

Socio-Instrumental Pragmatism: A Theoretical Synthesis for Pragmatic Conceptualisation in Information Systems

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Abstract

A need for pragmatic conceptualisation and theorizing in the information systems field is acknowledged. Instead of “importing” completed action theories from reference disciplines an alternative approach is preferred. In order to arrive at seamless theorizing in IS, a theoretical synthesis of different action aspects is developed well adapted to the IS field. The theoretical roots and some essentials of this adapted theoretical synthesis - socio-instrumental pragmatism - are described in the paper.

Keywords: Information systems, theory, action theory, pragmatism, socio-instrumental action

1 Introduction: The Need for Action Theories in IS Research

Empirical research within a field is always dependent on ontological and epistemological assumptions of the researchers (Kuhn, 1970). The implicit and explicit pre-understanding of the researchers shape the way research is performed. The way phenomena in the empirical field are conceived will govern inquiries and perceptions resulting in empirical data for further analyses. What are the salient phenomena in the empirical field? This is the crucial ontological question to raise in every research endeavour.

In the information systems (IS) field there are basic claims to acknowledge artefacts produced (e.g. Orlikowski & Iacono, 2001; Benbasat & Zmud, 2003). Information systems as technical artefacts should be prominent phenomena to study together with the humans surrounding them. There are things and subjects to study. What is also important is what the human subjects do with the artefacts; i.e. the actions of development and usage.

There are many scholars emphasizing the action character of the empirical field of social studies. Blumer (1969 p 71) claims that “the essence of society lies in an ongoing process of action - not in a posited structure of relations. Without action, any structure of relations between people is meaningless. To be understood, a society must be seen and grasped in terms of the action that comprises it”.

To take this stance seriously, IS studies should be conducted with an acknowledgment and search for actions performed in the field of study; confer e.g. Goles & Hirschheim (2000), Baskerville & Myers (2004) and Goldkuhl (2004a) for claims for pragmatic conceptualisations in IS. Such studies may be guided by the use of explicit pre-conceptualisations of the action notion. There are many attempts in the IS field to perform studies based on action-theoretic schemes. Such action theories are often “imported” from reference disciplines, like e.g. from sociology, philosophy, and linguistics. Examples of such theories are actor-network theory – ANT (Latour, 1992), structuration theory – ST (Giddens, 1984), Activity theory – AT (Vygostky, 1962; Engeström, 1987) and speech act theory – SAT (Austin, 1962; Searle, 1979). The use of ANT in IS research is discussed by Walsham (1997). Structuration theory has in-

spired several IS scholars in their studies (e.g. Orlikowski, 1992). A selection of IS contributions based on activity theory can be found in Nardi (1996). Speech act theory has given rise to several theoretical and methodological approaches within IS under the label of language/action perspective – LAP (e.g. Winograd & Flores, 1986).

None of these original theories were developed with IS as a main object of study. Therefore, the application of these theories has involved a theoretical adaptation to the specific IS-related phenomena. Such theories can contribute with appropriate action pre-conceptualisations, which may govern the IS researchers. But we cannot take for granted that these conceptualisations are the most proper ones. We cannot take for granted that these action schemes are appropriate for all sort of IS studies. One must remember that the IS field involves many different kinds of phenomena and situations to be investigated and explained. There are needs to describe different areas like:

- Designer and user interaction during IS development
- The use of more or less formal methods during IS development
- The computer execution of software in an IS
- The user interaction, through an interface, with computerized systems
- The usage of information systems in business processes

Are the mentioned theories appropriate as a theoretical basis for all these areas? I wonder if advocates for these different theories really claim such a universal applicability within the IS field. The approach taken can be interpreted as a selection and translation of the particular theory to the specific IS characteristics (figure 1).

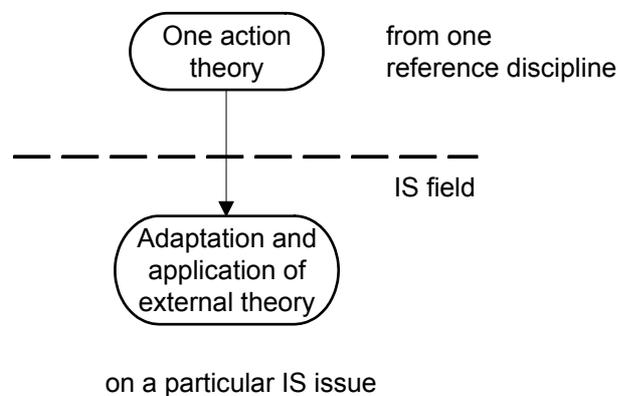


Figure 1: Selection and adaptation of one external action theory on a particular IS issue

There are strengths and weaknesses with such an approach. The strength can be that a well suited external theory is chosen. This theory applies well to the particular IS issue. This can however lead to problems to integrate this adapted theory with other imported and adapted theories. For example in Nardi (1996) there is a discussion about the discrepancies between AT and ANT. As an alternative to this “single theory import”, I would like to put forth another theoretical ideal within IS research: *The ideal of seamless theorizing*. This means that different issues and phenomena can be

described and explained with the same set of basic ontological constructs. This means that different IS theories can easily be related to each other because the theoretical constructs of different theories are congruent and in resonance. For such a situation it seems difficult to choose just one external theory as a theoretical base for adaptation to different IS issues. Of course, advocates of particular theories, as e.g. ANT, might claim that their theory is good enough to cover all possible situations. I have doubts that this would be the case. It must be proven. Seamless theorizing should not be confused with the symmetry principle argued within in ANT (Walsham, 1997).

In this paper I suggest an alternative approach. My proposal is to create a generic action oriented theory for the IS field, that should be used for many different IS issues. The generic action theory for the IS field should not only build on the insights from one external action theory, since this would not offer sufficient constructs. The approach for seamless action theorizing is described in figure 2, which should be compared with figure 1 (the case of one external action theory). This approach of theoretical synthesis is preferred since I do not find one single external action theory which cover varying demands from IS studies. Some external action theories are of course to be seen as theoretical synthesis in their selves, e.g. Habermas' (1984) theory of communicative action. However, such a theory is not adapted to the different issues at stake in IS. To continue the example, Habermas' theory is a broad sociological theory aiming at other kinds of explanations, than our knowledge interest around IT-related work. Elements of Habermas' theory is however an appropriate basis for an IS adapted theoretical synthesis, which also will be shown later in the paper.

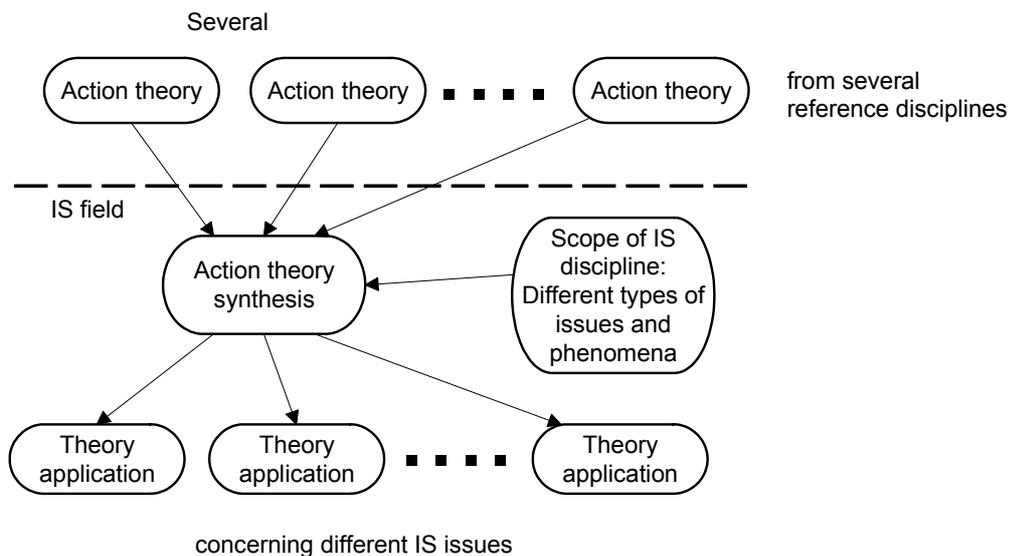


Figure 2: The idea of seamless theorizing in IS research:
One common generic theory basis

The purpose of this paper is to present an action-oriented theory adapted for research within information systems. This generic theory is called socio-instrumental action theory or socio-instrumental pragmatism (SIP). The theory is here outlined in order to

expose it as a possible generic action theory for the IS field following the arguments above concerning an adapted action-theoretical synthesis. SIP has been presented in several papers earlier, e.g. Goldkuhl (2001; 2002; 2004ab), Goldkuhl & Ågerfalk (2002; 2005) and Goldkuhl & Röstlinger (2003ab). In most of these papers, SIP has not been the main focus. It has rather been used as a background theory. The purpose of this paper is to concentrate on SIP and especially on its theoretical roots. Different theoretical roots from external theories will be investigated. The scope of the paper is not to give a full-blown account of either socio-instrumental pragmatism or its theoretical roots. That is not possible to do in one single paper.

I do not claim that SIP would be the only possible action theory synthesis for IS. There might of course be other alternatives and as an advocate for seamless theorizing I welcome such rivals to SIP. I do not either claim that SIP is the only contribution in this direction. One example of an explicit integration attempt of ANT and ST is presented by Rose & Jones (2004), and another one by Atkinson & Brooks (2003). Arguments for doing this is very close to my arguments taken here: "This approach of using two theories and modifying/melding them together in the face of observed phenomena is something that is not often found within the information systems (IS) paradigm. Although IS deploys many theories from other disciplines ... to underpin research and practice, the usual approach, particularly to interpretive studies ... is to adopt a framework and deploy it as given, *sui generis*" (ibid p 2895).

2 Different Action Views

Different action theories emphasize different aspects of actions. No single theory gives a complete account of action aspects. My ambition is not either to do that, but my purpose is to give an encompassing view of action aspects relevant for IS issues. Therefore I look through different action theories in order to detect important aspects. This might sound like a typical deductive approach; a literature review for collecting pragmatic aspects. This is, however, not a proper description of my conducted procedure. I have rather pursued an interactive approach, where different IS research issues have given rise to conceptual demands, which partially have been met in external theories. Many times, action conceptualisations have been made based on empirical observations in IS studies. Later similar concepts have been found in external action theories. In such cases these theories have the role of external theoretical grounding. SIP has evolved through an alternation between inductive empirical work, conceptual development and external theoretical matching; confer the principles of multi-grounded theory (Goldkuhl & Cronholm, 2003; Goldkuhl, 2004c).

I will go through eighteen action themes below. These are not eighteen different action theories. It is rather different themes, which recur in the analyses made by different action theorists.

2.1 Purposeful action

One of the basic views on actions is the teleological one; that action inherently is purposeful behaviour. People act in order to create desired differences in their environment (e.g. Dewey, 1931; von Wright, 1971). This implies also a rational view; that human can make deliberations about ends, means and future states (Rescher, 2000). There have been objections towards restricted means-ends views on actions (e.g. Joas, 1996; Suchman, 1987; Strauss, 1993). There have been claims for more dynamic,

situated and spontaneous views on human action. I can agree that not all action can be described as there exist a clear intention and plan before action is conducted. I also agree that means and ends can exist in dialectical relationships and that they many times have to be dynamically managed in action. These objections do not however alter the fundamental view that human actions are aiming at intended and desired differences; i.e. actions are purposeful.

This purposive-rational view on actions does not exclude value-rational aspects of actions. Weber (1978) emphasises that actions may be performed aiming at intrinsic values rather than external effects. Weber (ibid) does also emphasise that these are ideal-typical aspects of actions. This means that actions at the same time can be both purposive-rational and value-rational.

Actions of development and usage of information systems can clearly be said to be purposeful. IS are designed *in order to* be used. An IS is used *in order to* make some practical *difference*.

2.2 Social action

Models of human actions as purposeful are important as stated above. However, sometimes such models seem to disregard the inherent social character of human action. The purposive human is seen as a “lonely and isolated actor making decisions by himself”. Such a view is fundamentally wrong in most cases. Most actions are social as for example Mead (1934), Blumer (1969) and Strauss (1993) emphasise. Mead (1934 p 6) writes “the behavior of an individual can be understood only in terms of the whole social group of which he is member, since his individual acts are involved in larger social acts, which go beyond himself and which implicate the other members of the group”. Weber (1978 p 4) made a classical definition of social action: "That action will be called 'social' which in its meaning as intended by the actor or actors, takes account of the behaviour of others and is thereby oriented in its course". My interpretation of this definition is that a social action (performed by an actor) has social grounds (“takes account of the behaviour of others”) and social purposes (“thereby oriented in its course”). This has implications for how to study action situations. As researchers we should search for the *social purposes* of conducted actions. What influences have these acts on other actors? We should also search for *social grounds* of an action and not only the social purposes.

Actions of development and usage of information systems are usually performed in organisational settings; i.e. in social settings. It is clear that there exist social grounds and social purposes for most IS actions.

2.3 Accountable action

In his description of social actions, Weber (1978 p 4) emphasises the *meaningfulness* of such actions: “We shall speak of ‘action’ insofar as the acting individual attaches a subjective meaning to his behavior”. The action must hence be meaningful for the actor, but also for the addressees. If the action is not made meaningful or if it is not interpreted as a meaningful act, it will be dismissed as just some odd behaviour. Garfinkel (1967) has emphasised the aim for making actions meaningful in social interaction. He talks about *accountability* as a basic feature of social actions. In social contexts people are usually making their actions accountable, i.e. comprehensible and understandable for each other. Actions which are “visibly-rational-and-reportable-for-all-practical-purposes” are considered accountable (ibid). To be meaningful and ac-

countable, actions must be *interpretable*. Another way to put it is to acknowledge the *symbolic nature* of social actions (Mead, 1934; Blumer, 1969). Communicative actions are obviously symbolic, but also other actions that do not use language can also be seen as symbolic. In order to respond to others' non-linguistic actions in proper ways, they must be interpreted, i.e. a rational meaning must be ascertained to the act.

During information systems development (ISD), the participants of such endeavour must make their respective actions meaningful and accountable to each other. They must also make the primary result of their actions, the developed information system, accountable to its users. Otherwise it may not be used in a proper way.

2.4 Interactive action

Social actions are usually also truly interactive (Blumer, 1969; Strauss, 1993). One person acts directed towards one other person. The addressee responds to the first action and this may be followed by a continual interaction. This is obvious in verbal interaction and it has been studied by many conversation and dialogue theorists (e.g. Sacks, 1992; Linell, 1998). As said above, meaningfulness and accountability also apply to non-linguistic actions. This means that such actions also may be part of interactive schemes. The interactive nature of actions means that one particular action can both be a consequence of some other action and an impetus for actions following. One action can be both an initiative and a response (Linell, 1998).

The interactive nature of IS usage is well acknowledged. IS people speak of human-computer *interaction*. Many information systems imply a technology-mediated interaction between different users. The interactive nature of IS development is also easy to acknowledge. Different participants are interacting in their joint design endeavour.

2.5 Relational action

Social actions create social relationships (Garfinkel, 1967; Habermas, 1984). An utterance is not only something said and exposed. It implies an altered relationship between the locutor and addressee. An initiative made by someone needs to be taken into account by its addressee. The locutor has changed the social scene by introducing an utterance (an initiative). The addressee (when interpreting the utterance) is faced with a choice of action (Heritage, 1984). Social actions imply commitments and expectations or other kinds of relational constructs. A simple question like "Can you help me to move my stuff tomorrow?" creates a question-relation between the locutor and addressee. One way to deal with it is simply to ignore the question. This implies the creation of a relation of neglecting. If the addressee answers with a confirmation, he promises something and creates thus relations of commitment nature.

Usage of information systems surely implies the creation of social relations, even if this is not always acknowledged. Language action studies have contributed with disclosing different types of social relations (e.g. Winograd & Flores, 1986). The conversation for action schema (ibid) shows different kinds of relations, which are created in a typical discourse.

2.6 Expressive action

There is always someone performing an action. If the addressees are present, the actor's performance is clearly perceivable (Clark, 1996). The addressees can see and hear what the actor is doing and how he is doing it and also that it is the actor who is

performing this act. The actor expresses something deemed relevant for the situation. Bühler (1934) has distinguished three general semiotic functions; symptom, symbol and signal. The signalling function relates the sign to the addressee; the symbol function relates the sign to the referent (what is spoken about); the symptom function relates the sign to the actor. To do something is not only an intervention into world – a deliberate attempt to change something. It is an expression of the actor himself. When acting, the actor expresses his wishes, intentions, commitments etc. When he says something to someone else, he is also saying something about himself. Goffman (1959) has emphasized that humans present themselves in the social world they are parts of. Such presentations can often be made to give favourable images of the actor. Goffman (*ibid*) has made an important distinction between intentionally *giving* expressions and unintentionally *giving off* expressions.

Expressiveness of action means also that the human uses his body in action. There cannot be any actions without the body (Joas, 1996; Strauss, 1993).

When developing information systems, designers give expression of their design deliberations. An IS is an externalised object and as such it is an expression of design considerations and intentions.

2.7 Overt vs covert action

Actions mean intervention in the world; an intentional attempt to make a change. But not all actions are intervening with aims of making external changes. Many action theorists make a difference between overt and covert actions (e.g. Schutz, 1970; Strauss, 1993). Overt actions are such interventive actions presumed so far. Covert actions are actions that do not aim at an external change. Covert actions can be interpretative actions where a human tries to make sense of something externally. They can also be conscious acts of thought and reflection while trying mentally to solve a problem. A covert action (*interpretation* or *reflection*) goes internally, from external world to subjective world. It tries to make changes in the inner world of a human. It is an attempt of a human to change his knowledge about something. An interventive action goes externally - from human to external world - and it tries to make changes in the external world. Covert actions are however not always totally covert. While perceiving and reflecting, the human can give off symptoms (like facial expressions or other body movements) to be perceived by fellow actors.

I will speak of overt and covert actions in following; mainly about overt actions, and when doing so I will not always write ‘overt action’, often only ‘action’.

Development of IS means the creation of something new or changed. ISD is overt, interventive actions aiming at external changes. The IS development must also consist of interpretation of workpractice preconditions and design options. ISD consists of covert actions of design reflections.

2.8 Continual action

Two complementary views on actions are to see actions as discrete or as continual. Giddens (1984) describes human action as a continuous flow, a *durée*. A human being is constantly in an active mode; sometimes more active and sometimes less. A continual view on actions is however not in conflict with a view on actions as discrete. Even if actors can be seen to be continually active, there are many situations in which actors themselves as well as fellow-actors and observers easily will delimit a piece of doing as a distinct action. Humans produce things and changes in the world. They

make utterances and they change material objects. When there is a distinct result of some doing (e.g. an utterance made, an object moved or changed in some other distinct way) it is appropriate to delimit this as a specific action.

The continual flow of action is a continual flow of interpretation, reflection and intervention. Mead (1938) has made a model of human action consisting of four stages: The stages of impulse, perception, manipulation and consummation. The first two stages are associated with trying to work out the possibilities of acting. What are the circumstances in the environments? In what ways is it possible to act? The third stage is the intervention in the environment. The fourth stage involves an evaluation of the outcome of the intervention. In SIP these stages have been reformulated and restructured into three stages (Goldkuhl, 2004b). The first two stages can be integrated to a stage of *pre-assessment*. The actor perceives the environment and considers different action possibilities. After the *intervention*, the actor makes a *post-assessment*. Did he succeed with his intentions? Were there expected results and effects of the performed intervention? If the actor was not content, this post-assessment can shift to a new pre-assessment before the next intervention is made.

In ISD, judgements are made about a current work situation (a pre-assessment), a design of an IS is carried out (an intervention) and the result – the implemented IS - is followed up and evaluated (a post-assessment).

2.9 Controlled action

Interventive actions aim at desirable effects. Sometimes such effects may not be accomplished. The actor has not full control of the environments and circumstances. Von Wright (1971) has made an important distinction between action results and action effects. The result is what the actor produces, i.e. the direct result of the action. The result is what lies in the range and control of the actor. Effects are what arise as consequences of the performed action. The result of a speech act is the utterance made. The effects are the interpretations made by the addressees and their subsequent understanding and possible actions. Some results are manifested as persistent objects (a written letter). Other results are evanescent and they fade away after they have been produced (an oral utterance not recorded).

What follows from this differentiation is that verbs as “descriptions of actions” can be made more or less inclusive. Verbs like ‘win’, ‘cure’, ‘deceive’ and ‘persuade’ “signify not merely that some performance has been gone through, but also that something has been brought off by the agent going through it. They are verbs of success.” (Ryle, 1949 p 125). Such verbs describe the action and its successful effects. This means that one must be cautious using such verbs for the description of actions. It is often important to be clear of what the actor actually performs which is ended by the action result.

The distinction between result and effect is fundamental in IS affairs. The result of ISD is an implemented information system. Effects are what arise in the usage of the IS. The use can be influenced but it cannot be controlled by the IS designers.

2.10 Temporal action

One important property of actions is duration. To perform an action takes time. A limited action can be performed momentary. Other complex actions may have a long temporal extension (e.g. Strauss, 1993). Actions are always performed in a temporal and historical frame. As said above, actions have social grounds and social purposes

and effects. This means that there is a past of the action (the grounds); there is a present (when the action is conducted); and there is a future (the effects of the action).

Temporality is a critical dimension in IS issues. Every IS designer knows that ISD work takes time. What is also known is that time changes the character of the IS. The content of it will change through usage. Work conditions may shift, which can make the system unsuitable to use. Information systems exist in the temporality of a historical legacy and an uncertain future.

2.11 Attentive and knowledgeable action

Intervening in the world is based on social grounds and on perception and deliberation of the situation, as stated above. In the performance of the interventive act, the actor does not cease to perceive or reflect. Giddens (1984) emphasizes that the actor *continuously monitor* his own actions as well as the reactions from the environment. The actor is *attentive* before, in and after acting (Mead, 1938; Ryle, 1949; Schön, 1983). The actor can change his behaviour based on new impressions during his action.

Knowledge is exerted in action. The actor uses knowledge in order to act and to make an intentional difference. Dewey (1931) writes "If we form general ideas and put them into action, consequences are produced which could not be produced otherwise. Under these conditions the world will be different from what it would have been if thought had not intervened". Practical knowing does not entail that the knowledge is articulate and easy to espouse verbally (Ryle, 1949; Polanyi, 1958; Schön, 1983). Knowing in action can be tacit. What is tacit can many times be made explicit through articulation. A reflection on the action (performance, results and effects) and the tactics used can be a vehicle for conceptualisation, learning and hence for improved future action (Kolb, 1984). Actions give rise to repercussions on the actor. Learning is inherent in action.

Design of IS is a demanding task. It is necessary to be attentive during ISD and to utilise knowledge from many different sources. An information system is a knowledge and communication instrument. The very meaning of IS is thus to contribute to knowledgeable action.

2.12 Mediated action - enabled and constrained action

A practical view on knowledge means that knowledge is used as an immaterial *instrument* in action (Dewey, 1931; Cronen, 2001). Knowledge is necessary internal instruments for actors in their conduct. Actors use also many external instruments and tools of material character for action. Instruments direct the action in certain ways. Action is *mediated* through the uses of instruments (Vygotsky, 1962; Engeström, 1987; Wertsch, 1998). Instruments are mediational means for human action. The environment (the action scene) has constraining and enabling functions for the actor. The actor directs his perception of the environment towards those properties, which afford action possibilities (Gibson, 1979; Joas, 1996; Hutchby, 2001). What is possible to do? What action possibilities does the environment offer? What possibilities are inhibited?

Computers are means for calculation, storing, retrieving, transportation and presentation of data. They are the key instruments in the IS field. They enable us to do things, but they have also constraining properties. Important immaterial instruments

in the IS field are ISD methods. Use of them mediate performance of IS development; i.e. design actions are directed in certain ways.

2.13 Powerful action – enabling and constraining action

The environment has enabling and constraining functions on humans. The action environment is to a large extent created by humans. This means that humans have the power to enable and constrain future actions (performed by themselves or others) through the intervention and change of objects in the environment. “Within limits, the human animal can alter the affordances of the environment but is still the creature of his or her situation”. (Gibson, 1979 p 143). Giddens (1984) claims that power is inherent in all action. To act is to exert power. To act is to change the action conditions for other people. The social – and material – grounds for action may be altered by interventive acts. Action objects are objects created and changed by human actions. Action objects are also used in actions and thus enabling and constraining actions. Many human actions means that some object is transformed in some way; some part of the environment is refined by human intervention.

To develop an IS is to produce an object to be used in a workpractice. This object enables certain communication actions, but it also directs and constrains actions of its users. To develop an IS is to perform powerful acts within an organisation. It means the production of an object with power on its users.

2.14 Institutionalised action

Parts of the social grounds of an action may have a mediating function. An actor uses socially established conceptions and procedures in his actions. He conceives, perceives and intervenes in ways that are *established* in the practice that he is part of. His behaviour is performed following customs and collective habits. Patterns of action are institutionalised as *the way to do it* (Berger & Luckmann, 1966; Giddens, 1984). When following the institutions of the practice, the actor is also reinforcing these institutions (ibid). Institutions make actions socially recognizable, accountable and predictable and thus contributing to social structure and social order.

Institutions play a significant role in the IS field. An IS is in itself a carrier of institutions. Workpractice procedures and workpractice language are implemented in an IS and they will have a reinforcing function. IS development are often performed following specific methods. If followed in different projects, an ISD method may become an established and institutionalised way to perform ISD in an organisation.

2.15 Creative action

Institutionalised action is often routine action. The actor follows prescribed ways of working. I have earlier emphasised the purpose of actions to make a change in the world. The action creates a difference, which would not have been there otherwise (Dewey, 1931). Even routine actions create changes, although they would not have been labelled creative. Creation is inherent in interventive actions. Of course, some actions are more innovative than others. New kinds of objects are created. To be innovative and truly creative there is necessary to be imaginative, playful and explorative and to venture (Joas, 1996).

To design an IS definitely an act of creation. The designers create something to be used. The innovativeness of different IS may contrast. Some may follow the paths of a specific design tradition, while others may break new courses.

2.16 Trans-situational vs situational action

An action is performed in an action situation. The place of the action has strong influences on the performance of the action. An actor adapts his behaviour continually to the affordances in the immediate environment. This is often labelled as the action is situated (Suchman, 1987) or situationally performed. But this is not the whole picture. The immediate situation has great impact, but so have the history and the trans-situational social grounds. An actor does always bring something into an action situation. He brings knowledge and experiences from other situations. He acts according to social institutions, norms and other social grounds. The impetus for action, e.g. a request by someone, may lie outside the actual situation and function as an initiative for his (responsive) action. Human action is often a way to connect different situations to each other. The creation of one object in one situation connects it to another situation where the object is used.

Development of an IS is one action situation. The developed IS connects the design situation to the usage situation. A user interacting with an IS is adapting his behaviour to the actual situation; i.e. his actions are situated. But he brings also knowledge, role expectations and assignments into the IS usage situation. His actions are trans-situationally framed.

2.17 Representational action

Actions performed in an organisational setting have certain characteristics. Such actions have a dual character. A human performing an organisational action is acting in his organisational role. He is part of the organisation. The organisation cannot act by itself; it must act through its organisational agents. Being an agent means that one acts on behalf of someone; in this case on behalf of the organisation (Ahrne, 1994; Taylor & Van Every, 2000; Goldkuhl & Röstlinger, 2003a). The dual character of an organisational action means that it is both the human and the organisation that acts. The actor has an organisational role, assigned to him by the principal of the organisation. His actions are representational. He represents the organisation when performing the actions. He acts in the name of the organisation.

Information systems are organisational phenomena. Development of an IS performed within an organisation means that actions are performed by some of its agents in order to develop the organisation. The usage of an IS means also actions performed in the name of the organisation.

2.18 Human vs non-human action

So far, action has been presumed to be performed by humans. Cannot actions be performed by artefacts? This is a claim by ANT theorists (e.g. Latour, 1992), and this view has also been brought into the IS field (Walsham, 1997). This is not a new challenge to humanistic views; confer the old debate concerning intelligence in artificial intelligence (e.g. Weizenbaum, 1976). Can artefacts like computers do something, and if so what shall we call their doings? It is obvious that computerized information system can do things. Important organisational actions can be carried out by information systems. Should we call these actions? And shall we call IS as performers actors? I would not call them full-blown actions, including reflection and goal-setting. What is performed by an artefact are pre-defined actions. Those actions are defined, determined and constrained by the program that some humans have imposed on the artefact. Giving these reservations, I think it is possible and also appropriate to talk about

artefact action. The artefact will not become an actor in the same sense as a human. Artefacts are restricted to be agents, i.e. they act on behalf of someone else. Artefacts do not possess typical human attributes like consciousness, social awareness, empathy, genuine intentionality, imaginativeness, emotionality, spirituality and passion.

One of the basic challenges within the IS field is to understand and align human action and IS action. The very core of the IS field is the complex mixture of human and artefact action (Rose & Jones, 2004).

2.19 Multi-functional action

I have above given a multi-faceted view of action. Action cannot be characterised by using some single label, like purposive action or mediated action or situated action. All these characterisations count and several others as well. This comprehensive view of action can be summarised as a *multi-functional view of action*. To act is to do several things at the same time. An actor may at the same time

- Try to reach some desired effects
- Create something meaningful and accountable
- Respond to an initiative
- Utilise an instrument
- Transform some object
- Use prior knowledge
- Adapt to situational circumstances
- Engage into social relations
- Follow norms, role expectations and other social institutions
- Learn something new

This is not an exhaustive list. This is just to show the breadth and variety of aspects at stake in human action. The enumeration does not mean that an actor performs these as different actions. What are described above are intrinsic aspects of a human action, not distinct actions. Multi-functionality of actions is one of the key features of SIP.

3 Some essentials of socio-instrumental pragmatism

The main idea here is seamless theorizing in the information systems field. Different theories within information systems should be easy to relate to each other. The possibility to do so is through a common theoretical ground (figure 2). A proposal for such a common background is put forth in this paper: Socio-instrumental pragmatism. It is beyond the possibilities of a limited paper like this to give a full account of this theoretical ground. Based on the different action themes from section 2 above, some essentials of socio-instrumental pragmatism will be described below. As said in the introduction above, there exist several other descriptions of SIP, which the interested reader may study in order to get a more comprehensive view.

The key term is *socio-instrumental action*. This is an emphasis that the type of action studied is social with all of its implications. A social action is usually accountable, interactive, relational and institutionalised that means mediated through a social stock of knowledge. It is also an emphasis that action is instrumental in different respects. The actor performs his action in order to arrive at some desired effects. The action is in itself instrumental in relation to certain ends. The actor uses some mediational means in order to produce his intended action result.

The notion of socio-instrumental is an attempt to avoid polarized views of action like that an action is either social or instrumental. Habermas (1984) makes a sharp distinction between social actions and instrumental actions as distinct types of actions. An actor working in isolation with some material tasks is performing a socio-instrumental action if there are social grounds (e.g. a request for his actions; the usage of skills learned through social interaction) and social purposes (the material result will be used in some social context). A communication action is obviously social, but it is also instrumental. The production of an utterance, message or document is instrumental in relation to some communicative purposes. Language is used as an instrument in the communication act, and there might be other devices for communication (e.g. telephone, computer, pen and pencil). Confer Goldkuhl (2001) for arguments about an integrated view on actions' sociality and instrumentality.

The key term socio-instrumental is chosen since the main object to study in the IS discipline, the information system is typically a socio-instrumental artefact (Goldkuhl & Ågerfalk, 2005).

A basic model of socio-instrumental action is depicted in figure 3. A focused actor performs actions with social grounds and social purposes. There can be both trans-situational and situational grounds for his action. The actor perceives (a pre-assessment) the situational grounds. He may reflect upon the circumstances using his knowledge. He intervenes and thus produces a communicative and/or material result (outcome). His intervention means a transformation of an object (called base in the model) and a utilisation of an instrument. His action is directed towards some addressee. The production of a result is what is within the actor's range. The addressee's interpretation and possible subsequent overt actions are effects, which are beyond the direct control of the focused actor. During his overt action and after the performance of it, the focused actor continues to perceive the situation. He may adapt his behaviour according to situational circumstances. After the accomplishment of his intervention he perceives and values the outcome and effect (a post-assessment), which may give rise to new actions.

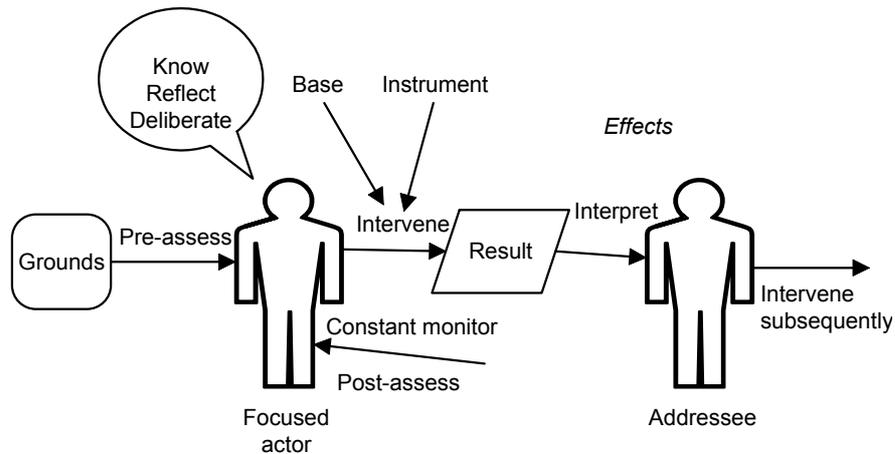


Figure 3: Socio-instrumental action – a basic model

Figure 3 has a focus on one actor; the addressee is part of the environment. In figure 4 an interactive and relational action model is depicted as a complement to figure 3. Interaction is conceptualised through the concept pair of initiative-response. The social interaction gives rise to continually changing social relations. There are not only intentional results, but also unintentional give-offs, which are interpreted by the fellow actor.

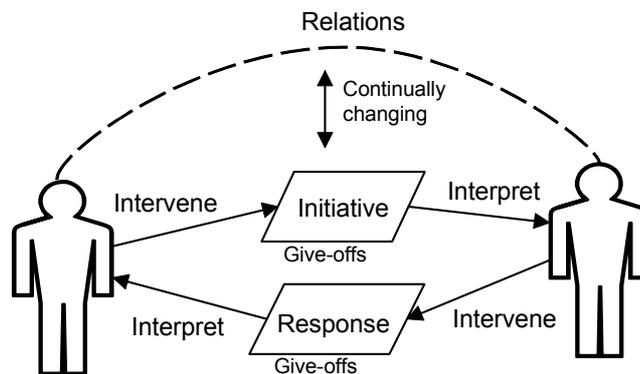


Figure 4: Interactivity in social actions

Information systems can be used as advanced communication instruments between human actors (figure 5). IS can play several roles according to SIP. It is an instrument for formulating messages to other actors according to a pre-defined action repertoire. It is an instrument for mediating messages to other actors. A designed action repertoire governs this mediation, which can include to process, store, retrieve, transport and present messages. Actors can thus use an IS (as an instrument) to read and interpret messages. An IS is both an instrument for human actors aiming at communication and an agent with capability to perform pre-defined actions (Goldkuhl & Ågerfalk, 2002; 2005).

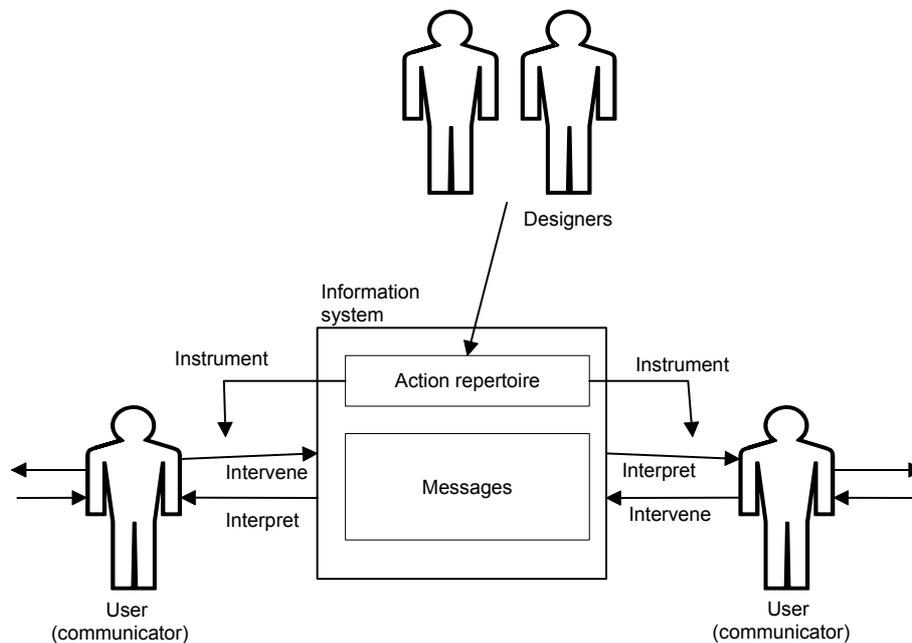


Figure 5: Socio-instrumental actions of IS development and usage

4 Concluding remarks

Socio-instrumental pragmatism is a theoretical synthesis made up from many different action-theoretic sources. It is formulated based on needs for theorizing in IS. The ambition behind SIP is that it should be used as a theoretical instrument for developing different IS theories and thus enabling a seamless theorizing. SIP is intended to be used for theorizing on development of IS, the IS as a socio-instrumental artefact and the use of IS in organisational contexts. SIP should not be seen as a ‘grand theory’ of high abstraction to be imposed on data. It is rather an ontological framework assisting the researcher to stay close to empirical data in order to discover patterns and regularities. Confer Blumer (1969) and Strauss (1993) about action-theoretic frames.

SIP is considered to be an action theory synthesis. This does not mean that it is a full integration of all background theories. It is rather an eclectic theory, picking out and sometimes transforming those constructs from background theories that seem to be useful for IS theorizing.

As described in Goldkuhl & Röstlinger (2003a), SIP can be conceived as a progenitive theory within IS. It is a theoretical basis for a workpractice theory used to describe the work context of an IS (ibid; Goldkuhl & Röstlinger, 2003b). This theory is sometimes called Theory of Practice – ToP (ibid). SIP is also a basis for Business Action Theory – BAT (e.g. Goldkuhl & Lind, 2004); a theory aimed for describing business interaction and electronic commerce. SIP is also basis for an action oriented theory of information systems, the Information Systems Actability Theory – ISAT (e.g. Goldkuhl & Ågerfalk, 2002). SIP has also been used to conceptualise knowledge management issues (Goldkuhl, 2004b).

A driving force for all these theories, including SIP, is their practical use. As theories, they are aiming at conceptualisation, explanation and understanding. But

they are also aiming at being practical theories (Cronen, 2001) or design theories (Walls et al, 1992; Goldkuhl, 2004c). The emergence of these theories has been through a constructive alternation between use for understanding and use for practical change. This is also how the ideal of seamless theorizing has evolved. Elements of a theory should work together, thus elements of a theoretical synthesis should function together. Different theories should work together, thus different IS theories should contribute to a coherent and congruent view on IT related work. Theories should assist us to understand the world and to act in the world!

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