **make a request** for something to someone
- **make a commitment** about something to someone
- **confirm** something to someone
- **offer** something to someone
- **make a contract** about something with someone

The action aspect of the message is something that we often disregard. Methods for information analysis and database design concentrate on analysis of information content and stored information [2,13]. The focus on information content and stored information makes it very difficult to see the action aspect of information [14].

From a communicative action perspective it is important to analyse the communication between people when we design and implement information technology (IT) and computerised information systems (IS), this is important because we have to realise that we change the way people communicate when we implement IS and IT. Nurminen [14] claims that at least the following changes are possible when we implement an IS:

- we change the kind of things communicated
- we change the vehicle of communication; the new means of communication is the IS.

The notion of an information system in the communicative perspective can be characterised as a **vehicle for human communication** [6]. People use IS for communication by sending and receiving messages through

the system. In addition to this sending and receiving of messages, the system can be used to store messages, process information, and create and present new messages.

2 Research field and the case study

2.1 Research field

Today, companies spend large amounts on IT-investments. In spite of this there is great uncertainty about the effects of these investments. Davenport [3] claims that the IT-investments have failed to improve productivity at the level of the business unit, industry and national economy in the U.S. The reason for this, according to Davenport, is that practitioners and researchers have not treated the business process and process change as a key factor in understanding the economic benefits of information technology. This is not a specific problem for the U.S.: we can find the same problems in Sweden and Scandinavia. These problems indicate that there is a need for business process oriented methods that can be used to develop and evaluate information technology.

The aim of my research is to find a method for evaluating the effects of information technology and information systems at the business unit level. I claim that if such a method is to be useful, it is not enough to have narrow focus on the technical aspects of the system: we have to study how the system affects the business communication and the business process. The method must help us to find the effects on the business process but the method must also help us to explain and understand these effects.

I claim that the communicative action perspective can be very useful as a theoretical framework for the method, because the perspective can help us:

- to understand that human communication means both information and action
- to see the connection between the implementation of IS, human communication and the business process.

The perspective can also help us to realise that the development and implementation of IS both means the development and implementation of a technical system and the development and change in human communication.

1. The implementation and development of a technical system.

When we develop and implement an IS we program the computer, we do database design, we install hardware and software and so forth. It is obvious for everyone that we are working with a technical system.

2. The development and change in human communication.

If it is obvious that we are working with a technical system when we develop and implement an IS, it is more difficult to see that we actually are changing the way people communicate. There are several examples of how the implementation of an IS has broken the communication links between individuals and resulted in isolation and bad working conditions for the employees [see 3 p.98, 14 p.59]. These effects have often come as an unpleasant surprise for the employees, and the people responsible for the implementation of the system, because they have not realised that the IS would have this effect on the way people communicate.

But IS can also be used to change human communication in order to give positive effects on the business process, because human communication is an essential part of the business process and the change in human communication can result in a more efficient and effective business process with higher quality (see section 4.3 below).

I claim that without the communicative action perspective it is easy to be caught in a narrow technical view of IS where we run the risk of:

- i obstructing the human communication between people both within the organisation and with people outside the organisation e.g. the customers, which implies problems with the business process
- i not understanding how important the communicative actions are for the business process, and how an IS can be used to improve these actions and thereby the business process
- i not discovering all the effects, good or bad, when we design, develop and implement an IS.

2.2 The Case Study

To test my ideas I have performed a case study on a car retail company that has implemented a sales support system.

2.2.1 The objectives of the case study

The objectives of the case study have been twofold:

Objective 1) To find, understand and explain the effects that the system has had on the business process.

This is the more empirical and practical objective for the case study. This is important because I and the management at the car retail company were interested to find what effects the system has had on the business process, and with a good understanding of these effects it should be possible for the management to form an opinion of how good or bad the system is for the business process.

Objective 2) To try out the usefulness of the communicative action perspective as a theoretical framework for an evaluation method

Objective 1 and 2 are naturally closely connected, but objective 2 is more theoretically oriented. My intention was to use the case study to reflect upon the usefulness of the communicative action perspective as a tool for finding and analysing the effects of the system.

2.2.2 Method

I chose a qualitative research approach, I used guided interviews [15] and document analysis, because I wanted to find out, understand and explain the effects on the business process that can be related to the system and this implies a case study with some depth.

The idea was to study a company which was about to implement the system in the business process, in order to observe the state of the business process before and at the time the system was implemented, and to compare this with a study two or three months later when the system had been used a while.

2.2.3 The company

The company in the case study is a Volvo/Renault retail company in Sweden. The company is located in seven different cities in Sweden, I have concentrated my study on two cities (A-town and B-town). At each of these two cities there is a sales office with two car dealers and a car repair shop. At A-town there is also a delivery office that supports eight car dealers at four different cities including A-town and B-town with administrative service.

I have interviewed the four car dealers at these two cities and the clerk at the delivery office. I have also interviewed the quality manager and the system manager at C-town where the head-office is situated. I have studied economic reports to see if the system have helped the company to increase revenues or lowering costs. I have also studied documents that were created before the system was installed, i.e. purchase contracts, with documents that were created after the system was installed, i.e. customer order forms and an internal order forms, in order to compare the quality of the documents.

2.3 The sales support system and how it can be used in the activities of the car sell/purchase process

The sales support system is a system that is developed for the Volvo/Renault car dealers by Volvohandeln Utvecklings AB, a company owned by Volvo. Today the system is used primarily by car dealers in Sweden. The basic idea with the system is that it would be used by the car dealers when they are doing business with the customer. The system can be described by looking at how the system can be used in the activities of the car sell/purchase process:

2.3.1 Demonstration

If the customer is interested in purchasing a new car, the system can be used to demonstrate the product and different product combinations by:

- 1) specifying the car model and options

2) specifying equipment.

Together with the car dealer, the customer can create an image of the new car on the computer screen by combining different car models with different options. The options are: type of engine, type of gear box, type of car paint, type of interior colour and material, and type of car body. These attributes are named options because the car must have these attributes, but the customer can choose what kind of attribute it should be: for example the car must have a gear-box but the customer can choose which type of gear-box it should be, manual or automatic. The customer can also choose extra equipment. The customer can choose between hundreds of different items of equipment, e.g. stereo, ABS-breaks, automatic cruise control, type of rims, air-bag, type of tyres.

If the customer is interested in buying a used car the system can be used for presenting detailed information about the car; the system can also be used to search for cars that are in stock.

With the help of the system the car dealer can also find and record information about the customer.

2.3.2 Negotiation

If the customer has found a car that is really interesting, the discussion between the car dealer and the customer becomes serious. In this activity there is negotiation about prices and the value of the customer's trade-in car. How the car purchase should be financed is discussed, if the car is to be paid in cash, paid by installments or leased. There can also be discussions about which type of insurance and insurance terms the car dealer can offer. The result of the activity is a complete business proposal that is offered to the customer.

The system can be used to present detailed prices, to find and record information about the customer's trade-in car. If the purchase is to be paid by installments or if the car is to be leased the system can be used to calculate the installments and leasing fee. The system can be used to answer questions about insurance and to present different insurance offers. The car dealer can evaluate the business proposal by using a function in the system where he can calculate the gross margin of the proposal. With the system, the car dealer can present and print an individual, comprehensive and detailed business proposal to the customer.

2.3.3 Contracting

This activity starts when the customer has decided to accept the business proposal. If the customer does not pay for the car in cash, the car dealer has to make a credit rating, and finally he presents a business contract that must be signed both by the customer and the car dealer.

The system can be used to print out a comprehensive, detailed and legible customer order form that must be signed by the car dealer and the customer.

2.3.4 Internal ordering

This activity starts when the business contract is signed; the car dealer initiates the internal ordering of the car by communicating an internal order to the delivery office. The clerk at the delivery office makes a check on the internal order and records it. If it is a new car the clerk orders the car from the general agent. If it is a used car it can be delivered at once. It is very common that the repair shop must install equipment before the car can be delivered to the customer. It is also the responsibility of the car dealer to order this kind of work with the shop manager.

The system can be used to fill in and print an internal order form that is sent to the delivery office and an internal shop order form that is sent to the manager of the car repair shop.

3 Effects

3.1 The business process from a communicative action perspective

Davenport [3] defines a business process as follows: "A business process is a set of structured and measured activities that are designed to produce a specified output for a particular customer and market" (ibid, p. 5). What is typical of a process view of the business is that the activities and linkages that constitute the process are seen horizontally, i.e. it is a cross-functional view of the organisation, and it is a view of how the process delivers value for the customer. This in contrast to a hierarchical, and functional view of the organisation where the focus is on responsibilities and reporting relationships. If we analyse the activities and the linkages of a business process, it is very important to note that many of the activities in the process are communicative actions, and that the linkages in the process are constituted by communication (i.e. messages), or other objects, e.g. products, that although their primary purpose is

not communicative also have a communicative aspect [5]. This makes it very interesting to analyse the business process from a communicative action perspective.

Goldkuhl (ibid) has described a communicative action model of the business process with four stages:

- 1) Inquiry and negotiation stage.
- 2) Contractual stage.
- 3) Fulfilment stage.
- 4) Satisfaction stage.

The stages in the model presented by Goldkuhl is similar to the stages described in the Action Workflow approach [1].

3.2 The car sell/purchase process from a communicative action perspective

If we relate the activities: demonstration, negotiation, contracting and internal ordering (see section 2.3) where the sales support system can be used, to the model proposed by Goldkuhl, we get the following table:

Model proposed by Goldkuhl	Activities in the car sell/purchase process
Inquiry and negotiation stage	Demonstration and Negotiation
Contractual stage	Contracting
Fulfilment stage	Internal ordering
Satisfaction stage	-----

Table 1: Activities where the sales support system can be used compared to the communicative action business model proposed by Goldkuhl.

We can see that the activities of demonstration, negotiation, and contracting occur at the beginning of the business process. In the internal ordering activity the sales support system is only used to initiate the activity. Most of the work in this activity and in the satisfaction stage is supported by other systems.

Furthermore a communicative action perspective emphasises the importance of analysing the communication in the car sell/purchase process. In the car sell/purchase process, the car dealer has a key role both in the external communication with the customer and in the internal communication with the delivery office and the car repair shop. If we describe two typical communication situations in the car sell/purchase process by using the basic model of human communication (see fig. 1 section 1) it may look like this:

Internal communication situation

Sender	The car dealer
Recipient	The clerk at the delivery office
Message	Internal order to the delivery office
Action type	Order
Content	The message contains information about all the details of the car deal; the product, insurance, leasing, etc.
Language	The message is expressed in a production oriented language, which makes it possible for the factory to build and deliver the car
Objective	The objective is to initiate the ordering of the car from the general agent
Responsibility	The car dealer is responsible for initiating the internal ordering of the car and that the order is correctly formulated.

Table 2: The car dealer initiates the internal ordering of the car

External communication situation

Sender	The car dealer
Recipient	The customer
Message	Business proposal
Action type	Offer
Content	The message contains information about all the details of the business proposal: the product, insurance, leasing, etc.
Language	The message is expressed in a market oriented language which must be understood by the customer
Objective	The objective is to present a correct, legible, detailed and confidence-inspiring business proposal that the customer can decide upon
Responsibility	The car dealer is responsible for making sure that the offer is correctly formulated

Table 3: The car dealer makes a business proposal to the customer

These two examples show that communicative action is an essential part of the activities in the car sell/purchase process, and these actions are now performed with the help of the sales support system, in consequence it is very important to analyse how the system has influenced the external and internal communication in the car sell/purchase process.

At the same time it is very important to emphasise that there are many other factors than communicative action that influence how the business process is evaluated by the participating actors. The result of another research project [12], where the same system has been evaluated from the customers perspective, indicates that when they evaluate their car purchase, the customers regard the whole pattern of action, and the way they have been treated by the car dealer and the retail company, during the whole purchasing process.

3.3 Effects on internal communication**3.3.1 Positive effects on internal communication****I1) Higher quality of the internal order**

The system has contributed to a higher quality of the communication between the car dealers and the delivery office, because of a higher legibility and fewer problems with missing information on the internal order. This implies greater efficiency for the delivery office when new cars are ordered from the general agent.

I2) Elimination of unnecessary communication

The car dealers do not have to call the delivery office to ask questions about insurance, leasing and the products.

I3) Increased efficiency due to the changes in internal communication

The person at the delivery office who orders new cars from the general agent and answers the car dealers' questions, estimates that her workload has decreased by approximately 30-40 % since the system was implemented.

I4) Social effects due to the changes in internal communication

The opinion of the person at the delivery office is that the increased quality in communication also implies better working conditions because there is less complaining about the way car dealers fill in the internal order form. It is also a relief for the person at the delivery office not to have to answer so many telephone calls from the car dealers.

3.3.2 Problems with internal communication

I5) No reduction in the paper-flow

The implementation of the system has not reduced the paper-flow. The reason for this is redundant order information and the lack of a computerised connection between the systems that contain this redundant order information. This implies that the order information is entered several times.

I6) Deficiencies remain in the way the internal order form is filled in

There are still deficiencies in the way the internal order is filled in. The reason for this is that some car dealers neglect this kind of work. Another reason is that the system does not contain all the necessary information for the fulfilment of the internal order form. A third reason is that some information on the internal order form must still be filled in by hand.

3.4 Effects on external communication

3.4.1 Positive effects on external communication

E1) Higher quality of documents

With the system the car dealer can present a neat and legible business proposal to the customer instead of a scribbly written offer on the back of the car dealer's business-card. The customer also gets more complete information compared with the situation before the system was implemented.

When the system was implemented, the old purchase contract was split into a customer order form and an internal order form. The new customer order form contains more complete and customer-oriented information compared to the old purchase contract, because the old purchase contract contained internal information that was of no interest to the customer. The old purchase contract was also filled in by hand which sometimes was hard to read because of the car dealer's handwriting.

E2) Correct prices on options and equipment

The prices are correct because with the system the price information is easy to obtain compared to manual pricelists. The prices are also more easily maintained and updated when they are stored in the computer, which implies that the car dealers see price rises.

E3) Less haggling about the prices on options and equipment

The car dealers claim that the customer no longer haggles about the prices on options and equipment. The car dealers believe that the reason for this is that the customer does not think that it is possible to change the prices when the prices are offered through the system.

E4) The car dealer can answer questions from the customer faster and more easily

The car dealer has to answer many questions from the customers concerning all the elements of a car deal: the product, insurance, leasing, general agreements, etc. After the system was implemented it was much easier for the car dealer to answer these questions because information concerning these issues are easy to obtain from the system. This implies that the car dealer does not have to call the delivery office in order to obtain this information.

E5) The car dealer and the customer can together create an image of the customer's ideal car

With the help of the system the car dealer and the customer can create and present an image of the customer's ideal car and all the details concerning the car purchase. The car dealer and the customer also get a better overview of all the combinations that are possible e. g. which car model can be combined with different kinds of options.

E6) The system inspires confidence when the system and the car dealers information to the customer are congruent

The car dealers claim that the system inspires confidence because the customers tend to apprehend the information as correct and objective when it is communicated through the system. However this is only the case when the system and the car dealer's information are congruent (see effect E7 below).

3.4.2 Problems with external communication

E7) The system does not inspire confidence when the system and the car dealers information to the customer are incongruous

One problem that three out of four interviewed car dealers have experienced was that the price of a used car communicated by the car dealer and by the system was incongruous. For example, the price shown in the window of the car out in the show-room was 95000 SEK but when the car dealer obtained the information about the car with the system the price presented was 90000 SEK.

E8) The car dealers need additional types of messages to communicate with the customers

The types of messages that can be communicated or printed through the system are not sufficient. The car dealers have a demand for the following types of messages that they would like the system to support:

- Christmas greetings
- Marketing letters
- Invitations
- Value certificates

4 Conclusions

4.1 The car sell/purchase process from a communicative action perspective

The business process when the car dealer and the customer meet to sell/buy a car can be characterised as requiring human communication. The car dealer and the customer exchange messages through spoken language, gestures, documents and IS. However it is obvious that this business communication not only can be considered as an exchange of facts and information. The action aspect of the communication is apparent. The customer and the car dealer are involved in a negotiation.

The negotiation involves answers, offers and bids from the car dealer and questions, demands and counterbids from the customer. The negotiation is a learning and creative activity; it is a co-creative activity [4]: the car dealer learns about the customers needs and the customer learns about the products, different product combinations and other components that are part of the car deal. The negotiation will be brought to an end by the rejection of the offer or an acceptance of the order and finally a mutual contract.

4.2 How the system has affected the process of creating economic value

With a communicative action perspective it is important to emphasise that economic value is created when there is a mutual contract between the customer and the car dealer, and that the price agreed is very much dependent on how well the customer on the one hand and the car dealer on the other hand perform the negotiation activity. With this in mind it is very interesting to analyse how a computerised sales support system affects the negotiation and the creation of economic value. Interesting remarks that some of the car dealers have made concerning this issue are:

- 1) Many of the car dealers claim that there is less haggling about prices on options and equipment. This indicates that the customers refrain from these actions because of the system (effect E3).
- 2) From the car dealer's point-of-view prices on options and equipment are correct i. e., the prices are in line with the company's price list (effect E2).
- 3) Additional insurance is sold due to faster and correct answers to the customer concerning insurance questions (effect E5).
- 4) Some car dealers have claimed that the gross profit of the car deals has increased because the car dealers have utilised a function in the system where they can evaluate a business proposal immediately by looking at the gross margin of the proposal. This implies that the car dealers can avoid deals that have a gross margin that is too low.

The remarks above are interesting because they indicate that the system is not only an information provider to the customer and to the car dealer: the system can affect the negotiation process in a much more sophisticated way.

4.3 The quality of communication - a very important aspect of the business process

One of the most important observations made in the study is how important the quality of the communication is for the business process and how the system has influenced the quality of the communication.

4.3.1 How the system has affected the quality of the external communication

One example of how the quality of the business activities and the quality of the communication with the customer have increased is the possibility to demonstrate how different car models can be combined with different options and equipment when the customer is interested in purchasing a new car. This has given the customer new opportunities to learn about which cars the car dealer can offer, and the opportunity for the car dealer to build and demonstrate an image of the customer's ideal car on the computer screen (effect E6).

One of the most important contributions of the system is the possibility to present a business proposal to the customer, this has been very appreciated both by the car dealers and the customers [12]. It is very important to emphasise that the business proposal cannot only be seen as a design of a new document that better support the existing business process, as one car dealer said, *"the business proposal has added a new step in the business process, and this inspires confidence"*.

Why the business proposal is so important can easily be explained from an communicative action perspective. The business proposal is a very important business action and the system contributes in making this action more explicit (effect E1), instead of a scribbly written proposal on the back of the car dealer's business card, the customer gets an individual, comprehensive and detailed proposal, and it is not only the information content of the message that has become more explicit: the action type has also become more explicit because now there is an explicit business document with the title, business proposal, that is handed over to the customer.

The presentation and the signing of the business contract is also a very important business action. The information and language of the new customer order form is much more customer-oriented compared to the old purchase contract, this another example of higher quality in the external communication (effect E1).

A further example of increased quality in the external communication is the possibility to give fast answers to questions concerning insurance and leasing (effect E5).

These improvements in the external communication have contributed to a greater professionalism for the car dealers, better quality for the customer and have inspired confidence for the car dealers.

Despite the positive effects that the system has had on the quality of external communication, there are still some problems that have to be considered and solved.

The problem with the incongruent price information have created confusion and uncertainty in the communication between the car dealer and the customer. The effect of less negotiation about prices on options and equipment is probably not something that can be considered as increased quality from the customers point-of-view.

4.3.2 How the system has affected the quality of the internal communication

If we analyse the communication between the car dealers and the delivery office, there are two interesting examples of higher quality in the internal communication.

1) Higher quality in the internal ordering of new cars

The reason for this is that the document that is communicated from the car dealers to the delivery office is more legible and there are fewer problems with missing information than before the system was implemented (effect I1).

2) Elimination of unnecessary communication

The car dealers does not have to call the delivery office to ask questions about insurance, leasing, etc.; the car dealers can get this information from the system (effect I2).

The improved quality has implied higher efficiency for the person at the delivery office who is involved in the communication; her work-load has decreased by 30-40 percent. It is also the opinion of the person at the delivery office that there is an improvement in the working conditions.

There is no doubt that the system has had a positive effect on internal communication but there are still some problems that should be solved.

The system has not reduced the paper-flow: eliminating the handling of some internal paper documents would probably further increase the efficiency in the business process, and there are car dealers that still are careless when they are filling in the internal order form.

4.4 The communicative action perspective as a framework for an evaluation method

I had two main objectives with my case study (see section 2.2). The question is, have these objectives been met?

4.4.1 Objective 1: To find, understand and explain the effects that the system has had on the business process.

The communicative action perspective has been very useful in the practical evaluation work. The case study has shown how important it is not to have a too narrow technical view when we are looking for the effects of the system. For example, the person at the delivery office is not directly working with the system; yet the implementation of the system has considerably influenced the activities at the delivery office because the system has changed the quality and the pattern of the internal communication. I claim that a method that is based on the communicative action perspective makes it easier to find these type of effects.

I have presented and explained the effects of the system for the car dealers and the people responsible for the car sell/purchase process at the retail company in the same way that I have done in this report. This means that I have used the communication action perspective as a framework to show how the system has affected the external and internal communication and by that the car sell/purchase process. According to the reactions I have met from the people at the retail company I claim that the communicative action perspective has been very useful to help these people to understand how the system have affected the car sell/purchase process. This understanding has helped these people to form an opinion about the system and make decisions about how the system should be utilised in the business process. It has also helped the people at the retail company to request for changes of the system to the company that have developed the system.

4.4.2 Objective 2: To test the usefulness of the communicative action perspective as a theoretical framework for an evaluation method.

I claim that the case study and the analysis of the effects presented in this report confirm the idea of using the communicative action perspective as a framework for a business process oriented evaluation method for information systems. The perspective is powerful, because it can help us to see how information systems affect the quality of the business communication and by that the business process. From the case study we can see that the sales support system has increased the technical quality of the messages communicated, i. e. the messages are more legible, more complete, more explicit, and more neat, than before the system was implemented. This increased technical quality of the messages has contributed to the functional quality of the business process. Grönroos [8] characterises the functional quality of a service organisation as **how** the customer gets the product or service. One important aspect of the functional quality is how different representatives i.e. the car dealers behave when they meet the customers. A better understanding of the product, leasing, insurance, and business proposals and contracts, faster answers on inquiries from the customer, and inspired confidence for the car dealer, are all examples of an increased functional quality of the business process.

The communicative action perspective is also powerful because it helps us to emphasise the action aspect of both the business process and information systems. The action aspect is important because we have to understand that the introduction of an information system in the business process gives many opportunities to change the pattern of actions performed in the business process, i.e. the way we are doing business, and which opportunities that are utilised is up to imagination, will and knowledge of the actors involved and responsible for the business process, i.e. the management, the car dealer and the customer.

4.4.3 Concluding remarks

I claim that much of the success of the sales support system can be explained in the way the system contributes to the communication between the customer, the car dealer and the other actors involved in the business process. The system contributes to a higher quality in the communication by detailed and comprehensive information about the product, leasing, insurance and so forth. The system also contributes to a higher quality in the business communication by making the business actions more explicit.

I claim that without the communicative action perspective we run the risk of not realising how important the human communication and communicative actions are for the business process. For instance, many of the examples from the BPR-literature show how business documents have been eliminated in order to make the business process

more efficient. One very famous example of this is how the Ford Motor Company instituted "invoiceless processing" [11]. In this case of "invoiceless processing" Ford did not only take away the paper document, they also eliminated the communicative action "request for payment" by asking their vendors not send any invoices, instead Ford started to pay their vendors directly when the goods arrived, and by that Ford achieved a 75% reduction in head count in their accounts payable department.

I agree that we should use IS to eliminate much of the paper documents in order to make the business process more efficient, but we must be very careful when we consider which documents that should be eliminated from the business process, and if the elimination of the documents also means the elimination of the communicative actions that are manifested in the documents. The communicative action perspective can help us to see how important the communicative actions are for the business process and thus help us to make purposeful design decisions about the communicative actions, the business process and IS.

The business proposal in the car sell/purchase process is a good example of this, here we have a communicative action, that have been added to the business process, not eliminated, and this business action has increased the quality both for the customer and the car dealer. The customer has appreciated the paper document, but it is not only the paper version of the business proposal that is of interest. It is also of interest that the car dealers now have the business proposal recorded not only on paper but also electronically. This means that the car dealer later can search for the proposal that he has made, and contact the customer to ask if he still is interested in the proposal. The stored records of proposals made, may also be used in marketing campaigns. In the future it would also be possible to give the customer an electronic version of the proposal. We can see that the addition of the new communicative action (the business proposal) together with the system has not only increased the quality of the business process, it has also contributed to the developing of the business process, and it creates new opportunities for developing the business process.

I have seen this case study as a first step in developing a evaluation method for information systems that would be used at the business unit level. I will continue this work with the communicative action perspective as a framework for this method with a special focus on economic and quality effects.

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