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Erica L. Wagner

Portland State University, elwagner@pdx.edu

George M. Kandathil

Indian Institute of Management

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Narrative Methodologies in Information Systems Literature: Illuminating Interconnectivity and Change Over Time

Erica L. Wagner

School of Business Administration
Portland State University
elwagner@pdx.edu

George M. Kandathil

Indian Institute of Management
Ahmedabad

Abstract:

This tutorial presents an action net-based narrative research methodology that is particularly useful for describing, undertaking, and understanding process-oriented field research related to IT-enabled change. We use work in the fields of cognitive psychology, organization theory, and information systems to inform the approach. This methodology is part of an emerging body of IS narrative research, and we argue that adopting it can bring multiple insights about IS change initiatives and technology artifacts. By exploiting an action net-based narrative methodology at all stages of their empirical work, researchers can better see the interconnectivity of narratives and follow the change process as it unfolds. We present a checklist for researchers interested in conducting narrative research and describe two categories of insight: 1) emergence and 2) repair. Attending to these two categories of insight may shape the nature of findings reported in such IS studies.

Keywords: Narrative, Story, Interpretivist Research, Action Net, Interconnectivity, Organizational Change, Qualitative, Longitudinal Research, Methodology, Literature Review.

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1 Introduction

For close to 25 years, information systems (IS) scholars have undertaken qualitative research in the interpretivist tradition (Orlikowski & Baroudi, 1991; Walsham, 1993), which takes as its starting point that “people create and associate their own subjective and intersubjective meanings as they interact with the world around them” (Orlikowski & Baroudi, 1991). As such, interpretive researchers focus on gathering perspectives from those experiencing the phenomena being investigated. In this paper, we advocate collecting narrative data as an effective way to conduct longitudinal case-based research on IS-related change in the interpretive tradition.

Current IS literature that adopts a narrative approach does an excellent job of illustrating the multiple stories that exist during IT-enabled change processes. However, these studies do not emphasize the interconnectivity of narratives and their impact on coordinated action, which results in lack of attention to insights related to “emergence” and “repair”. We propose a relatively novel narrative approach based on the notion of “action nets” to help IS researchers focus on these aspects as well. The focus on the interconnectivity of narratives is crucial since identifying and investigating interdependencies that emerge over time in change initiatives are among the most important benefits of employing a narrative methodology (Czarniawska, 2004).

During complex IT-enabled change initiatives, organizations encourage individuals to coordinate their thoughts, actions, practices, and goals so they pay attention to the interdependencies of the organization as it moves toward a shared goal (Boland, Tenkasi, & Te’eni, 1994). As we illustrate in this tutorial paper, through collecting, handling, and analyzing narratives over time with a focus on action nets, researchers have a powerful vehicle for gaining insight into how such coordinated outcomes are supported and achieved (or not). Adopting such a research design sets in motion other choices about method including choice of topic, data-collection methods, field visit schedule, and analysis techniques, which we describe in this paper.

This paper proceeds as follows. In Section 2, we make a case for narrative research as particularly useful qualitative method by presenting a contemporary example of different data types. In Section 3, we describe how to identify narrative stories. In Section 4, we review the application of narrative methods in information systems research in which we highlight how IS scholars have analyzed and presented narrative data and illustrate how an action-net based approach helps to round-out current narrative insights. To assist other researchers who would like to employ narrative methodology, in Section 5, we provide a checklist of important considerations when undertaking such work and conclude the paper.

2 The Case for Narrative and its Interconnectivity

Barthes (1977) first defined narrative in the literary theory field as any form of communication. Later, scholars of organizational studies built on this broad view of narratives. For example, Czarniawska (2004) considers narratives as “spoken or written text giving an account of an event/action or series of events/actions, chronologically connected” (p. 17). Collecting narratives in the field can bridge the gap between individual interpretations and coordinated action. This focus is particularly useful for studying IT-enabled organizational change because it “connects individual stories, experiences, and actions to social events, processes, and organizational achievements” (Czarniawska, 1998, p. v). In other words, interdependent narratives give scholars access to how change happens over time and from multiple (and, at times, intersecting) points of view.

An accessible example is the story of the now-deceased Carnegie Mellon Professor Randy Pausch’s (2007) last lecture, the transcript of which is now a book. He spends close to two hours telling his audience how to achieve childhood dreams based on how he achieved his. During the talk, he mentions many people who have mattered in his life and tells touching stories before introducing a twist at the end. He mentions his children and his wife. He speaks of villains including a former dean who tried to impede a sabbatical project at Walt Disney’s R&D unit Imagineering that had been part of his childhood dream:

...And then we meet our villain. [shows slide of a picture of a former dean of Randy’s]...a dean back at the University of Virginia. His name is not important. Let’s call him Dean Wormer. [laughter] And Dean Wormer has a meeting with me where I say “I want to do this sabbatical thing and I’ve actually got the Imagineering guys to let an academic in, which is insane. I mean if Jon hadn’t gone nuts, this would never have been a possibility. This is a very secretive organization.”. And Dean Wormer looks at the paperwork and he says, “well it says they’re

going to own your intellectual property". And I said, "yeah, we got the agreement to publish the paper. There is no other IP. I don't do patentable stuff". And he says, "yeah, but you might. And so deal's off. Just go and get them to change that little clause there and then come back to me."

This story demonstrates that Professor Pausch considers his interaction with Dean Wormer (line 3) to be important enough to include in the final lecture of his life. It also demonstrates the interconnections between this dean, Imagineering, the University of Virginia, intellectual property, and the power relations at play (lines 3-5, 8-9). The story itself points to action which, as researchers, we can trace and then investigate further. The investigation of narratives themselves, with a focus on actions, often brings to light a whole new set of actors (University of Virginia, Dean Wormer, Jon) that have emerged as important to the action. Had we relied on a standard approach to interviewing typical stakeholders, we may not have interviewed any of them and potentially missed a multiplicity of viewpoints.

Collecting narratives also prioritizes the stories and increases the likelihood that we will be able to see change over time rather than it's being black boxed because we, as researchers, are otherwise engaged perhaps asking the interviewee about something *we think is most important*. Professor Pausch completes his last lecture this way:

So today's talk was about my childhood dreams, enabling the dreams of others, and some lessons learned. But did you figure out the head fake? [dramatic pause] It's not about how to achieve your dreams. It's about how to lead your life. If you lead your life the right way, the karma will take care of itself. The dreams will come to you. Have you figured out the second head fake? The talk's not for you, it's for my kids. Thank you all, Good night.

The interaction with Wormer and the subsequent decisions about sabbatical are critically important to Pausch's view of life. Hence, he included this story in his last lecture to his children (and the audience). Pausch tells stories that demonstrate big life lessons and how they connect to each other over time. Contrast the above story segments with an interview of Professor Pausch conducted by the experienced interviewer Diane Sawyer¹. In this excerpt, she probes Professor Pausch on what he thinks he should leave for his kids after his death (lines 7-9, 11, 13):

Randy: What was my favorite food or my least favorite food. You know it's not all the big life lessons, you know, sometimes it's just the little things. And you know I want my kids to hear the bad stories about me as well as the good!

Diane: Bad stories? What bad stories are you imagining?

Randy: All the stupid things, the bonehead mistakes.

Diane: Give me one stupid, bone head thing.

Randy: Well there was the home repair that involved the electrocution.

Diane: [Laughs]

Nowhere in the interview does Dean Wormer come up despite Pausch's characterizing Wormer as a villain and the interaction with him seemingly a "bad story". In fact, few characters from his life come out in the semi-structured format of the interview. Pausch and Sawyer make only passing remarks about his professional life. Further, the action is buried beneath Pausch's statement that he wants to tell his kids the "big and little things", the "stupid and bonehead mistakes". Had we access only to interviews such as Diane Sawyer's, we would not see the details of meaningful events in his life (a change process). Sawyer is choosing what is most important for the story she wants to tell: the impact his death will have on his family. The difference in framing between the Sawyer interview and the lecture highlights how chosen data-collection methods change what we, as researchers, can learn and share.

While Sawyer's interview supports the interpretation that Pausch is a brave man who loves his family and has lived life on his own terms, the two methods of inquiry show different parts of his life. The only observable interconnectivity in the interview is between himself and his family despite the interview's being about a longitudinal process—his life and impending death.

¹ <https://www.youtube.com/watch?v=j-a7LRwqwNw>

Lastly, Randy Pausch's Wikipedia entry provides even less insight into his life process². We learn about his legacy at Carnegie Mellon and the facts of his life and death. Taking this set of data in isolation, we lose the rich sense of him as a person³, which matters if one were investigating his life over time.

While all these forms of data provide interesting information, collecting narratives helps researchers to be mindful of the issues *most salient to the research subjects* during different moments in time and to trace the action in the story as it moves throughout a project. This approach to data collection also prioritizes gathering stories from multiple perspectives. The storyteller identifies what is important and leads the researcher to other potential interviewees, including those whose voices have tended toward silence because of their dissenting perspectives or lack of engagement.

Further, as Pausch's narrative segment shows, narrative segments usually describe the variety of potential actions or the actual actions at a micro-level and then relate them to relevant actors. Hence, connecting narratives helps researchers to identify a variety of not only voices but also patterned actions that multiple actors adopt in relation to specific goals at a macro-level (Pentland & Feldman, 2007). Thus, connecting narratives can help researchers understand the social and political process of the emergence of new practices—patterned actions, which is an important aspect of organizational change.

The management and organization literature does point to narratives with a focus on actions as particularly useful for analyzing connections between stories over time (Czarniawska, 1998; Pentland & Feldman, 2007). Czarniawska (1998) uses the notion of an "action net" as the organizing principle for her study of industry-wide change in government organizations. She interprets narrative texts as delegates speaking on behalf of a network of interests involved in the activities of particular change events. Whether an expression of sensemaking or political negotiations, stories illuminate relationships between the change agency over time:

My study....took me about 14 months, 4 of which were directly in the field. During that time, a new city council was elected, which meant that I lost half of my interlocutors. Moreover, the neighbors also changed as a result of an administrative reform. The point is that I was not studying a community of city managers but an action net of city management: interconnected acts of organizing. (Czarniawska, 1998, p. 26)

Access to these action nets is best gained over time through the collection of narratives because they "present events developing in time according to causes or intentions—and are the main carriers of knowledge in modern societies" (Czarniawska, 1998, p. vii). Subsequently, an action net approach helps researchers map the process through which collective actions (involving actors) continually connect and reconnect with one another (Lindberg & Walter, 2013).

Thus, this narrative methodology holds promise for IS scholars interested in studying the movement through time of interconnected action networks and narratives. Moreover, complex IT-enabled change processes typically involve continuous connection and re-connection of such collective actions and practices with one another. For example, consider any longitudinal study of software implementation that involves controversies between users and developers over time. The individuals may change, but the action continues, sometimes to be resolved in a manner satisfactory to all involved and other times not. Documenting and investigating the unfolding connections and reconnections through interconnected narratives is important in exploring the process of organizing IT-enabled changes and will likely shed light on how to effectively manage such networks of action toward a preferred outcome.

As we illustrate in this paper, following the unfolding action over time requires the researcher to define their unit of study as the action net and systematically design and implement fieldwork that provides access to these negotiations. Further, an action net-based approach will help researchers realize the potential of two narrative insights (i.e., "emergence" and "repair"), which do not currently surface in IS literature (see Table 3). Before presenting the review, we provide some guidelines on distinguishing narrative data, and stories in particular, from non-narrative data.

² https://en.wikipedia.org/wiki/Randy_Pausch

³ We recognize that collecting factual data, semi-structured interview content, and narratives may be another methodological approach to research; however, we do not focus on such approaches in this paper.

3 How to Distinguish a Narrative Text

In this section, using illustrative examples from our own research, we outline the structural properties of a narrative text and juxtapose the narrative with other forms of qualitative data to help researchers distinguish the two.

As the cognitive psychologist and scholar Jerome Bruner (1986, 1990) notes, paradigmatic cognition is only one of two modes of knowing that individuals use in contemporary society. Although academia has legitimated paradigmatic cognition as the correct form of scientific reasoning, the narrative mode of cognition is the more common way in which people make sense of their world and communicate this understanding to others (Bruner, 1990). These two cognitive modes intertwine in our daily communication: individuals use “paradigmatic mode...for closing and black-boxing issues, and the narrative mode...[for] reopen[ing] the same issues [and] keep[ing] the conversation and the controversy alive” (Boland & Schultze, 1996). We can keep the conversation and controversy open and visible through the narrative structure, which orders events in a meaningful way for the narrator and the audience.

While all stories are narratives, not all narratives are stories. In this paper, we focus on those narratives that are stories. We synthesized Bruner’s (1990) work with Ramiller and Pentland’s (2009) definition of story as “involving actors undertaking actions intended to accomplish certain goals by certain means, within specific settings, leading to particular outcomes” (p. 478) to present five properties of a narrative structure that are particularly useful for identifying narratives, particularly stories, from other forms of qualitative data (structured, semi-structured interviews, field journal notes): 1) sequentiality, 2) voice, 3) agency and intentionality, 4) managing departures from the canon—the general rule or acceptable procedure, and 5) factual indifference. Below, we define and illustrate these properties via analyzing a narrative told to the first author during her study of a multi-year enterprise resource planning (ERP) project in an Ivy League university (Table 1). The change manager, who is explaining how the ERP initiative came to be named Project X, told this story during a narrative interview during outset of the study:

I remember that the project at this point still didn't have a name.... We were running naming contests, trying to get a name.... There were some wild names that people voted on at a meeting to see if there was a preferred name but we couldn't reach consensus. Then [during] that two-day, organizing workshop we determined that the project needed a web site to begin holding, you know, information and posting notices. So the developer of the web site didn't even have a name to give the project, and so she picked project "x" as the front-page logo "x" was the placeholder until we decided on a name. Then eventually people just threw up their hands about six months later and said, "That's the name!" Well the name Project X is odd enough that it got across several different feelings. One [feeling] is that this [project] is new, that it is difficult to understand, and this is something that is not meant to be institutional. It's meant to be here and then go away. It's a temporary thing! So it said, this is a temporary project, essentially. Not that, you know, the initiatives and the underpinnings of the project are temporary, but that the project itself is meant to not become institutional in nature.

Now consider this non-narrative list of actions related to the same issue:

- Ivy League university holds naming contest
- Ivy League university's project is named Project X, and
- A Web designer begins work on the project site.

This comparison and the Randy Pausch example illustrate the inherent differences between data types. The *telling* of events in a meaningful order is not always the same as *talking* where the latter may be an expression in words but not a narration of events (Boland & Schultze, 1996).

The juxtaposition of these two texts is useful for introducing the five narrative properties (see Table 1).

Table 1. Empirical Examples of Narrative Properties

Property of narrative	Narrative data example
<i>Sequentially order events</i> : the narrative account is not necessarily the same as the order in which the events occurred. The narrator chooses the plot structure.	Project X name is portrayed as an emergent phenomenon that resulted from the work of a Web designer rather than a naming contest (lines 6-9).
<i>Voice</i> : a narrative cannot be voiceless. The perspective is fundamental to understanding its content.	Uses the pronouns “I” and “we” (lines 1, 3, 8). The change manager is retelling the story trying to enroll his audience with the phrase “you know” (lines 5, 13).
<i>Agency and intentionality</i> : emphasizes perceived intentions, actions, and goals of actors over time.	Naming is told as a contingent event (lines 6-9), yet the narrator ascribes post hoc intentionality to the name as appropriate because it connotes impermanence and complexity (lines 11-15).
<i>Managing departures from the canonical</i> : sequence moves from an ordered state, through change, to a reordering of the world.	The project needed a name and the process by which this was achieved departs from everyday practice in the university. Project X achieves <i>everydayness</i> when users accept it as the name (lines 1-15).
<i>Factual indifference</i> : the power is in persuasion, not in truthfulness.	The narrative does not tell us whether the manager is telling the truth—only that he is telling an interesting story (lines 1-15).

Contrasting these two examples illuminates a narrative text’s first property: narratives impose *sequential order on events from a particular perspective*. The narrative portrays the project naming as an emergent phenomenon that resulted from the work of the Web designer rather than a university naming contest, whereas reading the list from top to bottom sequences the events differently and, thereby, encourages an alternative interpretation of events. The reader might construct a story from this listing that emphasizes the university naming contest rather than the Web designer as the impetus for the name Project X (lines 6-7). The important point is that the number one item on the list identifies that the project was named but is silent about the nature of the naming and the significance for project members. The associations that would put these three line items together to tell a story are missing, and, as readers, we are naturally compelled to construct a narrative around this list when one is not provided, which represents our attempt to “open up the black box” and understand the details of the change event.

Further comparison identifies the storyteller’s *voice* as a central property of the narrative account. The manager uses the pronouns “I” and “we” (lines 1, 3, 8) to situate his individual story in a network of stories, an aspect of action net. He acts as a delegate of this collective and attempts to enroll the researcher in a particular interpretation of events. He uses the phrase “you know” (lines 5, 13) to imply that the researcher is someone who understands and is sympathetic to his perspective. Notice the absence of such a voice from the three line items (i.e., non-narrative list) above. Without a voice explaining the story of Project X, one cannot understand the perceived causality of the naming process, and, as such, researchers cannot consider agency.

In narrating events, the storyteller becomes accountable to his audience. The third property of a narrative account is its emphasis on *agency and intentionality*. When the manager tells the story of how Project X was named, he orders the world from a particular perspective that emphasizes the perceived intentions, actions, and goals of actors over time. He attributes the university with being unable to make timely decisions (lines 4, 9), and the Web designer sets in motion a series of actions that result in the name Project X (lines 2-9). While the manager tells the story as an emergent phenomenon, he ascribes post hoc intentionality to the name Project X when he speaks of it as being particularly appropriate for the ERP initiative because it connotes impermanence and complexity (lines 10-15). The absence of this agency and intentionality in the non-narrative list makes it difficult to understand the perceptions of those involved in the phenomena being investigated—a primary aim of interpretive epistemology and associated research designs.

Reading the project-naming story, one understands action and change: the project needed a name, and a process occurred that gave it a name. The story’s sequencing moves the reader from an *ordered state of being, through change, to a reordering of the world* (Bruner, 1990) that now contains a formal initiative named Project X. The story contains a great deal of action surrounding the naming that the non-narrative list does not.

While one can debate the truthfulness of the manager’s story, his account remains a powerful articulation of how a seemingly logical event, such as naming a multi-million dollar software project, results from a

series of interconnected actions over time. How one tells a story illuminates the final property of narrative: *factual indifference*. Narrative's value resides in its persuasiveness, not in its external validity as a truthful account (Bruner, 1990). The manager's story gives a voice to some actors (Web designer, lines 6-8; project team, lines 8-9) and silences others (faculty members). As such, alternative versions of the naming event will always exist. The power of those involved to remember this narrative as the real story of Project X resides in its mobilization and acceptance throughout the university.

Besides as distinguishing features, these narrative properties also help researchers when gathering, handling, and analyzing field data because, together, they provide a narrative context that emphasizes the inherent subjectivity of each text as illustrated above. To the extent that inter-subjectivity is the cornerstone of an interpretive epistemology, gathering and analyzing data from the vantage points of various subjectivities is crucial to achieving the fit between methodology and epistemology. As we show in Section 4, methodologically, such gathering and analysis of data helps researchers highlight multiple meanings of the empirical situation that emerges over time. Thus, from Section 4, we focus on how the narrative structure comprising the five properties affords access to particular types of story-based insights that may help researchers shape findings of process-oriented field research related to IT-enabled change. IS narrative scholars effectively use three of these insight categories, and we present a taxonomy of that IS literature. We identified the remaining two categories through our field research: "emergence" and "repair". We show the importance of considering these characteristics by explaining their utility for studying emergent nature of change over time.

4 Application of Narrative Methods in Information Systems Research

To understand how IS researchers have used narrative methodologies to date, we systematically reviewed papers published in 26 peer-reviewed IS journals (See Table A1) from 1995 to 2015. Specifically, we searched for papers using the keywords "narrative", "story", "stories" or "storytelling"⁴. We reviewed the abstracts of all papers that we found. We then read the papers in their entirety when the study 1) adopted a narrative methodology, 2) outlined a methodology, 3) theorized about narrative, or 4) analyzed data as narratives. As a result of this literature review and our own use of narrative methods, we identified five categories of insight that these methods illuminated (Table 2). These five insights make clear the types of insights a researcher may expect to elicit during field research.

Table 2. Category of Insight

Multiplicity	Provide access to multiple interpretations
Meaning creation	Sensemaking vehicle
Rhetoric	Used to persuade
Emergence	Interpret the present in relation to the past and future
Repair	Highlight how order is achieved despite conflict

The handful of IS studies that adopt a narrative research approach are disparate and seem to borrow methods from different fields that have a strong narrative tradition (Table 3). Moreover, while narrative gives researchers the eyes to see these five insights, researchers have yet to emphasize the insights of emergence and repair in their studies. Emergence and repair are particularly helpful insights when conducting longitudinal research. Having the eyes to see these insights in data may shape the nature of findings related to IS implementations.

The unifying characteristic of this emerging research stream is the focus on narrative as providing access to multiplicity where alternative perspectives are sought out in the research context. Hoefnagel, Oerlemans, & Goedee (2014) demonstrate that individuals use narrative to express their generally held beliefs, and analyzing those accounts show differences and similarities across individuals who try to understand reporting a crime using a particular technology. Alvarez and Urla (2002) focus on structural narrative analysis to illustrate the multiplicity that exists at a given moment in a software project. They found that analyzing the properties of narrative in depth was useful for accessing the conflicting sensemaking activities of project participants.

⁴ We also reviewed management and organization studies journals but excluded them from this taxonomy to present a clear sense of the use of narrative in IS peer reviewed scholarship. However, when a study was published in a management or organization studies journal and was related to the investigation of information technology as a research phenomenon, it helped inform our understanding of narrative and the role it might play in IS research.

Similarly, Dube and Robey (1999) interpret stories from a software project as symbols of organizational culture that point to the complexity of negotiating multiple perspectives when trying to develop a new inter-organizational partnership. The juxtaposition of conflicting narratives provides insight into organizational reality as a social construction that highlights multiplicity rather than consensus of opinion. In this way, their study highlights the second category of insight typical in narrative as a vehicle through which one creates and ascribes meaning to certain events.

Commensurate with the interpretive epistemology, a narrative approach foregrounds the notion that truth claims are relative and, as such, highlights this subjectivity by presenting different interpretations of the same event. The official story of a software project recorded in organizational documentation represents the dominant interpretation of the initiative but does not represent what really happened; rather, it represents what specific actors managed to remember. Actors at multiple levels determine coherent and powerful narratives through processes of interpretation and negotiation (Czarniawska, 1999), and, as such, individuals often analyze narratives as a reflection and expression of power relations in organizations (Boje, 1995; Czarniawska, 1999; Filby & Willmott, 1988; Mumby, 1987). In the IS field, Scott and Wagner (2003) present multiple interpretations of an IS project by constructing narratives of different stakeholder viewpoints. They shift the focus from human actors to technological design to illustrate the process of creating a socio-technical accounting infrastructure that silences narratives that project leaders see as contentious. Their analysis illustrates how one can use narrative to privilege one perspective and silence others based on the agenda of the narrator. Scott and Wagner's (2003) study illustrates the way in which one can gather narrative as a form of evidence that highlights not just multiple voices but multiple realities in organizations.

Table 3. Taxonomy of IS Research Employing Narrative Methods

Authors	Key point	Key Insight				
		Multiple interpretations	Meaning creation	Rhetoric	Emergence	Repair
Dube & Robey (1999)	Stories are symbols of organizational culture that can provide insight into activities that impact software development projects.	✓	✓			
Swap, Leonard, Shields, & Abrams (2001)	Storytelling as a form of narrative is a powerful vehicle for transferring tacit knowledge, which includes positive and negative communication. Researchers should study stories to understand how some stories persist.	✓		✓		
Alvarez & Urla (2002)	Narratives help people learn about new system requirements, but analysts often ignore them during requirements interviews	✓	✓			
Scott & Wagner (2003)	Researchers use narrative research to understand the complexity of troubled software implementation (ERP).	✓	✓	✓		
Ramiller & Pentland (2009)	Stories that show actors, action, and means of acting in a way that variable-based research will not.	✓	✓	✓		
Hoefnagel et al. (2014)	Individuals' reliance on generally held beliefs, which one can express through narratives, influences technology acceptance. The authors focused on ways in which individuals make sense of reporting a crime using a particular technology.	✓	✓			

Similarly, we need to consider the persistence of some stories and not others. Swap et al (2001) emphasize that both positive and negatives stories of an organization may persist, which reminds one that, while narrative provides a powerful tool for convincing readers of a particular argument, an alternative narrative vying for the dominant position always exists. These studies illustrate the third category of insight typical to narrative as rhetoric where one constructs the story to support a preferred organizational reality.

Narrative as a device for communication and persuasion explains the increasing attention directed at the role of institutional storytelling as a research approach (Boje, 1991, 1995; Gabriel, 2000) and a tool for practitioners (c.f. Snowden, 1999). Even so, the narrative mode of cognition as an approach for understanding the socio-technical dynamics of computer-mediated organizational change is still in its formative stages. Indeed, Ramiller and Pentland (2009) call for more story-based research that takes seriously organizational actors, actions and means of acting and note there are times when so-called stories are not such because one has abstracted all the actors, action, controversy out of the investigation. We believe we can learn a lot more from narrative research approaches. In Section 5, we outline the fieldwork design informing the proposed methodology.

5 Fieldwork Design

We designed our narrative research approach to analyze information systems (IS) change as a series of action nets that one can follow over time to understand how implementation projects achieve order. As Czarniawska (2004, p. 780) points out, action nets are:

founded on the idea that in each time and place it is possible to speak of an “institutional order”, a set (not a system) of institutions (not necessarily coherent) prevalent right then and there. Such institutions shape organizing in as much as they dictate which actions, conventionally, should be tied together.

Broadly, an action net approach begins with a focus on processes or actions (such as storytelling) rather than on actors and outcomes (such as organizations). In an action network, the action comes first and the actors come second. Thus, while a research question, data collection, and analysis will typically begin with “actors” or “organizations” in other research approaches, an action net approach forces researchers to recognize that these are the *products* rather than the *sources* of the organizing. These actors and organizations take place in, are enabled by, and constitute an action net (Czarniawska, 2004). Hence, an action net approach is particularly useful for investigating IT-enabled change as an evolving process of organizing.

As our in Section 2 discussion implies, action nets do not merely coexist but are “interconnected acts of organizing”. We illuminate this interconnectivity to understand how networks of action negotiate change despite conflict. We illustrate the approach and methodology using two examples from our field studies. In Section 5.1, we overview the fieldwork design. The first author designed this methodology to support her doctoral research project. The second author came to adopt a similar methodology for his doctoral research project. In Section 5.2, we describe two field studies and the insights that the narrative methodology helped illuminate. We describe the first author’s field study of the Project X initiative in Section 5.2.1. In Section 5.2.2, we further expand the illustration using examples from the second author’s field study of an ERP implementation in an India-based multinational organization. We describe the fieldwork design and outcomes in so much as it illuminates how other researchers might employ the methodology, and, in Section 5.3, we provide a checklist of important considerations when undertaking narrative-based research.

5.1 Interconnectivity

Fieldwork is longitudinal in nature and based on intense periods of investigation interspersed with periods of reflection and preliminary data analysis. For example, the first author’s study took place between 1999 and 2001, during which time she conducted five field site visits that each lasted an average of eight weeks. Similarly, the second author made three field visits that varied from 12 weeks to 10 weeks between 2007 and 2009. We chose these timeframes because of the researchers’ interest in dramatic change for organizational members involved in the implementation of ERP software.

Interviews should adhere to the narrative interviewing (NI) convention, which provides a timeframe to help structure the interview (e.g., “Tell me what has happened since we last met”) and encourages interviewees to tell stories (without interruption) related to issues of central importance to them at the time (Jovchelovitch & Bauer, 2000; Bauer, 1996). The researcher also audio records and transcribes all interviews⁵. When the interviewee references a group or attributes actions to nonhumans such as the

⁵ The first author conducted 120 interviews with 42 project members and university employees. The second author’s study included 94 interviews with 44 project members and MNC employees.

ERP, the researcher arranges to interview a delegate and review technological documentation when available. The researcher supplements with notes from a field journal that details the researcher's interpretation of events and describes issues not captured in the transcripts. The researcher can observe regularly scheduled meetings with user groups, and the researcher may receive confidential documents related to the project. The researcher treats such documents as other organizational narratives.

In our fieldwork, stories that the interviewees narrated revolved around issues that involved conflict, negotiation, challenge, and, at times, resolution. These stories illuminated the action net which enabled the researcher to identify the actors to subsequently interview. Thus, the list of actions/actors set the agenda that guided the next round of interviews, although narrators often dismissed antagonists that had figured prominently in their stories as inappropriate for interview. For example, the following extract from the first author's field journal paraphrases an unrecorded, post-interview comment from a project leader. The project leader's interview told the story of troublesome negotiations with an end user who was acting as a delegate for the university's academic enterprise. She then tried to discourage the first author from contacting the user for an interview. The first author wrote in her field journal:

When I asked [the project leader] to spell the last name of [the user] mentioned in her story she said it would be "a waste" to meet with her.... She doesn't have the "intellect behind her work processes and doesn't do very complex things". [The project leader] said she thinks it would be good for me to interview a "really sophisticated end-user" but she didn't mention who she thought that would be and she didn't spell (the user's) last name either.

Listening to interview recordings and combing transcripts for controversial actors and organizational allies facilitate the researcher's being able to trace action between adversarial networks and emphasize the negotiations involved in creating shared meaning. Treating the narrative itself as the central informant helps the researcher contact those who may have otherwise remained "silent voices" (Star, 1991). This process also means that the researcher can find the stories in the broader narrative that signal current negotiations and point to the interviewee's sensemaking and rhetorical perspectives.

While individual accounts of change do not in themselves create change, woven into these individual narratives are connections and politics that highlight the basis for coordination (Bruner, 1990). In analyzing the connections between these narratives, we found multiple perspectives that existed in the context at a given moment in time. We organized these narratives into action nets to illuminate the interconnectivity involved in negotiating through IT-enabled change. By organizing narratives into action nets, we uncovered what we call "emergence" and "repair", the final two categories of insight that narratives make directly visible.

5.2 Emergence and Repair in Two Longitudinal Field Studies

In this section, we present narrative segments from the two field studies that we used as the basis for the methodology presented in this tutorial: the first author's study at an Ivy League university and the second author's study at an India-based multinational corporation (MNC). We undertook these studies in the interpretivist tradition using the methodology we outline in Section 5.1. We highlight two categories of insight not currently articulated in IS literature.

5.2.1 Ivy League University

Emergence and repair refer to narrative segments that make the change process directly visible. The below passage was recounted to the first author after the ERP was in production and reflected the preferences of university accountants and administrators that were inscribed into the software and were at odds with faculty and their staff who refused to accept the system and started to vocalize their dissent:

It's high noon—showdown time—and now [the faculty] want to play. I mean I got invited to lunch twice by the chairmen and lemme tell ya' getting invited to lunch isn't a good thing. Now they want us to reinvent the wheel when we invited them to special informational sessions at the beginning of the project and sent out newsletters, involved some of their business managers—but no one was interested then because it was an administrative project.

This passage situates the story at a particular time and place by providing information that reminds the interviewee that it is late in the project (line 1) unlike previous times when the two met. The storyteller believed that all dissent and feedback should have already been provided during earlier efforts that occurred to encourage engagement, (lines 4-6) such as information sessions and voluntary training on

software versions. The story pinpoints action and controversy that hypothetically may happen (lines 1 and 3) and, hence, are expectations for the future. Then there is a transition as the interviewee tries to make sense of the past in light of this new information (lines 5-6). One can almost visualize the interviewee flashing back to early project phases. For her, the implementation should occur in a linear chronological order, and it was now the end of the project where questioning the beginning of the project did not make sense to the project team. Many of the stories that interviewees told after the ERP was in production highlight the temporal organizing of the social construction of organizational change. The “emergence” category of insight highlights the present as the only locus of reality (Adam, 1995) where storytelling is situated in time and, as such, is changing over time. A narrator is telling a story in the present moment but always in relation to the narrator’s current understanding of the past and expectations for the future. Only during the first two years of system use did such stories from faculty arise, and that period was the appropriate time to raise such issues since they started experiencing the system only at go-live. As Czarniawska (2004) points out, narratives of emergence may contain both chronological time and kairotic time (indicating appropriateness) that trigger tensions. The first author followed these tensions as they unfolded.

While indicating these tensions, the following story segment, taken from an interview with a medical school faculty member, provides another example of the value of focusing on emergence within stories:

The [project leaders] really thought the primary business need was the development of the corporation budget which—I mean—of the thousands of people that need to interact with the ERP, only a handful of them need to interact with the corporate budget. But yet that was the primary driver for development of our ERP—that seems to be their main focus on Project X: “how can administrators capture the data faculty are putting in and—roll it up to the corporation budget?”. Whereas from our perspective we need the grant information and it should magically roll off (the system). You need to almost keep the two operations separate because daily faculty management reports are much different from corporate budgets. And so (the project team) really missed an opportunity to understand our business of teaching and research and patient care. They focused way too much on giving The [Ivy League] Corporation the information they needed. And not worrying about giving faculty the information they needed to manage the business. I mean can you believe, we had no faculty reports to produce and it’s April 25th-4th? I mean that’s like criminal...institutionally criminal, you know?

This passage highlights an important action net that the researcher investigated. While only a single faculty member is speaking, she does so on behalf of faculty interests when using the pronouns “our” and “we” and separating herself from “they”—the project team (lines 4, 6, 10, 11). She talks about the corporation’s power over the project team as central to the design choices the project team made (lines 12-13). As a field researcher, investigating this perspective by talking with representatives from the corporation would be a likely next step.

The story also shows that the interviewee is making sense of the past and making projections about the future in her present moment. As the interview began, the present emerged to this faculty member, she made sense of it, and she adjusted her interpretation of the past (1999-2000 Project X) and future (the future academic enterprise) accordingly (Mead, 1980). The faculty member conveys the message that managing grants is of fundamental importance (lines 7-8, 14-16).

The relative efficacy of grant accounting in the ERP as implemented was a central controversy in many narratives during this third year of field work. When we traced the controversy, we could see the interconnectivity of people, roles, and artifacts across the university. Medical school delegates were particularly vocal with regard to faculty grant reporting because their academics held 80 percent of the university’s total funds. While the ERP system represented a significant sunk cost for the university, whose institutional narrative of the future was wrapped up in its success, faculty members refused to acquiesce to an administrative agenda. Senior leadership expected that users would opt in to the system despite its limitations because, by this time, the ERP was itself a powerful organizational narrative at the center of a university action net, which chronologically indicated the near-completion of the project.

Not only do narratives give researchers the eyes to see emergent issues over time, but also our methodology promotes sensitivity to stories of repair. Such attention to these stories is an effective way for researchers to gain access to the repair work involved in creating a working information system—one that binds disparate individuals and groups together for better or for worse. As Bruner (1990, p. 95) notes, one

can analyze narrative accounts to reveal the way in which communities develop coherence despite conflict:

It is probably the case that human beings forever suffer conflicts of interest, with attendant grudges, factions, coalitions, and shifting alliances. But what is interesting about the fractious phenomena is not how much they separate us but how much more often they are neutralized or forgiven or excused.

Of fundamental importance in this conflict-resolution process is the act of peacemaking in which individuals articulate alternative perspectives in a single story. The main goal of peacemaking is explication rather than sensemaking or persuasion. The following narrative from a senior accountant and project member explains attempts to neutralize faculty recalcitrance before faculty members reject the ERP system she helped develop:

We're trying to make things as simple and straightforward as possible and we've failed miserably so far to be honest with you. In terms of the [faculty] grant reports—the grant reports are the best example of the difficulties we have. I don't know if [the change manager] told you about the economics professor that used to be the provost, and used to be the VP for finance and admin. He called the provost really angry because he couldn't read his [grant] report. And the [financial controller] sat down with him and every concept he was asking for was on that report. But he couldn't see it and his staff couldn't explain it. I mean this guy's smart! He knows what he's doing and he can't even read the report and I thought that was pretty telling, pretty depressing. So we are trying now, we are redesigning the reports and asking faculty what they want instead of assuming we know it all, and I hope it works, we have a prototype and I'm hopeful that we can find a common ground.

Unlike the story in the quote before the above one in which the faculty member alleged that the project team's focus on the corporate budget was criminal, this passage emphasizes the stories that individuals used to try and build operational integration and community coherence during conflict. The narrator uses the story of the economics professor in the broader narrative to engage the researcher in the drama most salient to her and demonstrate her understanding of faculty perspectives in a way she did not when previously interviewed. The use of language such as “instead of assuming we know it all, and I hope it works” indicates her awareness that repair is necessary for the project to move forward (lines 10, 12, 13). Finally, she concludes the narrative by expressing hope that university members will find common ground. She performed her peacemaking to bring university members closer to the forgiveness and compromise of which Bruner (1990) speaks. She sought, despite conflict, to achieve a working solution. She communicates this goal to the researcher and, in the process, illuminates the intertwining, disparate perspectives in her pursuit to achieve a working solution.

We labeled stories such as these “narratives of repair” in which one works to calm tensions and find a good-enough solution that will allow progress. These repair narratives usually unfold as a response to contentions. Analyzing the interconnectivity of narrative accounts over time not only highlights the problematic events that constitute a software project but also provides insight into repair work that helps restore order to the organized chaos of project work.

In Section 5.2.2, we further illustrate the utility of focusing on emergence and repair using the second author's action net narrative field study on ERP implementation in an India-based MNC, which employed the same narrative approach used in the Ivy League study.

5.2.2 IndiaCo

IndiaCo provides another example of how paying close attention to emergence and repair can help foreground the dynamics of change. IndiaCo's implementation started with ERP consultants highlighting the need to adopt a vanilla version of the software in question, which meant no customizations. The dominant story was that ERP software embedded gold-standard practices as compared to MNCs' legacy practices:

ERP makes us perform better, forces us to record data timely and consistently, reducing delays; makes customer delivery dates accurate, as it should be. This is important for IndiaCo. Many customers see us as a traditional company that never does things in time. This occurs because we don't have proper records and aren't strict with deadlines. That is how we have been for decades, I think, from the inception. Yah, we needed a correction there. I am not saying that no

one adheres to timelines, here. Of course, there are exceptions, see [person x], for example, so punctual, and keeps time. There are many like him here. But many, or maybe most, of us have not developed that discipline. I don't need to tell you this. You came from the U.S. You can see this indiscipline with your own eyes, don't you? Then, there are too many practice variations. We need discipline, and so, we need to accept some standards, I mean best standards, that may make us more efficient. ERP will help here, I think. We have been helping them understand it. Most of them get it, we can see, but others, maybe are indifferent or passive about it.

This story starts with the teller's expectations of the implementation (lines 1-2). He imagines a series of future benefits that are both ideal (indicated by "as it should be") and important. He is living through his imagination as if the benefits were unfolding in the present moment, which the usage of present tense indicates. In light of this imagination, he reinterprets relevant past behaviors as mistakes that need correction (lines 3-6). The manager now shifts from "we and us" to "I", which situates his individual story in a network of stories (lines 6-8). The shift to "we" indicates an action net and enrolls the researcher into his perspective, taking as given that there is alignment of perspective (line 9-11). Next, he proposes his belief about the future that the vanilla ERP-driven field, which rests on the ERP-embedded standards, would help the organization hit its implementation goal of increased efficiency (lines 11-13). He also indicates the preferred action, adoption of ERP-embedded standards, which he justifies using his belief about the efficiency goal and the means to achieve it.

The manager is telling and situating the past and future in the present. While he recognizes that the future is unknowable and not certain (line 13 "may make us more ", "will help here, I think"), he sees it as an ever-present possibility in the present that rests on reinterpreting the past. The focus on such emergence opens one's eyes to future possibilities (Adam, 1995). Towards the end of the storytelling (lines 13-15), the manager—a single person—shows that he is speaking on behalf of a network of interests (indicated by "we" and "us") vis-à-vis other networks of interests ("them" and indifferent "others"). In so doing, the manager shows the researcher other important action nets that he should pursue. An action net-based approach with sensitivity towards emergence will motivate the field researcher to examine the action net that the manager represents rather than conclude that the manager is talking on behalf of managers.

Pursuing the newly-emerged action nets, the researcher heard the following stories about the downside of adoption. These specific stories rarely came up in daily formal conversations, and, hence, the researcher would not have heard them had he failed to focus on emergence:

Now, there are the so-called best standards given out to us. You've to blindly stick to them, no deviation, no creativity allowed there. Then, where is our freedom to make decisions on the fly, on the shop-floor? That flexibility was IndiaCo's strength. With so many varieties of designs and products in hand, you got to be a little easy with deadlines, procedures and people. That is the beauty of our system, I mean our best practices that we should not lose. This is my viewpoint, I mean, some of us think so. Maybe, others know better. Then, they should listen to our talks also. Now, the ERP wave is sweeping; so better to be quiet. Look, you hear us and that matters [long pause]. Looking at the star of ERP, just wishing that sticking to its standard practices would turn us into better professional sounds a bit naive. Yah, I am not against professionalism or efficiency, I don't think any of us are. But at what costs? Someone has to seriously think [pause]. When someone starts thinking in these lines, he is sidelined, you know it, right? Now, you are demanded to focus on data [entry] and not on process quality. You got to be careful not to deviate and work faster without any mistake. Or the ERP will catch you, and the watchful eyes are extended beyond the confines of this company, beyond the MD. So, you end up burning out to throw out more numbers of pieces. That's the discipline they are talking.

The researcher often heard these "antenarrative" (Boje, 2001) stories around discipline, which the dominant group disapproved of and, hence, silenced, in private meetings that the researcher held outside the premises of the organization. In the beginning of the engineer's story above, although he starts narrating the current situation, soon he switches to the past. He tries to make sense of the past and glorifies the flexibilities that the local practices provide (lines 1-6). Towards the end, the story transitions to projections about the future. The storyteller questions the dominant group's projection (lines 7-9). Then he makes his own projection that highlights undesirable costs of ERP adoption (lines 14-15). The story ends by his making visible a new meaning of discipline (lines 16-18). In this perspective, he retells discipline as punishment or chastisement in the form of close employee monitoring that reduces the freedom to make impromptu decisions. His perspective on discipline conflicts with the interpretation of discipline that the previous (dominant) story created: discipline as a state of improved behavior—being more efficient—

resulting from using ERP's standard practices. However, like in the previous story, the teller talks on behalf of a network of interest. The story indicates that that network's main implementation-related interest is to retain some local practices ("our best practices") that provide decision latitude to the network's members. This interest conflicts with the interest (in terms of preferred goals, means, and action) that comes out in the previous (dominant) story. Further, the storyteller points to a specific person as another representative of this opposing action net without mentioning the name but tries to make sure the researcher is aware of that action net (lines 12-13).

Following this lead, the researcher found out that the action net that had challenged the dominant stories comprised managerial and non-managerial staff. In a typical ERP implementation story, stakeholder groups have fixed membership status, and, thus, the consultant group, the manager group, or the project team face off against the user group. However, in this case, an action net-based approach with a focus on emergence helped the researcher realize that stakeholder groups are products of actions and the marginalized interest group evolves in usually a hidden antinarrative space (Boje, 2001).

The researcher followed the conflict by mapping action nets, which now started manifesting in day-to-day stories of the dominant group and the marginalized group. In doing so, the researcher saw the interconnectivity of stories, other organizational narratives, people, and roles. The dominant group formed a discursive coalition with the consultants. Further, it created interconnected stories that magnified the impending success of adopting the vanilla model while undermining the oppositional stories around flexibility and other such issues. However, as the implementation unfolded, some influential managers in the dominant group had to test and trial use the last set of ERP modules extensively. Unexpectedly and suddenly, they started opposing the organization's adopting the vanilla model. Consultants' stories portrayed this "sudden U-turn" as inappropriately timed since the project was "successfully nearing completion". However, for the managers, this time was appropriate—the kairotic time (Czarniawska, 2004)—for discussing such issues because, now, they had collected sufficient ERP-experience based data to justify their concerns:

The standardization and automation are good. The profit-focus is also good. But then the focus is more or less on numbers, not production, customers or society; efficiency is good but we also need exploration provisions...no one wants to be just a schedule-hitter...Look, currently we don't have enough precision about machine performance and lead time. In our (legacy) system, we can push in emergency orders. If we want to speed up production in a slow running line, we can transfer to another. In this ERP, what if an unexpected order or emergency order comes? The complete schedule is gone! Now, we realize it. We need more flexibility in planning. That's essential. So, we are raising these issues that demand some change in the software.

In this story, as the present emerged to this manager, he interpreted it and re-interpreted the past and future accordingly. As the story above indicates, such stories involved a push for certain customization (lines 9-10) and re-interpretation of flexibility (lines 3-7), which sounds different from the previous interpretations of the dominant group (flexibility as undesirable chaos that produces inefficiencies) and of the marginalized group (flexibility as decision latitude and freedom from close employee monitoring). However, these stories did not push for abandoning the implementation goal of efficiency and the means of ERP-driven standardization (line 1), and, as such, it offered lines for developing repair stories that would account for consultants' interest. As these oppositional stories grew in number, repair stories became more visible in the dominant group:

Many times, we couldn't meet the [product delivery] dates; we could inform the customer later. In [ERP], if this happens, we'll be able to inform the customer in time. But flexibility to change the order preference [an aspect of a legacy practice called customer push-in] won't be and can't be eliminated. Actually, adopting [ERP practices] will worsen our customer responsiveness, our daily need.... Yes, some staff could somewhat smell it [early]. Finally, they have to face the pressure. They know that the flexibilities are advantageous, yah, for them and somewhat necessary for the smooth operations. At the same time, we understand the cost and time limits and the pressure on the ERP guys to wrap up. This is the dilemma.

Unlike the previous stories of the marginalized group that opposed adopting a vanilla model to increase efficiency through standardization, this story recognizes timely action that the vanilla model provides as a benefit (line 1-3). Yet, it explicates the need for flexibility and connects it to a strategic business concern (e.g., "customer responsiveness", lines 3-5). Additionally, unlike the previous story of the manager, here, the storyteller clearly looks for a balance (line 5) while crediting the previous oppositional stories of the

marginalized group (lines 6-7). The story ends by sympathizing with the consultants and portraying the situation as a dilemma (lines 8-9). Thus, this single story ties opposing and alternative perspectives coherently, and it motivates the conflicting groups to negotiate.

In an attempt to connect these narratives of repair regarding flexibility with the action net they foregrounded to the previous narratives of the marginalized group, the researcher started looking for more comments on flexibility in both organizational documents and stories that people told him. Thus, the researcher could identify various kinds of flexibilities such as temporal (e.g., flexible work pace and rhythm, flexible schedule and deadline) and skill related (e.g., willingness and ability to adapt to changing customer needs). These narratives illuminated the following point: the design and production teams were expected to improvise to meet customer needs. Consequently, the MNC had more than 100 versions, which managers and engineers considered as “standard product designs” in the organizational narratives. As per organizational documents, although the flexibilities introduced uncertainties and chaos in the system, the management valued the ability to live with uncertainties and chaos as a business skill. Thus, the focus on the interconnectivity of the stories and narratives and the data gathering and resulting analysis helped the researcher to see the cultural root of the flexibility-related stories that were crucial in generating a push for customization. The customization created a working IT.

Overall, the Ivy League and the IndiaCo examples illustrate that foregrounding the interconnectivity of narratives can highlight the multiple histories involved in crafting organizational reality and can provide an opportunity for IS researchers to understand the complexity of computer-mediated change efforts before this multiplicity becomes silenced beneath the one official record of the initiative. By doing so, we can gain insight into how actors traverse uncertain project landscapes and the way in which choices made during one moment in time impact later opportunities. We suggest that focusing on narratives of emergence and repair present IS researchers with an opportunity to analyze the flow of events differently and explore the characteristics of project work through a new lens.

5.3 Checklist for Employing Narrative Methodology

Based on learnings from the field work described above, in this section, we present a checklist for researchers interested in conducting narrative-based studies and for reviewers evaluating such work. While we present the steps chronologically, note that iterations occur through the process and adopting this list would be counterproductive if used prescriptively.

5.3.1 Research Design

- Research focused on processes and following actions over time.
- Research question was broad enough to allow the storytellers to direct the research path; “how” questions are particularly effective.
- Other research methodologies would not adequately address the research question.

5.3.2 Fieldwork Design

- Fieldwork was based on multiple intense periods of investigation.
- Fieldwork was interspersed with periods of reflection and preliminary data analysis between investigation periods.

5.3.3 Interviews

- To begin with, conducted interviews with key stakeholders.
- Let stakeholders know, in a general way, that the researcher sought their impressions/perspectives in the form of stories.
- Recorded interviews for completeness and notified interviewees that they were being recorded.
- Interviews adhered to the narrative interviewing (NI) convention, which provides a timeframe to help structure the interview.
- Took notes in a journal and anchored these notes with snippets of story to help the researcher later insert this content into the transcripts.

- When taking notes, focused on body language such as mannerisms, content that occurred before the recorder was turned on, and after it was turned off—all context that will fill out the story.

5.3.4 Initial Transcription and Analysis: In the Field

- Listened to interviews and transcribed them directly following the day's session.
- Transcribed interviews verbatim.
- Reviewed transcripts for:
 - Controversial actors
 - Organizational allies
 - Action nets: follow the action between networks and emphasize the negotiations involved in creating shared meaning and coordinated actions, and
 - Narratives (see Table 1 to identify a narrative text).
- Treated narrative as the central informant to later contact those who may have otherwise remained "silent voices". List of actors/actions sets the agenda guiding the next round of interviews.
- Requested interviews with identified actors.
- Repeated iterative interview process for the duration of the field visit.

5.3.5 Other Fieldwork Activities

- Collected and reviewed other organizational documentation as organizational narratives.
- Conducted regularly scheduled meetings with user groups.

5.3.6 Subsequent Reflection & Data Analysis: Back at Office

- Listed and understood issues important to interviewees.
- All stories that have been collected have been analyzed as sites of action
 - Identified action nets
 - Visually depicted action nets.
 - Identified "categories of insights" in the action nets.
 - Pulled out themes around which action coalesced (compare with list of themes from preliminary data analysis conducted in the field).
- Repeated reflection and analysis after each field visit.
- After subsequent visits:
 - Connected action nets and themes from most recent round of fieldwork to those of previous round(s).
 - Re-read/re-interpreted previous round transcripts in light of current round insights but kept initial analysis.

5.3.7 Writing Up Narrative Research

- Narrative research shows narrative characteristics to readers.
- Representative quotes are story segments.
- Representative quotes are from multiple action-nets.
- The narrative data show interconnectivity over time and the flow of action.
- Representative narrative data span field visits.

6 Summary and Implications

Researchers have not yet fully explored the notion of interconnected narratives in the information systems field. In this tutorial, we emphasize the way in which a narrative methodology that covers the fit between epistemology and methodology (choice of focal issue and collection, handling, analysis, and reconstruction of empirical data) can illuminate the details of controversies and compromises that one might not otherwise have discovered and how it can provide insight into coordinated action over time. If we attend to stories that emerge in later stages of an implementation project and look for narratives of repair, we may have the capacity to change the IS narrative about project failure to one of making the software work.

A narrative approach to process-oriented field research that focuses on action nets provides a vehicle for understanding how order is achieved despite extreme complexity. All too often, the practitioner literature focuses on issues of success or failure as if the result were a fated coin toss. Adopting a narrative research approach juxtaposes conflicting perspectives and accentuates the processes of resolution that are fundamental for practitioners who hope to manage departures from the canonical. Increasingly, the daily landscape of contemporary IT-enabled change initiatives is becoming territory up for grabs by multiple and often conflicting action nets. For many, implementing standard software packages such as ERP requires multi-year initiatives that involve collaboration with disparate organizational networks and external experts. These alliances are difficult to negotiate during the initial implementation project and remain an important influence over local work activities in the longer term because of system upgrades and maintenance contracts.

The five categories of insight reveal how narratives (and, hence, the social construction of organizational change) are typically organized in space and time. Repair and emergence stories make temporal organizing of the change construction directly visible, which other categories of insights cannot. As such, we propose the “categories of insight” as a critical tool for evaluating narrative research conducted during longitudinal studies that adopt an interpretivist epistemology. Seeking to include all of these categories of insights into the research design and data collection process will likely generate a holistic understanding of both temporal and spatial dimensions of organizing.

Organizing IT-enabled organizational change typically involves coordination between various organizations (e.g., IT designers’ organizations, user organizations, and supplier organizations). Thus, IT-enabled change processes may necessitate connecting actions, objects, and actors separated in space and time (Jin & Robey, 2008) in such a way that they together form a chain or a net. The space-time distancing creates the need for translation. In such contexts, narratives, particularly stories, are a dominant mode of translation (Patriotta, 2002) that translate both actions and objects into words (Czarniawska, 2000). Hence, connecting stories can reveal how objects are enacted and acted on collectively, and, in turn, how they are negotiated in the ongoing action of organizing. Such insights are particularly important in understanding the emergence of boundary objects in IS (Wagner & Newell, 2004) since boundary objects span multiple boundaries including those of narratives and facilitate bridging actions of different groups (Star & Griesemer, 1989). In sum, collecting narratives and interconnecting them can reveal interdependencies of organizations including actors and objects such as technology artifacts in organizing IT-enabled change.

There is a surging interest in IS scholarship to understand the performative aspects of the IT-implementation process (Schultze & Orlikowski, 2010). A performative orientation focuses on action and enactment since it conceptualizes reality as “a doing”, as enacted in ongoing practice (Schultze & Orlikowski, 2010). It also suggests that objects, as a set of work arrangement that are both material and processual, are enacted into being (e.g., object-in-use) through the process of translation that connects ongoing actions to objects (Lindberg & Czarniawska, 2006; Lindberg & Walter, 2013). Therefore, to understand the performative nature of IT implementations, rather than examine narratives in isolation, IS scholars need to collect emerging narratives in the field and attend to their interconnectivity. An action net-based narrative methodology can be particularly effective in such contexts. In closing, we argue that privileging narrative accounts of change encourages research focused on how people make it work in spite of the odds. Through stories, we are told of what is important in contemporary organizations. If we listen, we can contribute [to our understanding of IS implementation through these stories.

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Appendix A: List of Information Systems Journals Reviewed

Table A1. IS Journals

Journal title
<i>Communications of the AIS</i>
<i>European Journal of Information Systems</i>
<i>IEEE Transactions</i>
<i>Information and Management</i>
<i>Information and Organization (née Accounting, Management and Information Technologies)</i>
<i>Information Resources Management Journal</i>
<i>Information Systems Frontiers</i>
<i>Information Systems Journal</i>
<i>Information Systems Management</i>
<i>Information Systems Research</i>
<i>Information Technology and Management</i>
<i>IT and People</i>
<i>IT for Development</i>
<i>Journal of AIS</i>
<i>Journal of Computer Information Systems</i>
<i>Journal of End User computing</i>
<i>Journal of Information Systems</i>
<i>Journal of Information Systems Education</i>
<i>Journal of Information Technology</i>
<i>Journal of Information Technology Management</i>
<i>Journal of MIS</i>
<i>Journal of Strategic Information Systems</i>
<i>MIS Quarterly Scandinavian Journal of IS</i>
<i>The DATA BASE for Advances in Information Systems</i>
<i>The Information Society</i>

About the Authors

Erica Wagner is the Ahlbrandt Professor of Technology Innovation at Portland State University's School of Business. Her research focuses on the ways software is "made to work" in different organizations, with particular emphasis on how troubled initiatives are turned around. Most recently she has focused on agile software development as it relates to the implementation process. She earned her PhD from the London School of Economics. She has previously been on the faculty at Cornell University. Her research has been published in a variety of outlets including *Communications of the ACM*, *Information & Organization*, *The Journal of the Association of Information Systems*, and *MIS Quarterly*. For additional information, see <https://sites.google.com/a/pdx.edu/erica-wagner/>.

George Kandathil is an Assistant Professor of Organizational Behaviour and Information Systems at Indian Institute of Management, Ahmedabad, India. He has a PhD from Cornell University, New York. His research explores organizational change that unfolds in contexts such as IT implementation and worker takeover of family-owned business - primarily from an organizational theory perspective. He has published journal articles, research monograph, and book chapters related to this exploration.

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