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(Re)Negotiating Fictions, Promises and Realities during Information Systems Projects

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Abstract

Exploring the initiation and development of an information system is germane to academics and practitioners. Using path creation, actor network, and effectuation theoretical concepts, we examine an alternative view of information systems development, as a series of fictions, promises and realities which emerge from the collective actions of, and the negotiations with, various individuals in groups. The implications for systems development research and practice are considered.

Keywords: Information systems development, path creation, actor network, effectuation theories, action research

1.0 Introduction

Generally speaking in information systems research, there is an increasing concern that the IS field should explore theories and discussions about the social and technical interactions across time, during system development. Newman & Robey (1992) and Robey & Newman (1996) emphasize that system development is a social process between analysts and users, and that critical events during these discussions affect the trajectory of development. This movement towards social and political processes follows quickly on other work that emphasizes a need to explore alternative roles for the systems analyst, as a facilitator of dialogue and a catalyst for power-related change (Hirschheim & Klein, 1989).

Other work has examined the social processes involved in client learning during systems development project (Marjchrak et al. 2005), knowledge transfer processes in software development teams (Joshi et al., ...), and the need to manage complexity arising from numerous stakeholders (Vidgen, 1997)

Given this social complexity and the various and sometimes competing interests of various groups, some have considered stakeholder analysis to understand system development projects, including inter-organizational systems (Pouloudi & Whitley 1997; Vidgen 1997). However, stakeholder analysis often depends largely on the identification of groups before the start of the projects, who may have positive or negative influences on the project.

To facilitate a alternative and sympathetic view for more theory which engages both social and technical, we develop a theoretical framework of fictions-promises-realities to consider how participant discussions form and shape the interests, aims, responsibilities and outcomes during IS projects. The theoretical framework draws upon three different theories which collectively address different issues in this framework: path creation, actor-network theory (ANT) and effectuation.

2.0 Fictions

We can view systems development projects as a series of fictions which result in a changing band of participants involved in the exploration of revised and new possibilities for what the systems can and should do. The fictions produced by various participants, involve speculations on the various rewards and work of the various project participants through collective action: money, prestige, satisfying work, better and more engaged clients, greater access to clients, the development of interesting software, and the collection of research data and publications (for example). Each of these proposed rewards are meant to solidify the individual and collective interests of a heterogeneous group of stakeholders.

3.0 Promises

In order to collectively realize these fictions, various promises are implied or explicitly made by these individuals in order to mobilize actions which will help realize these fictions. For everyone to benefit, the hope is that the various capabilities and resulting assets produced by the enrolled participants will help in realizing the various fictions. However, accompanying these future promises are immediate and short-term costs that need to be “anted up” by the various groups. These costs are

often time, attention and work which are required to develop and change the social and technical practices in order to realize these fictions.

4.0 Realities

These outcome or “realities” are then compared with the original fictions, and any discrepancies require an examination and reconciliation of the fictions and actions in an attempt to realize a revised set of fictions. In this sense, the participants have much to gain and lose from participating in a project. In terms of immediate losses, time and effort are expended on the project at the expense of other possibilities. This “opportunity cost” is paid and lost immediately. In terms of rewards, some participants are paid money for their time. Others hope to benefit from other more or less tangible outcomes.

When realities confront the promises and fictions, any doubt about the possibility of achieving the rewards could transform and decrease commitment, effort and energy to the project. In extreme cases, a loss of commitment and energy or a loss of confidence in the abilities of participants, can result in people leaving the project, or people being asked to leave. More typical, renegotiations will take place about whether and how the fictions could now materialize, and whether and how participants’ efforts will need to be altered to realize them. In this case, key actants (so-called “focal” actants) are required to fill-in-the-gap between reality and fiction, and to increase their time and energy on particular tasks to make up for gaps in energy and expertise. We turn to a number of theoretical ideas that inform this conceptual framework.

5.0 Path Creation

There is a certain degree of path creation in a project, drawing upon the relational view of agency described in Garud and Karnøe (2001). Path creation depends on a stitching together of people who represent and speak for various capabilities and resources. Crucial here is the importance of timing and the history of who joins, and when. Novelty through path creation is also not a complete break from the past, but an elaboration and shifting from the past and present, as people mindfully deviate from established practices.

6.0 Actor-Network

Participant enrolment through fiction-promise-realities is also an elaboration of the linguistic roots of ANT. Latour (1987) focuses on the importance of actants' statements, which either strengthen or weaken the relationships between human and non-human actants, and their enrolment. Through language about the future, actant interests are enrolled and translated into the collective network of actants, and the promises and activities engage the actants in a collective action to explore and realize these future promises. Contributing to the linguistic view of enrolment, we also suggest that the various promises that unite heterogeneous stakeholder interests emanate from collective fictions, and like ANT, project realities are also mediated and reconciled through language by comparing outcomes with the promises of earlier fictions. This idea invokes other speech-act theories that underpin ANT, which suggest that language is not declarative, but performative. Each speech act is filled with promises about action instead of declarative facts, which strengthen or weaken the relationships among actants within an on-going network of relations.

Consistent with ANT, attempts to harness technology – programming languages, databases, software development practices, software components, and even concepts and ideas form an important non-human set of actants that are enrolled and which enrol the human participants in projects. Given the focus on non-human actants in ANT, projects can be seen as fluctuating sets of political and relational ties between and across various human and non-human actants, both coming together and apart as various project outcomes are realized, or no. Our fiction-promise-realities perspective thus resonates with the speech-act theoretical roots of ANT by focussing on how the fictional and promissory statements of various participants arise from speech acts, which imply particular promises and realities that are expected to appear during collective action.

7.0 Effectuation Theory

Projects also resonate with a number of concepts in effectuation theory (Sarasvathy, 2001) with the project being driven as much by what could be achieved through existing means (effectuation), as opposed to ideal goals which focuses attention on the

means required to achieve them (causation). The focus on existing means is an important part of the initiation and direction of any project, given that funding, existing technical skills and training, and a desire to build on existing skillsets focus early attention on what could be produced from existing means. In addition to specific resources, software systems can be quickly structured by pre-existing and generic categories of functionality.

8.0 Implications

Our fiction-promise-reality framework, crossing and building on the concepts from all three theories, has a number of implications for theorizing about projects. Projects include numerous, various and even conflicting fictions created by participants, in order to enrol and mobilize their activities with initially disinterested actants – web systems, databases, employees, patients, physicians, research ethics bodies, developers, etc. Who and how an actant is enrolled and involved in the project depends upon both collective and individual fictions created by other actants in their attempt to enrol and to be enrolled. These collective and individual sub-fictions need to be both plausible and worthwhile to participants in order to translate their heterogeneous interests. For example, a web-based system to support education and communication between clinicians and patients needs to enrol both sides in order to make them believe they will be “better off” through a information technology and its associated practices. Although a necessary fiction (not yet realized) about a web-based system to support diabetes care may collectively unite them, the sub-plots for the clinicians and patients will differ, and will often be at odds with each other. Patients may come to believe the system will provide them with continuous care and access to others for support and advice, while clinicians may feel the system will decrease their workload by allowing them to pay more attention to the difficult cases. How these separate fictions are reconciled in practice is essential in stabilizing and destabilizing stakeholder relations.

In producing a fiction, certain promises are implicitly and explicitly made and expected of and by the various actants in the future. And in every project, there is a need to extract different types and amounts of effort and attention from the various participants in order to realize a fiction. We would also suggest that all participants

need to “ante up” to the cost and time table in some form, and that ante will depend on the various risks and rewards that are promised to accrue to the actants.

Timing is also important in shaping the path to fictional outcomes. Who is involved and when is perhaps most dependent on focal actants in moving the project into the foreground. There is also a need to consider that the negotiations involve concepts and actants who are often absent from the bargaining table. These include the basic institutional constraints that need to be met in order for an innovation to be normatively acceptable. For example, the need to address patient confidentiality and to support urgent communication are considered to be normatively required if web-based systems are to become legitimate tools for patient-provider communication.

What rules and what opportunities are produced within particular institutional environments, as Garud and Karnøe (2001) suggest, are essential. As a result, the path of innovation may always be specific at some level, but the general form of the fiction-promise-realities conceptual framework may be useful in understanding the form and relations within projects and their particular effects.

9.0 Conclusions

We suggest that projects involve numerous and various fictions-promises-realities. The fictions are meant to convince participants how and why they will benefit from being involved in this project.

These fictions, while useful to mobilize initial action and reaction, imply various promises about the future. The promises include time and effort, and the anticipated outcomes. What is actually realized during and after the project – the realities -- and their interpretation ultimately affects the project’s character, and the initiation and trajectory of it. The language and phrasing of the promises thus determines who and what will be enrolled into the project, and how each actant promises and delivers in realizing the fictions.

The “days of reckoning” for the fictions do eventually arrive. Joy, satisfaction, disappointment, renegotiation, and the appearance-disappearance of actants are

crucial to the shape and form of an innovation's trajectory. Within this viewpoint, the "success" of the project is dependent on these socially constructed sets of fictions-promises-realities. This may suggest that path creation can be further informed by linguistic and discourse studies of participants; language, that actant networks can be further theorized as a series of fiction-promise-realities texts that mobilize or demobilize actants, and that the resources considered and drawn upon during effectuation are the ones that are mobilized through particular fictions.

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