A Constructionist Approach to the Study of IS Development Failures
How semantics as the construction of meaning influences our theoretical approach to information systems

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Abstract:

This paper reflects on the use of socially constructed categories in the analysis of a failed attempt to introduce a standardised information system (ISIS) in the Irish League of Credit Unions. Beginning with a brief overview of the various definitions of social constructionism and a description of the ISIS project, the paper then outlines two previous interpretations of the failed implementation. The first of these uses an interpretive lens of power and identity to analyse the implementation phase of the project, while the second study asks who is responsible for the project’s failure. We then suggest that these interpretations relied on socially constructed categories which created artificial distinctions in the credit union movement and thus equally contributed to the failure of the project. Finally, we discuss the consequences of using social constructionist ideas and suggest that it has far-reaching consequences for IS research.

Key Words: Constructivism, Semantics, Credit Unions, IS Research

INTRODUCTION

The Irish League of Credit Unions (ILCU) has recently abandoned plans to create a standardised information system for member credit unions. The project, called ISIS, began in 1998 and quickly ran into operational and funding difficulties; the pilot implementation fell behind schedule, the project experienced dramatic cost overruns estimated at IR£27 million and acrimony regarding the viability of the project has threatened to split the Irish credit union movement.

As part of an ongoing analysis into the use of technology in the ILCU, these authors have completed two studies of the ISIS project, both of which examine the project from an interpretive perspective. The first study used a lens of power and identity to analyse the wide range of reactions to ISIS and to suggest why those reactions created problems during the implementation phase of the project. The second study analysed the project’s failure in terms of responsibility; it ascribed responsibility and suggested ways in which any potential successors to ISIS could avoid those same mistakes.

This paper takes our previous analyses of ISIS and reflects on our use of socially constructed categories. It begins with a brief overview of the various definitions of social constructionism. The second section describes the ISIS project and continues with an outline of our previous
studies on the topic. In the third section, we deconstruct the categories used to analyse the ISIS project and discuss the validity of our findings. Finally, we will outline how our approach can be beneficial to IS research in a more general way. We will show that this paper aims quite clearly at the conference title, at the question of the relationship of semantics and IS research. Our constructivist approach centres on the question of meaning and the way it is constituted. This is exactly what the term "semantics" stands for and we hope with this paper to suggest a way that semantics can become an integral part of the future of IS research.

**DEFINITIONS OF SOCIAL CONSTRUCTIONISM**

Researchers who adopt a broadly interpretive approach frequently contrast the positivist and interpretive traditions (cf. Orlikowski / Baroudi 1991; Rosen 1991; Klein / Myers 1999). Although interpretive studies of information systems frequently mention that reality is a social construct (cf. Walsham 1993; Knights / Murray 1994; Robey / Azevedo 1994), it is rare to come across a commonly accepted definition of what this means. Some of the many theoretical stances available to the interpretive researcher are radical constructivism, constructivism, social constructivism, social constructionism and sociological constructionism.

The terms construcivism and constructionism are sometimes used interchangeably when discussing interpretive approaches to research, but it is worth distinguishing between them. Using Gergen’s definitions, we understand social constructivism as suggesting that ‘while the mind constructs reality in its relationship to the world, this mental process is significantly informed by influences from social relationships’. In contrast, social constructionism places an emphasis ‘on discourse as the vehicle though which self and world are articulated, and the way in which such discourse functions within social relationships’ (Gergen 1999, 60). Thus, although both approaches align themselves to a subjective ontology and epistemology, constructivists follow rationalist philosophy by prioritising the role of the individual mind in creating meaning, while constructionists suggest that meaning is created by the discursive interaction between the individual and the world.

For the purpose of this paper, we adopt a constructivist approach. We suggest that reality is socially constructed in the sense that meaning is created through the relationships between individuals, the self and society and between the self and the world. The value of this approach is that it allows us to evaluate our interpretive analyses of the ISIS project on a fundamental level and question the validity of our findings. This is at the same time a particularly semantic approach. Semantics is the discipline that deals, among other things, with the question of how meaning is created. Constructivism, in the way we introduced it here, is thus a semantic approach to the question of reality.

In the academic field of information systems the constructivist approach is not often used explicitly, presumably because it goes against the common sense interpretation of the world. Furthermore, the acceptance of constructionism will lead to the realisation that a value-neutral description of the world is impossible and every research activity shapes the reality it researches. Not surprisingly therefore, the constructionist approach is strongest in those areas of IS research that are generally recognised as being of a normative nature. This is certainly true for research concerned with teaching and the educational use of IT. Constructionism as a theory of learning stands for the idea that students do not accept the truth about the world from their teachers but actively construct it through the learning experience. "Rather than transmitted, knowledge is created, or constructed, by each learner. The mind is not a tool for reproducing the external reality, but rather the mind produces its own, unique conception of events" (Leidner / Jarvenpaa 1995, 267). Especially those learning theories that emphasise collaboration are constructionist in our sense of the word because they stress communication as the building stone for the creation of reality (cf. Alavi / Wheeler / Valacich 1995; Alavi 1994). The recognition of constructionism as a basis of learning rules out the idea of value-
neutrality and allows the recognition that teaching must follow other agendas than just the transmission of facts. Constructionism in this context therefore leads to normative ideas such as the empowerment of students (cf. Dawson / Newman 2002).

Apart from research in IT and education the constructionist approach can be found in generally critical research agendas in IS. Frequently the researchers who follow these ideas have a non-IS academic background and come from fields such as sociology, political theory, or philosophy. The value that these researcher see in constructionism is that it can frequently explain phenomena better than objectivist approaches and that at the same time it allows the admission that research has more than just one agenda. This offers huge advantages, for example in the field of public policy. If technology is socially constructed then "its character and implications depended on how it is organized, supplied, accessed and utilized in the context of corporate strategies, market structures and public policies" (Riis 1997, 448). This allows reinterpretations of technology and its use and thereby creative policy development that might be precluded by an objectively given technology. This sort of thought of course proves as attractive to social scientists such as Grint / Woolgar (1997) or Castells (2000). It would also allow interesting developments in those areas that deal with normative problems of IT such as computer ethics or information ethics, however, constructionism does not seem too widely spread in this area yet.

It should have become clear that a constructionist approach to IS research offers many advantages. It allows completely new perspectives by removing old certainties. At the same time it is also difficult because it forces the researcher to radically question all of his or her assumptions and to think in new ways. Also, constructionism does not adhere to the traditional academic disciplines and therefore raises pragmatic problems such as the acceptability and publishability of texts. For us it seemed attractive to take a constructionist look at one of our research projects because we hoped to find the limitations of our ideas and thus to further the project itself. In order to explain in how far we achieved this, it is necessary to first describe the project itself.

THE ISIS PROJECT

The modern Irish credit union movement originated in Dublin during the 1950s. At a time of high interest rates in Ireland, the founders were interested in offering an alternative to hire-purchase credit and illegal moneylenders (Quinn 1999; Culloty 1990). The credit union movement was based on co-operative principles which emphasise equality, equity and mutual self-help (ILCU 1999; Quinn 1999). Since its inception, the movement has played an important role in Irish society, achieving widespread recognition and popularity. Each credit union is a non-profit, independently run, separate legal entity that offers savings and loan facilities to its members. The most recent figures show that by December 1999, there were 438 registered credit unions in the Republic of Ireland, with just over 2 million members and assets of approximately IR£3.9 billion (Sisk 2001).

The Irish League of Credit Unions (ILCU) is a non-statutory umbrella organisation, organised on a voluntary basis, which provides training and support services for its members. The ILCU has been discussing the idea of networking its diverse information technology (IT) systems since the early 1990s. ISIS (ILCUTECH Standard Information System) was born out of the ILCU’s decision to implement a centralised standard information system that would give all credit unions the ability to offer an expanded range of financial services to their members. The ILCU Board considered ISIS to be a necessary development because they believed that it was the only way for credit unions to survive possible regulatory changes and market pressures. Prior to the development of ISIS, credit unions worked on an independent basis; each credit union was responsible for sourcing its own software and equipment with the result that there were extreme variations in the services offered by individual credit unions.
It was envisaged that ILCUTECH Service Bureau staff would be responsible for the implementation, configuration and maintenance of ISIS, thus allowing credit union staff more time to offer higher levels of service to members. A key feature of the system was that it would be flexible enough to cater to the needs of all credit unions, irrespective of their size and the systems already in use. ISIS was supposed to provide membership management features, as well as fast transaction processing for existing savings and loans accounts, automated general ledger accounting, management information reports and queries and a full set of regulatory reports. An additional selling point for the system was that ISIS would provide a base upon which new products and services could be built. Traditionally, credit unions focused on providing savings and loan accounts for their members. With ISIS, credit unions could offer a range of financial services such as electronic funds transfer, ATM cards and debit cards.

In July 1998, ILCUTECH hired OSI, a British financial services consultancy, to develop the ISIS proposal. The consultants initially estimated that the project would cost IR£40 million, a figure that was intended to cover the procurement of the systems and software, the setting up of the organisation and the running costs of ILCUTECH until 2003. A business case review in October 1999 showed that the project was on schedule and within budget, however, ILCUTECH ordered an initial project review in January 2000 and this revealed a cost overrun. At the ILCU’s Annual General Meeting (AGM) in April 2000, the credit unions were informed that the initial proposal prepared by OSI underestimated the cost of ISIS and, as a result, the project was now expected to cost IR£68 million instead of IR£40 million. Furthermore, progress on the implementation phase of the project was slower than originally planned. Amid controversy and dissension that threatened to split the ILCU, the ISIS project was abandoned at the end of 2000. Since then, the credit union movement has been engaged in an evaluation of ISIS, an exploration into a possible successor to it and is also attempting to unify the various factions within the league.

**INTERPRETATIONS OF ISIS**

The evaluation of the failed ISIS project is part of an ongoing study into the use of technology in Irish credit unions. As part of this study, we have completed two analyses of the ISIS project. The first uses an interpretive lens of power and identity to analyse the implementation phase of the project, while the second study asks who is responsible for the project’s failure. Primary data is drawn from fieldwork done during May – July 2000 using an interpretive methodology. Secondary data is drawn from sources such as Irish Government and ILCU publications, minutes of meetings, newspaper reports and research commissioned by individual credit unions.

**ISIS and Identity:**

This study (Mangan 2000) used a theoretical lens of power and identity to analyse the wide range of reactions to ISIS and to suggest why those reactions created problems for the implementation project. The conflicting opinions articulated during the interviews suggested that the credit union movement is experiencing a re-evaluation of its identity. In particular, opinion is divided between those who feel that the movement needs to modernise and manage itself professionally and those who feel that the movement should retain its traditional focus on mutual self-help, voluntary work and a not-for-profit ethos. This conflict existed before the ISIS project began, but the introduction of new technology crystallised the debate. In turn, the debate helped to derail the implementation process because the conflicting political agendas meant that the ILCU could neither generate broad support for the project, nor manage the project successfully.

Using Foucault’s concept of discourse (Foucault 1977; 1978), two main discourses of identity were identified within the credit union movement. The first discourse, community service, is the more traditional one and draws on the ideals of 19th century philanthropy, ethical action
and Christian values to construct an organisational identity that is validated through helping members. This discourse manifests itself as a not-for-profit ethos in which service to members and democratic control are the most valued elements of the credit union’s identity. In terms of organisational structure, emphasis is placed on informal practices whereby the credit union is operated on a part time, voluntary basis. Savings and loan accounts are regarded as services rather than financial products and one of the operating principles is to promote thrift among members. Credit unions who identify with the discourse of community service generally have a small membership base and do not actively canvass for new accounts. This discourse has become so widely accepted that the sense of identity it creates has come to be regarded as the more legitimate credit union identity discourse.

A second, newer discourse is that of professional business management, which places emphasis on the merits of organising a credit union along business lines. This discourse is more predominant among the larger credit unions that have significant savings to invest on their members’ behalf. Professional business management draws on the concept of management developed by business schools, consultants and financial publications. A knowledge of and emphasis on strategy, marketing and accountancy all feed into the creation and maintenance of this discourse and the use of terms such as “professionalism” and “competency” reinforce its norms. Unlike the discourse of community service, profit and return on investment are motivating forces. The organisational structure is formal, with full time paid staff and a full range of financial products and services available to their members. These credit unions actively market for new members, they maintain elaborate reporting structures and follow set strategic, financial and marketing plans. Due to the relatively novelty of this discourse, many credit unions treat those who advocate professional business management of credit unions with contempt or distrust.

It has been argued that when threatened with organisational change, employees will adopt identity securing strategies in order to maintain a stable sense of self (Knights / Willmott 1985). They argue that these control strategies are, in large part, used to secure identity when faced with ambiguity, uncertainty and anxiety. In the analysis of ISIS, it was suggested that the introduction of a standard information system created these very conditions of uncertainty about the future, thus prompting a struggle between the community service and professional business discourses.

ISIS and Responsibility

In the second study of ISIS (Mangan / Stahl 2002) we analyse the notion of responsibility in the complex social setting of the Irish credit union movement. The paper explores the reasons for the failure of the project by using our theory of responsibility to identify possible subjects of responsibility. We argue that responsibility is first and foremost a social construct of ascription; when I say that A is responsible for B then I ascribe B to A. The entity being ascribed is usually called the object of responsibility, while the entity that it is ascribed to is the subject. A third fundamental dimension of responsibility is the authority or the normative background of the ascription. The classical example is the accused (subject) who is ascribed the misdeed (object) before the judge who is bound by the law (authority).

Due to space limitations, we confined our analysis to determining the subjects of responsibility for the ISIS project. There are a multitude of potential subjects in the project and no lack of responsibility ascriptions. The data introduces several subjects of responsibility starting from the individual (credit union member, registrar) over corporate members (individual credit unions) to highly complex and diffuse collectives such as the ILCU. However, the different responsibilities seem to have come into conflict and have been part of the reason for the failure of the project; ISIS failed, not because of a lack of responsibility, but because of too much responsibility spread too widely. It was suggested, moreover, that the different forms of responsibility were not only independent of each other but sometimes outright contradictory. For example, some of the larger credit unions saw their responsibility with regard to ISIS as giving their members a professional financial service, whereas other
credit unions as well as many individuals saw their responsibility as providing a community service. The consultants presumably saw their responsibility in maximising their profits whereas the government overseer would see the adherence to the law as his responsibility.

What we can observe here is that even when looking at a rather limited project such as the introduction of a new information system there is no one clearly defined responsibility but a multitude of subjects with different objects, working on different assumptions, adhering to different norms, etc. As well as the clash of responsibilities between different subjects, additional complexity is introduced because many individual human beings are part of different collective subjects and may therefore experience conflicting responsibilities in their professional roles. Therefore, our conclusion suggested the concept of a meta-responsibility, the responsibility of a higher order, which would facilitate the responsibilities that seems to be required to lead such a project to success.

SOCIAL CONSTRUCTION OF ISIS ANALYSES

To recap, in the first section we outlined our understanding of social constructionism as the production of meaning through the discursive relationship between the individual and the world. Of our two studies of ISIS, the first identified two competing discourses which hampered the project’s implementation and led to the failure of the project, while the second study suggested various subjects of responsibility for this failure. In this section, we wish to argue that both these interpretations relied on socially constructed categories which created artificial distinctions in the credit union movement and thus equally contributed to the failure of the project.

In order to demonstrate how and in what way social construction plays a role in our research it is important to analyse which parts were constructed and how. Let us start doing this with the second approach to the ISIS system, the responsibility approach. The entire process of ascription that constitutes the notion of responsibility is nothing but a social construction. All of the fundamental dimensions, the subject, the object, and the authority, as well as the other determinants and conditions such as freedom, causality, power, etc. find their only "reality" in the fact that the participants agree on their validity. There is nothing "natural" about responsibility in the sense that it might have any sort of existence outside of human interactions. This means that our central research problem, the question of who might be responsible for the ISIS failure, is contingent on the social setting. It is a matter of social construction who is eligible as a subject. Our analysis thus has to consider the social setting but at the same time it can also change it. The solution we suggest, the introduction of a meta-responsibility, can therefore be understood as the introduction of a new construct. This construct is no better or worse, no more or less real than what happened before but it offers the advantage of allowing a solution that so far was not possible. If the idea of a meta-responsibility is accepted then the narrative of the organisation will change in such a way that new responsibility ascriptions become possible.

A similar approach would be possible for all other angles of the responsibility problem. In the case of the credit union one important question is that of the normative background, which will set the tone for the type of ascription and the aim of the overall project. The problem here is that there are two competing narratives. One is the idea that credit unions are based on Christian values and should serve the community, the other is the idea that they should be professional organisations that should make good returns for members. These two narratives obviously clash and precluded the successful outcome of the project. A possible constructionist solution to this dilemma is the introduction of a new narrative that either replaces or encompasses the other two. Our solution of the meta-responsibility would have to include such a meta-narrative. The most obvious approach would be to interpret the
professional view as the optimal solution to the service idea. If this is not acceptable to the
affected parties then another construction might be necessary.

It should be clear that our other approach to the ISIS project, the one based on identity and
power relations, can be reconstructed in very similar constructionist terms. The normative
problem described in the last paragraph is the same that we identified as the cause of the
identity problem at the root of the ISIS failure. But the constructionist approach can go even
further. The very idea of identity can be described as a social construct. In the case of an
individual identity this goes deeply against our beliefs because the idea of the autonomous
individual is close to the heart of our collective world-view. However, a world-view is itself
nothing but a construction and there are good arguments that even individual identity is the
outcome of social construction. This becomes less controversial in the case of collective
identities such as those of our credit unions. These are constructed around a generally
accepted narrative and serve the purpose of supplying the participants with meaning. The
credit unions, like any other organisation, can only function because their members share at
least some part of the narrative. If other narratives arise that threaten the core of the original
one then this can threaten the shared identity. In this case the preservation of the original
narrative can become more important than any other project, which is what happened in the
ISIS case. The credit unions preferred the failure of the expensive effort to introduce the new
system to the threat to their identity.

CONCLUSION

What should have become clear in this paper is that constructionism offers a lens through
which social sciences in general and IS research in particular can be viewed. We used the
example of the ISIS project and our earlier work concerning this project to show how IS
research can be analysed using constructionism.

The advantages of a constructionist approach should have become clear. The researcher has a
high degree of freedom concerning the way he or she wants to frame the problem. Our
examples of responsibility and identity show that crucial problems can be captured quite well.
The descriptions we offer have a high degree of acceptability and thus offer a promise of
being able to solve the problems. It is plausible that a concentration on matters of identity or
the institution of some kind of meta-responsibility would allow a successful implementation
of a project like ISIS.

From a methodological point of view constructionism offers the advantage that it helps
overcome some of the fundamental problems of positivist research. Since no objectively
given reality is posited one does not have to worry about the problem of correspondence of
theory and reality. Truth becomes a matter of mutual understanding and consensus. The
researcher does not have to worry about his or her position in research since he plays an
obvious part in the construction of reality. Finally, the researcher can rely on the commonly
accepted view of meaning in a social group. In fact, research only makes sense before the
background of shared meaning and the importance of language and narratives is underscored.
In the context of this conference this means that semantics, the study of meaning, becomes the
central building block of IS research.

However, there are also many problems connected to constructionism. The first one might be
that the researcher can no longer claim universal truth for the results of the research. A mutual
understanding must exist between researcher, research objects, and reader in order to render
research useful. The parties involved in research must be located in the same "communities of
meaning making" where the best they can hope for are "providential intelligibilities" (Gergen
2001, 2). Opponents can claim that constructionism produces nothing but relativism and
while constructionists might defend their position by pointing out that they do not even want
to claim universality, this goes against much of what is accepted as academic standard.
Apart from the epistemological fuzziness, there are some even stronger arguments against constructionism. If narration and mutual understanding become the centrepiece of research then there is no way that research can ever be morally neutral. The researcher, by doing research, affects the reality of his or her objects of research and thus produces changes in the moral fabric of groups and society. It is therefore no longer possible to claim that research is value-free. The researcher must consider the ethical results of research and be aware that he or she must choose a moral stance from which to conduct research. A positivist approach will lead to the preservation of the status quo and is thus no more or less morally charged than a critical approach aiming at empowerment.

As we can see, the decision to follow constructionist ideas has far-reaching consequences that go far beyond the limits of any one research project. One must therefore ask according to which criteria such a decision should be made. It seems to us to boil down to the fundamental metaphysical question of the adequacy of constructionism. Is the world real and objectively given or does it come down to a social construction that structures our narratives?
REFERENCES


ILCU (1999): History & Philosophy of the Credit Union Movement. Dublin, Ireland: Irish League of Credit Unions


Mangan, Anita (2000): “ISIS and Identity: An Interpretive Study of IT Implementation in the Irish League of Credit Unions”. Dublin, Ireland: Department of MIS, University College Dublin

Mangan, Anita / Stahl, Bernd C. (2002): “Who is Responsible for ISIS? The Irish Credit Unions’ Problem of Introducing a Standardised Information System”. (Forthcoming)


