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Designing interviews to generate rich data for information systems research

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ABSTRACT

Information Systems (IS) publications that use interviews for data generation tend to provide very little insight into the research process and very few rely on a carefully chosen and well-articulated interviewing method. Given the wide variety of interviewing approaches available to qualitative researchers, it seems that the IS discipline is lagging behind and can easily enhance its methodological sophistication. In this paper, we address this opportunity by (i) highlighting the potential of interviewing as a means of generating data that provides insight into people's experiential life; (ii) discussing the various epistemological stances that can be taken to interviewing; (iii) introducing and illustrating three interviewing methods (i.e., appreciative, laddering and photo-diary interviewing); and (iv) juxtaposing these methods to identify the conditions under which they are most effective.

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The purpose of qualitative, interview-based research is to describe and clarify people's experiential life "as it is lived, felt, undergone, made sense of and accomplished by human beings" (Schwandt, 2001: 84). Because much of an individual's life world is invisible to others and because experience has vertical depth (Polkinghorne, 2005), interviewing distinguishes itself from other research approaches by engaging participants directly in a conversation with the researcher in order to generate deeply contextual, nuanced and authentic accounts of participants' outer and inner worlds, that is, their experiences and how they interpret them. However, interviewing does not automatically guarantee the production of rich data and meaningful insights. In this paper, we therefore focus on data generation¹ methods that help interviewees

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¹ In this paper, we refer to interviewing as a "data generation" rather than a "data elicitation" or "data collection" method to underscore interviews as a site where situated and morally adequate accounts about people's lived experience and its meaning are co-produced by the interviewee and the researcher.

access their subjective life worlds beyond the superficial layer of their experience. Our objective is to introduce and illustrate ways of designing interviews that support the generation of rich accounts about people's social realities.

The qualitative research interview is the most widely used qualitative research method (Polkinghorne, 2005) and has been used extensively in multiple disciplines, including Information Systems (IS). According to Myers and Newman (2007), however, interviewing has been a largely unexamined data generation technique in IS. In a review of 22 randomly-chosen, interview-based research articles that were published between 2001 and 2005 in four leading IS journals,² they observed inadequate reporting of the interview process in general and of the specific interviewing approaches used. For instance, only four of the reviewed publications indicated reliance on an explicit interviewing method, of which only one, namely Critical Incident Technique, was established and recognizable.

In our own, more recent assessment of the state of IS research practices, we examined research articles that relied primarily on interviewing methods and were published in the AIS Senior Scholars' Basket of six IS journals³ from 2004 to 2008.⁴ We identified 112 papers published during this 5 year period and noticed that reliance on interviewing methods as a primary research method nearly tripled during this time. In 2004, 12 papers were interview-based compared to 35 in 2008. Moreover, our review echoed Myers and Newman's (2007) findings regarding methodological sophistication. Merely 11 (10%) applied a structured interviewing method (e.g., Critical Incidents, Repertory Grid, or Q-sort). These results are disconcerting, especially given the caliber of the journals in which these articles were published. They suggest that there is much room for improvement in designing, conducting and reporting on interview-based IS research.

Myers and Newman (2007) advocate that researchers should take a more reflexive stance towards their craft by considering the contextual details of the interview setting and process throughout the interview and during its analysis and reporting. Even though we agree that greater reflexivity and more explicit reporting of the interview situation are desirable, we believe that it stops short of addressing the infrequent application of established interviewing techniques that, in turn, can help generate in a systematic fashion richer data that reaches deeper into participants' life worlds. The objective of this paper is therefore to highlight through discussion and illustration the significant potential of different interviewing approaches as data generation methods. We introduce three of such methods, i.e., appreciative, laddering and photo-diary interviewing, and illustrate how they can help produce contextually deep and nuance-rich accounts of people's experiential lives.

We commence by discussing the interviewing methodology and its core promise of generating rich data through direct interaction with research participants. We also highlight competing epistemological lenses through which interview-based research can be viewed and outline the challenges they present for interviewing as a method for social science research. We then introduce the three interviewing methods and highlight their theoretical foundations, their application in practice, their assumptions about meaning making, as well as their benefits and challenges. Furthermore, we provide illustrations of our own experiences with these methods in IS research. We conclude by summarizing the conditions under which each of the three methods is particularly valuable.

1. Generating rich data through interviews⁵

A research interview, or *inter-view*, is an exchange of views between two people – one of whom is in the role of researcher – who are talking about a topic of common interest (Kvale, 2007). The topic of interest is typically the interviewee's experience of his or her life world, as it is lived and constituted in awareness (Polkinghorne, 2005). As people's experiential life is not observable by others and not readily accessible to

² Information and Organization, Information Systems Research, Journal of AIS, and MIS Quarterly.

³ European Journal of Information Systems, Information Systems Journal, Information Systems Research, Journal of AIS, Journal of MIS, and MIS Quarterly.

⁴ Coding was conducted in two steps by PhD students. For each journal, published papers of one year were coded independently by two coders who then negotiated and reconciled their respective differences. This calibration phase yielded an average inter-rater reliability of 86%. Then, the remainder of the papers was split between the coders.

⁵ Myers and Newman (2007) identify three different types of qualitative interviews: structured, un- or semi-structured, and group interviews. In this paper we are concerned only with the semi-structured interview, which are open to the interviewees' decisions about what is important and relevant to talk about, and how they choose to express themselves. Alvesson (2003) refers to these as qualitative interviews to distinguish them from structured or verbal-questionnaire interviews.

individuals, interviewing seeks to engage subjects directly in a conversation with the researcher so as to get a first-person account of the participant's social reality. In addition, the interview needs to help research participants reach beyond the superficial layers of their experience in order to generate informative, novel accounts of the phenomenon of interest. In their effort "to understand the world from the subject's point of view, to unfold the meaning of people's experiences, to uncover their lived world prior to scientific explanation" (Kvale, 2007: xvii) by means of an interview, researchers are collaboratively engaged in the production of data.

For interviews to live up to their promise as a means of providing insights into people's life world and its meaning, the data that are generated need to be rich in such a way that they lend themselves to thick description (Brekhus, Galliher, & Gubrium, 2005; Ponterotto, 2006). Thick description presents human behavior in a way that takes not only the physical and social context into account, but also the actors' intentionality. In this way, the meaning and significance of behaviors or events are made accessible to the reader.

Rich data are a hallmark of qualitative inquiry and are frequently regarded as key to lending credibility and persuasive strength to qualitative studies (Brekhus et al., 2005). This is because rich data is seen as imparting intimate knowledge of the social situation or phenomenon of interest. Unlike most quantitative studies, which are generally limited to thin description of phenomena by way of frequencies, distributions and statistical patterns of relationships between constructs (Brekhus et al., 2005), qualitative studies include scenic details, participants' motivations and intentions, and the web of social relationships in which events happened and individuals took action. In other words, rich data are deeply implicated in bringing to life the human beings that are the center of social science research.

In the context of qualitative research, the notion of rich data has multiple meanings. When comparing research methods, richness implies wealth and worth. For instance, rich and deeply-nuanced descriptions of events are considered more valuable than superficial or thin ones (Geertz, 1973; Ryle, 1971). Rich data, like rich soil, is also fertile and generative, capable of producing a diversity of new idea and insights. Thus rich data enables thick description, thick interpretation and thick meaning (Ponterotto, 2006). It is also plentiful, encompassing virtually everything that the researcher saw and heard, ranging from the environment (its geography, smells and sounds), through the social norms and relationships, to the expressions and emotions accompanying individuals' action. This overwhelming availability of data implies that qualitative researchers need to be selective in their focus and to trade off one form of richness for another, e.g., attending to scenic, environmental details versus focusing on the interactions among actors in a social setting (Brekhus et al., 2005).

2. Interviewing: multiple perspectives

It is important to acknowledge that the framing of qualitative interviewing presented thus far is an instrumental one in which the interview is regarded as a tool for generating rich data for scientific inquiry. This perspective is heavily criticized because it fails to address the challenges associated with the complex social situation that is the interview (Alvesson, 2003). For instance, interviewees might leverage the interview as a political tool to advance their own agenda for organizational change. This then raises questions about how the data generated during the interview should be interpreted. Can they be treated as authentically reflective of the individual interviewee's experiential life world or are they hackneyed scripts propagated by a group to which the interviewee belongs?

To provide guidance on how to deal with the critique levied against the instrumental view of interviews, Alvesson (2003) distinguishes among the neopositivist, romantic and localist perspectives, which differ according to the epistemological and discursive assumptions made of the interviewing endeavor.

Mirroring positivist ideals in a qualitative research setting, the neopositivist approach views the *interview as an instrument* with which to elicit knowledge from the subject for transmission to the researcher. The subject is seen as an expert and a vessel-of-answers (Holstein & Gubrium, 1995). In order to minimize the researcher's impact on data elicitation, an interview protocol that explicitly outlines the questions is relied upon to get relevant responses consistently across interviewees. Furthermore, the interviewee's utterances are treated as facts that have been discovered when analyzing (frequently through coding) and reporting the data (Hollway & Jefferson, 2000).

The neopositivist perspective assumes that interviewees are competent truth tellers, and that they are able to identify and articulate interior (e.g., individual experiences, feelings and values) and exterior (e.g.,

social practices, norms and structures) facts that are relevant to the phenomenon of interest. Furthermore, it implies that the researcher's questions and the interviewee's answers are unambiguous and reciprocally understood.

In contrast, the romantic approach views the *interview as a conversation*, albeit one in which the researcher takes more than s/he gives. Rapport, trust, and a sense of equality between the researcher and the interviewee are prerequisites for exploring the participant's (rather than "subject's") inner world of meaning and feelings, as well as their experienced social reality. At the center of the romantic perspective is the desire to 'really know' the individual and to hear his/her genuine voice (Gubrium & Holstein, 2002). Here, reality is interpreted and constructed, not discovered. The interview is thus regarded as a socially and linguistically complex human interaction that involves active listening and interventionist engagement on the researcher's part. Indeed, one of the researcher's objectives is to activate and stimulate the interviewee's interpretive capabilities (Holstein & Gubrium, 1995). Thus, interviews are seen as a site for the construction of meaning rather than the elicitation of facts.

While the romantic perspective cherishes the constructed and co-created nature of the interviewee's utterances, critics highlight that such an approach is likely to lead to data that is strongly influenced by the idiosyncrasies of the interview situation. In contrast, proponents of the romantic perspective maintain an ability to uncover a richer and more realistic picture of the phenomenon of interest because, according to a constructionist philosophy, social reality is inherently fragmented and multiple rather than unitary.

Finally, the localist approach is skeptical of the *interview as a window on social reality*, that is, an occasion where individuals report on internal experiences or external events. Instead, an interview is a local accomplishment within a given interview scene in which situated and morally adequate accounts are produced. Thus contextual factors such as the interviewer's age, gender and credentials significantly impact the narratives that emerge from the interview. Nevertheless, these accounts are unlikely to be uniquely conceived for the researcher; instead, they will be part of the well-rehearsed narratives that have been legitimated by the teller's social world (Czarniawska, 2004). In light of their script-like quality, the authenticity of these accounts as reflective of the interviewee's lived experience is questionable.

Localists also challenge the interviewee's role as knowledgeable expert and deny the possibility of capturing social reality and of exploring meanings from a native point of view. Instead, localists regard research interviews as just another social event or situation in which people think aloud (Kvale, 2007). As such, the interview itself should be the object of inquiry, rather than the phenomenon of interest. Furthermore, as interactions where people are answering questions from journalists, talk-show hosts and colleagues are increasingly common, some argue that we are living in an interview society (Silverman, 1997). Thus the interview no longer holds a privileged position as a research instrument, but increasingly serves as a medium for the constitution of the modern individual as well as a tool that legitimates and thus democratizes individual opinions (Gubrium & Holstein, 2002). In an interview society, interviews increasingly provide participants with an opportunity to present and thus construct a situated version of their identity. In this way, the interview becomes an integral part of the contemporary selfing project (Giddens, 1991).

A localist perspective of interviewing thus challenges the instrumental view of interviews by highlighting that they are an opportunity for perpetuating a story line or cultural script, as well as a platform for political action, identity work and impression management (Alvesson, 2003). Where does this leave the research interview? Does it have a place at all in social science inquiry? Alvesson (2003) rejects the localist position that an instrumental view of interviewing has no merit. Instead, he advocates going beyond these three paradigms and adopting an approach of pragmatic reflexivity, which implies that the conventional view of interview material as reliable information about the phenomenon of interest (unless there is a reason to believe otherwise), be treated with skepticism, but not outright contempt. A position of pragmatic reflexivity calls upon researchers to substantiate their knowledge claims by addressing methodological issues other than the quantity of empirical material and the coding techniques used. Alvesson (2003) thus encourages researchers to consider (i) the social scene in which the interview took place (including the interviewer, the physical setting and the general framing of the situation), (ii) the individual interviewee constituted in terms of identity, impression management and politics, and (iii) the double-edged nature of language, e.g., its use and effect in the interview. In this way, specific interview

situations and accounts are critically interpreted, thus complementing a more instrumental view of this research method.

In this paper, we adopt a perspective on interviewing that mixes elements of the romantic and localist views. From the romantic perspective we adopt the notion of an active, interventionist interviewer. Like Holstein and Gubrium (1995: 17), we:

“eschew the image of the [subject as] vessel waiting to be tapped in favor of the notion that the subject’s interpretive capabilities must be activated, stimulated and cultivated. The interview is a commonly recognized occasion for formally and systematically doing so. This is not to say that active interviewers merely coax their respondents into preferred responses to their questions. Rather they converse with respondents in such a way that alternate considerations are brought into play. They may suggest orientations to, and linkages between diverse aspect of respondents’ experience, adumbrating – even inviting – interpretations that make use of particular resources, connections, and outlooks.”

From the localist perspective, we adopt the notion that interviews are not so much windows on reality as they are occasions for producing situated and morally adequate accounts. As such, researchers need to acknowledge that interviews are also occasions for activities other than the generation of data for scientific purposes, namely political action, impression management and identity work, among others.

3. Three interviewing methods

Building on the romantic and localist perspectives of interviewing, our selection of methods presented in this paper rests on three criteria: (i) their capacity to generate rich data about interviewees’ experiences of their life worlds and the meanings associated with it (romantic view), (ii) their capacity to address some of the challenges of interviewing as a data generation method (localist view), and (iii) our own experience with the methods in IS research. The characteristics of the three methods that we will introduce and illustrate in this paper are:

- *Grounding the interview in participants’ own experiences*: all three methods rely heavily on the participants’ descriptions of their lived experience. This helps keep the interview grounded in actual events and settings. The recounting of lived events allows the researcher to visualize the participant’s social world and to ask questions that seek to uncover deeper layers of this world and its meaning. The researchers can also more readily assess the completeness and plausibility of the participant’s account, thus making inconsistencies and contradictions more visible. Consequently, episodes of political action, identity work, impression management and the reciting of cultural scripts should become more readily apparent to the researcher, possibly allowing him/her to take these behaviors into account during the interview (Alvesson, 2003). Moreover, by grounding the interview in participants’ personal involvement in events, the risk of the discourse spiraling into abstractions, generalities and cultural scripts is reduced.
- *Acknowledging and valuing participants’ narrative (re)construction of their experiences*: all three methods embrace the view of interviews as occasions for constructing situated and morally adequate accounts of events and the self. This implies that the data generated in an interview need to be seen as narratives that are produced in the moment rather than facts or established stable meanings. At the same time, these narratives cannot be dismissed as one-off fabrications constructed to satisfy the interviewer; instead, they are variations on the socially constructed accounts that people give every day as they make sense of their world.
- *Providing an explicit framework for guiding the participants to articulate and interpret their experiences*: in order to help the interviewee access their lived experience and reflect on it, effective interviewing methods should provide frameworks that structure the conversation in such a way that guides the interviewee through this introspective journey while honoring his/her freedom of thought and expression. By structuring the interview interaction, such frameworks help the interviewee as well as the researcher surface detail-rich descriptions as well as their significance and meaning in a way that is less likely to be dictated by cultural scripts and established identities. As such, they assist in the generation of rich data as the interviewees are guided in accessing multiple layers of experience.

Having outlined how the methods presented in this paper satisfy the romantic and localist perspectives, we will now briefly introduce appreciative, laddering and photo-diary interviewing. First, except for laddering, these methods are under-utilized in IS research, raising questions about how aware the IS research community is of them. Based on our own experience with these methods of studying IS questions, we contend that these three methods have considerable potential for advancing knowledge in the IS discipline. Second, the methods cover a wide spectrum of data generation logics and should therefore serve as a good overview of the ways in which the sophistication of interview-based research in IS might be enhanced.

Each method represents a different approach to the production of rich data. Appreciative interviewing invites the participants to create pathways to visionary worlds that they would like to inhabit. In this way, insight is gained into the meaning they attach to the current world around them. In contrast, laddering uses comparison and contrast as a way of identifying meaningful patterns in people's lived experiences, and the method's repeated inquiry into how and why these patterns matter provides insight into participants' mental models. Photo-diary interviewing relies on participants' reflections on their behavior, thoughts and emotions at a given point in time, which is captured in a photograph, in order to explore their lived experience and its layers of meaning.

Moreover, these methods draw on different capabilities on the part of the participant. Appreciative interviewing relies extensively (but not exclusively) on participants' ability to envision and project a different world, whereas laddering relies primarily on their analytical, cognitive abilities. Photo-diary interviewing draws extensively on the interviewees' willingness and ability to be self-reflexive. (See Table 2 in the discussion section for a more comprehensive comparison among the methods).

3.1. Appreciative Interviews

Rooted in the positive discourse in the social sciences (see discussion in Avital, Boland, & Lytinen, 2009), an appreciative interview is a guided introspective inquiry in a search for the best in people and the relevant world around them (Michael, 2005). It purposefully seeks to turn attention away from the prevailing investigation and treatment of dysfunctions, anomalies and deviant behaviors toward a relentless search for evidence that demonstrates strengths, possibilities, goodwill, and the grace of human spirit. Consequently, building on the participant's generative capacity, an appreciative interview surfaces and accentuates the potential of more hopeful organizations and human-centered technologies. As a highly generative method, an appreciative interview is particularly appropriate in studies that aim to surface and capitalize on the capacity of people, teams, and organizations to construct enriching practices, and design work environments through a discourse that encourages positive change and participative action.

The underlying premise of appreciative interviewing is two-fold: (i) in human systems there is always something that can be appreciated and built upon, and (ii) grounded in elicited aptitudes and lifted with positive affect, we can effectively envision and pursue that which is most desired. Unlike criticism, which stems from disapproval and denial, appreciation is based on belief, trust, and conviction (Kolb, 1984). It is the affirmative nature of appreciation that nurtures and unfolds the authenticity and richness of the appreciative interviewing experience.

Building on appreciative inquiry (Cooperrider & Srivastva, 1987) and the constructionist idea that language is the medium through which we construct our reality, an appreciative interview is always guided by a specific affirmative topic choice. The *a priori* framing of the interview objective and the underlying questions in a positive, hopeful, and generative tone is a crucial non-negotiable entry point to the process. The thrust of the questions and the consequent conversation is reflective and explicitly affirmative by design (Adams, Schiller, & Cooperrider, 2004).

The appreciative interviewing process is designed as a retrospective inquiry (e.g., eliciting highpoints) that catalyzes a prospective act (e.g., drawing paths to ideal types). Overall, appreciative interviews alternate between retrospective and prospective reflection, between past and future trajectories, and between personal and collective frames of reference. They take the interviewees through a journey in which they have an opportunity to reflect on and share their most outstanding personal experiences, ideas about what works well, hopeful aspirations and desired futures. In all, the interview is designed to reveal the best of "what is" and to leverage it for expanding the visions of "what might be" through a reification of these emerging possibilities into attainable objectives and corresponding practices. Subsequently, an appreciative interview is particularly valuable in studies seeking sustainable designs and organizational changes that herald a hopeful future.

Appreciative interviewing is conducted as an evocative co-inquiry with the intent to facilitate insightful discovery and learning by both interviewer and interviewee. Therefore, consistent with the romantic perspective on interviewing, establishing rapport and a sense of equality between the researcher and the interviewee are prerequisites for a successful appreciative interview.

The affirmative and supportive thrust of the interviews is conducive to narrating lived experience. Interviewees seem eager to tell their stories openly and in an authentic fashion (Troxel, 2002). The appreciative frame eliminates a presumed need to defend or justify bad experiences and encourages interviewees to dare push the boundaries with personal stories in lieu of sharing rehearsed information taken from their normative stock (Michael, 2005). By providing interviewees with a new perspective on their lived experience, the appreciative frame awakens their generative capacity and evokes fresh interpretations and new insights (Avital & Te'eni, 2009). In all, the appreciative interview generates an uplifting and high-spirited affirmative experience that is gratifying for both interviewers and interviewees (Schall, Ospina, Godsoe, & Dodge, 2004).

Even though appreciative interviewing takes a positive world-view, it does not deny deficiencies and criticism (Elliott, 1999). Certainly, it would be naïve to posit that there are no problems to be solved or flaws to be fixed. By applying the appreciative interviewing method, researchers merely invite participants to explicitly and intentionally put all the caveats aside and to focus on identifying and building upon what the interviewees consider to be strengths and opportunities for positive change.

3.2. Illustration: Reexamining Information Systems Success

The appreciative interviewing method was used in a study that sought to reexamine the socio-technical determinants associated with successful information systems projects (Avital, 2003). More specifically, the study explored the main capacities that enable and drive successful IS projects. The interviewing method was chosen for its support with identifying unrehearsed highpoints and success stories in a situated context.

The appreciative interviews were designed to stimulate a conversation about IS projects with an emphasis on the mélange of IT professionals' lived experience and espoused values. The interviews began with a reflection on personal experiences, which set the stage for envisioning and blueprinting that was nevertheless grounded in concrete events and authentic contexts. The sessions started with a retrospective discovery of core personal and organizational capabilities. It then gradually developed into a prospective exploration of what might be at the project-level. The projections focused on envisioning an ideal environment for information systems projects and drawing possible trajectories toward this preferred world. In this particular study, the design of the appreciative interviews was built on appreciative inquiry (Cooperrider & Srivastva, 1987) and experiential learning (Kolb, 1984), which were integrated into a coherent and comprehensive interviewing framework (See Table 1.)

Table 1
The process and outcome of an appreciative interview about IS projects.

Interview phase	Retrospective		Prospective	
Guiding question	What is		What might be	
Elicitation mode	Concrete experience	Reflective observation	Abstract conceptualization	Active experimentation
Probing process and outcome	Grounding the conversation in elicitation of highpoints and concrete positive lived experiences of the interviewee by exploring a time when he or she felt most alive, most involved, or most excited about his or her professional life.	Exploring the core espoused values, proficiencies and best practices of the interviewee and his or her organization. Then, with the core capacities in mind, examining examples of outstanding information system project.	Envisioning a blueprint of an ideal IS project based on the previous observations in an attempt to depict an archetype of a successful IS project and the key requirements for realizing it.	Constructing a path to realizing the envisioned archetype based on the core capabilities and the fresh insights that were gained throughout the conversation.

The conversations did not focus on a retrospective clinical analysis, but rather sought to surface stories, episodes and incidents attributed to the success of a particular project. Much like the critical incidents approach (Flanagan, 1954), the interactions with participants were designed to probe for perturbations of the status quo. However, in contrast to the critical incidents approach, which tends to focus on the negative interruptions of a status quo, the interviews sought success stories and virtuous patterns, i.e., appreciative critical incidents.

The interviews yielded diverse views on IS projects as seen through the eyes of IT professionals. Participants shared what they valued about their work, what they considered a successful project, and what they perceived as enablers of success. This process revealed a new class of success factors not previously articulated in the IS literature. For example, project success was linked to having the ability and opportunity to make a difference in the organization, to being part of an organization that values learning and that promotes personal growth, and to working in a challenging job that routinely requires puzzling and that allows for the exploration of new horizons. All these relate to personal affect, that is, the IT professionals' mental and emotional state, their mood, disposition, feelings about their job, sense of self-worth, and level of aspiration. Interestingly, despite their positive disposition, the appreciative interviews did not only elicit this new class of success factors, but also the ones established in the literature.

However, the appreciative interviewing method is not without its challenges. While the evocative power of the method stems from the application of the positive lens, some interviewees experience difficulties embracing it. For example, some interviewees find it difficult to stay in an appreciative mode and tend to drift toward a problem-solving mode. Some also find it hard to express themselves in a narrative form and drift toward a clinical analysis. Finally, some experience difficulties envisioning futuristic and ideal worlds because their imagination is constrained by their view of the past and the present.

Despite these challenges, many interviewees find appreciative interviews stimulating and invigorating, as illustrated by this personal account from one participant in another study:

"I remember my first [appreciative] interview with Tojo because of my apprehension and guardedness going in. What was he going to ask me and how would I respond? I didn't want to reveal "too much." However, his first question completely overwhelmed me – I was awestruck. I don't remember exactly what I said but I talked and rambled for about half an hour. Tojo seemed completely absorbed in all that I was saying, only interrupting to gain clarity. His second question seemed even more thought provoking and I talked for far longer than either of us had imagined I would. By the time we got to the third question, Tojo was far behind in his interview schedule and I was surely missing something important as well but I felt a rush giving another response. I still remember the feeling I had when the interview was over: someone affirming and appreciating my involvement with the ICA exhilarated me... Other colleagues reported they had had a similar kind of response. Clearly, appreciative inquiry had tapped a deep wellspring in all of us. ...We were struck at how well these two "outsiders" had so quickly and accurately grasped the nature and spirit of our organization – not just what we do, but who we were." (Troxel, 2002, p. 9).

3.3. *Laddering interviews*

A laddering interview, which is frequently considered part of the Repertory Grid (or RepGrid) method in IS (Tan & Hunter, 2002), adopts a socio-cognitive lens to individual, as well as organizational, sensemaking. Sensemaking is influenced by individuals' personal perspectives. One way of conceptualizing these personal perspectives is in terms of personal constructs, which are people's internal ideas or theories about how the world works (Kelly, 1955). The objective of laddering interviews is to capture both the content and the structure of these personal constructs, as these are both the antecedents and outcomes of people's attempts to order their lived experience.

Even though the RepGrid method has been used in a number of IS studies (e.g., Hunter, 1997; Davis & Hufnagel, 2007; Napier, Keil, & Tan, 2009), we want to highlight laddering as a powerful technique for generating rich data in that laddering guides interviewees' access to the multiple layers of meaning

associated with their life world. In particular, our focus will be on soft laddering (Grunert & Grunert, 1995), which allows the interviewee the most freedom of association and expression.

The RepGrid represents participants' systems of personal constructs, which comprise elements, constructs, and links. *Elements* are the subject within the domain of investigation. For instance, in a study on the critical success factors of IS projects, different projects would constitute the elements. *Constructs* represent the research participant's interpretations of the elements, e.g., traits of a successful IS project. These constructs are implicitly or explicitly dichotomous. *Links* show how the research participants interpret elements relative to construct. However, they also show how the constructs relate to each other in a hierarchy of *attributes or antecedents* at the bottom, *consequences* in the middle and *values* at the top (Reynolds & Gutman, 1988). This hierarchical system of links is also referred to as a means–ends chain (Bourne and Jenkins, 2005) as it traces the causal paths individuals rely on to structure and make sense of their experiences.

A laddering interview consists of two main phases (Reynolds & Gutman, 1988):

- 1) generating distinctions between elements, and
- 2) laddering key distinctions to identify the participant's means–ends chain.

For eliciting interviewee's personal constructs, Kelly (1955) advanced the triadic sorting technique, which relies on comparison and contrast to identify as many meaningful distinctions as possible between elements (e.g., IS projects), as well as the bi-polar opposites that define them. Using at least 3 elements, the researcher will ask (for as many unique combinations as possible): “How are these two elements similar to each other, yet different from the third?” It is important to use at least 3 concrete instances as elements for the triadic sort in order to avoid false dichotomies. If only two instances are compared it is likely that their differences will overshadow their similarities.

Laddering builds on triadic sorting in that it seeks to gain insight into the participants' underlying assumptions about the constructs in their web of associations. In effect, laddering encourages the interviewee to elaborate on the meaning of his/her personal constructs by narratively forging links between them. This is achieved by asking how and why questions. However, since the laddering process typically starts with the favored pole of the attribute the interviewee has identified, the researcher needs to determine the participant's preference. In a study on IS projects, for instance, if the participant identified “disciplined” as the preferred pole of the “project management practices” construct, the researcher might ask the following laddering question: “why is disciplined project management important to you?” If the interviewee responds “because it lets our business clients see that we in IS know what we're doing,” the researcher might continue with “why is it important that your business clients see that IS knows what it's doing?” By repeatedly probing the significance of attributes, the researcher guides the participant in the construction of his/her means–ends chain, that is, the hierarchical meaning system that is made up of (abstract) values, consequences and (concrete) attributes.

The researcher has many design choices with regard to element selection and construct generation. For instance, in hard laddering, the researcher limits the interview to pre-determined elements and constructs. In soft laddering, however, participants generate their own elements and use their own language to define constructs and their dichotomous nature. This generates context-rich data and increases the likelihood that the results are grounded in the interviewee's own experience and understanding.

3.4. Illustration: customer involvement in B-to-B development

Soft laddering was used to study the involvement of revenue-generating customers during the development of Business-to-Business (B-to-B) applications in order to gain insight into the IT capabilities needed to support customer co-production (Schultze, 2007). The premise of the research was that the customer-facing B-to-B context is one of the most challenging, as the financial implications of losing even a single customer due to problems with the development process and/or the final solution may be significant.

When trying to identify research participants, namely, seasoned IT professionals (e.g., senior IT consultants and CIOs), it was surprising how few had experience with implementing customer-facing B-to-B applications and that their experience was generally limited to one project. In light of this relatively small data set, laddering was chosen because of its ability to generate deep insights from a limited number of

elements. This is because triadic sorting allows participants to leverage their experience with other projects (e.g., internal or B-to-C applications) to elicit attributes of customer-facing B-to-B projects. Furthermore, laddering helps identify these attributes' significance. Thus the primary motivation for using laddering in this project was to draw as many insights as possible from participants' limited experience with developing a certain class of application, rather than the mapping of their RepGrids. Essentially, the goal was to identify key attributes of the customer-facing B-to-B systems and their implications for customer involvement strategies.

During the hour-long interview, conducted primarily in a face-to-face setting, the researcher began by asking open-ended questions to get the participant thinking about the unique challenges B-to-B applications present, their own experience with implementing these solutions and the customer-involvement strategies employed. The researcher then wrote the name of a customer-facing B-to-B application that the interviewee had described onto an index card. The participant was then asked to identify and briefly describe at least two other projects in which they had been involved in a similar capacity (e.g., project manager, CIO).⁶ These were also written on index cards. The index cards were used as visual aids throughout the interview. For instance, during the triadic sort the two projects to be compared were positioned close together, whereas the project to be contrasted was placed apart.

As the participants compared and contrasted the projects in each triad, they generally elaborated on their initial description of the projects. A by-product of their emerging narrative was the project attributes and the bi-polar opposites that defined them. For instance, one participant identified "mission critical" and "operational" as the poles describing the project attribute labeled "strategic value." Each attribute and its oppositional descriptors were captured on an index card.

Once all the triadic combinations had been exhausted, the researcher then shared the index cards featuring the attributes and their polar opposites. This step was generally met with expressions of "that's interesting!" from the interviewees, who were surprised at the number of characteristics they had identified. Capturing their distinctions made their understanding explicit and inspired further sensemaking. Many immediately drew relationships among the index cards, generated heuristics about successful systems development and elaborated on the projects. For instance, one interviewee, who had initially struggled with the triadic sort, remarked:

"I think for a lot of people the level of customer trust is a [prerequisite] for JAD sessions. In other words, even internally, people are more willing to give you their time if they believe they'll get what they want. Interesting. I hadn't thought about that. Maybe it's not an insight for you but it's an insight for me. Thank you. ... That's a neat exercise once you get into it."

Given the participants' status and time-constrained schedules, the interview was promptly concluded after an hour. This meant that there was not enough time for extensive laddering. The participants were therefore asked to identify the three attributes that had the most significance with regard to customer involvement. For each, they were repeatedly asked: "why is this important?" They were also asked to rank the three projects in terms of overall system success and successful customer involvement. Interestingly, these did not always line up, suggesting that good customer involvement does not necessarily lead to overall system success.

It was interesting to note the increasing depth and contextual richness of participants' responses as the interview moved from a traditional question–answer format to laddering. For instance, during the initial question–answer part, a typical answer to the question "what are some of the unique challenges with regard to customer involvement in the development of customer-facing B-to-B solutions?" would be:

"Key among those would be getting the right people for the right duration of time. ... having subject matter experts, empowered subject matter experts, that is people that when they tell you it should be blue, blue is likely to stick. ... having people who come and then are overruled in a subsequent session will kill you."

⁶ In most cases, the number of projects was limited to three. The addition of only one more project added considerable complexity and time to the interview.

In contrast, after laddering, interviewees generally arrived at a richer, more nuanced and less abstract understanding of who the customer involved in B-to-B development should be. The following quote illustrates this:

“I believe customer involvement is more important in a B-to-B just because you control fewer of the variables. But one thing that changes is you want to carefully pick your user inputs to give you the broadest input across different practices. The more you get to B-to-B, the more you need to understand the diversity of the environment and where you can control it. ... in a B-to-B, you need to be tougher in the way you pick your customers. You need to pick the extremes, not just the norm. Or you need to know what the extremes are. ... Interesting.”

3.5. Photo-diary interviews

The “photo-diary: diary interview” method (Latham, 2003), referred to here as simply the photo-diary interview method, combines diaries and visual representations in support of an interview. Both make the interview more concrete in that they capture experiences and make them explicit, thereby objectifying them for later analysis. Rubin and Rubin (2005: 37) point to the benefits of “concrete illustrations” highlighting that they “help ground the answers in the experiences of the interviewees in ways that provide nuance and precision, context, and evidence all at the same time.” Furthermore, both diary- and image-based methods enhance data completeness. While diaries enhance historical completeness, images (such as drawings or photographs) enhance completeness with regard to knowledge. Images can make different parts of human consciousness, such as tacit knowledge, accessible to both the researcher and the interviewee because they address the limitations of language as a means of creating and communicating knowledge (Bagnoli, 2009).

Diaries are not so much intimate journals as annotated logs kept by the research participants themselves (Zimmerman & Wieder, 1977). Diary methods approximate observational research and are particularly useful in situations where first-hand observations are not possible (Czarniawska, 2007), e.g., in computer-mediated environments where participants are simultaneously on- and off-line. This is because diarists essentially take on an adjunct-ethnographer role, observing and recording their own performances and well as those of the people around them (Zimmerman & Wieder, 1977). Thus diaries serve the function of field notes (although of varying quality) in that they provide the researcher the opportunity to gain at least some modicum of access to naturally occurring events whose meaning can then be explored in the subsequent diary interview.

When these diaries are used as the basis of intensive interviewing, they support question- and data-generation in a number of ways. For the interviewee, they serve as a memory aid and as a way of accessing past situations, experiences and emotions during the interview. Additionally, by committing past events to writing, the interviewee can analyze and apply different perspectives to these externalized representations. This encourages reflection and new ways of interrogating and understanding past events. Diary interviews thus stimulate meaning making.

For interviewers, the benefits of diary interviews derive from the researcher's ability to prepare for the interview as diaries are submitted ahead of time. This allows the interviewer to get in tune with the participant's world to some extent and to develop an empathetic understanding of interviewees and their experiences. In addition, the diary allows the researcher to gain insight into the interviewee's vocabulary, which reduces ambiguity. The researcher can also formulate situation-specific questions, including ones where the interviewee compares and contrasts different entries in the diary. Such detailed questions help move the interview beyond a mere recounting of actual events toward a deeper and more meaningful narrative that provides insight into how the interviewee constructs a coherent world and identity.

There is a danger that the photo-diary method is viewed from a neo-positivist perspective, as the notion of a diary in general and photos in particular imply that the recorded events ‘really’ happened in the manner described. However, given our romantic-localist perspective in this paper, we view this method as a way of structuring the narrative reconstruction of the participant's lived experience and its meaning in an interview setting.

3.6. Illustration: the avatar–self relationship

The photo-diary method was used in a study that explored the avatar–self relationship in Second Life (SL), a virtual world (Schultze & Leahy, 2009). As this relationship was theorized to be not only multiple and dynamic, but also the result of the visual interaction between the player and his/her virtual representation, the photo-diary method appeared well suited to the research objective. The diary helped identify a variety of incidents and settings in which participants interacted with their own avatars, as well as with others in avatar form. The screenshot of what the participant was seeing during the reported incident captured not only his/her visual experience at the time, but also did so with more detail and completeness than a verbal description would have been able to convey.

In this study, participants were asked to continue normally in their virtual world activities. When they encountered places, people or events that were in some way meaningful or important to them, they were to take a snapshot. There were multiple reasons why a record-highlights versus a record-everything journaling approach was adopted. A record-everything approach instructs diarists to record every mundane detail of their day. Given the space-time compression of electronic environments, this was regarded as too onerous. Furthermore, a record-everything approach generates so much data that diary interviews can take up to 5 h (Zimmerman & Wieder, 1977). Keeping participants focused for such a long time period was infeasible as the photo-diary interviews were conducted over the phone. Additionally, significant incidents as well as moments of breakdown lend themselves more naturally to the narrative construction of meaning (Bruner, 1990).

Since SL has a built-in snapshot feature, it was very easy and efficient for participants to create a visual record of incidents. They were given a photo-diary template into which they pasted the snapshots. Following Zimmerman and Wieder (1977), the template outlined 6 questions (i.e., when, where, who, why, what, and how) that participants completed to annotate each snapshot. This significantly reduced the time burden typically associated with diary methods.

For a given week, participants were asked to complete at least 5 photo-diary entries. Diary methods frequently set weekly cut offs (Zimmerman & Wieder, 1977), as weeks represent a naturally recurring cycle and the time window aids recall. For most, logging 5 significant incidents per week proved unproblematic as they spent at least 10 h a week in-world. This implied that they were sufficiently engaged in SL to have purposive activities, friends and group memberships. In turn, the likelihood of their photo-diaries reflecting naturally occurring incidents rather than encounters they sought out to satisfy the research was increased.

During the photo-diary interviews, which were 1-hour phone interviews, the incidents documented in the photo-diary were used to explore the participants' avatar–self relationship in a situated context. These interviews were not guided by an interview protocol; instead, the researcher prepared questions based on her reading of the photo-diary. Probing questions were asked based on insights gained from prior interviews (the three photo-diary interviews typically commenced the week after an initial 2-hour face-to-face interview), as well as incidents in the current photo-diary and previous ones. The questions were intended to stimulate the interviewee's sensemaking around the degree of integration and segregation between their avatar and themselves.

Furthermore, interviewees were asked to describe what they saw in the pictures they had taken, how they were using their avatar in the scene and what was going on for both their avatar and themselves in that scene. They were asked why they had taken a given snapshot in a certain way, what they were trying to express and whether the camera angle evident in the snapshot was representative of how they viewed and experienced the scene.

It is interesting to note that many of the participants enjoyed the photo-diary interview process. For a number of them, taking photos to chronicle their SL experience was a common practice. However, annotating the snapshots and discussing the incidents, experiences and emotions they captured were new to most. Indeed, many noted that they had not thought about SL and their relationship with their avatar so deeply before. One participant said:

“I started talking to like some of my other friends about how they feel and if what happens in Second Life really affects them and all, and have kind of like heard that yes, it does. And they've all kind of given it some thought, which has been interesting. ... I don't know that I really would have thought about that having not been talking to you.”

For some this study was the first time that they had talked to anybody in “real life” about their SL lives. Numerous participants likened the photo-diary interviews to therapy because of the self-reflexive and self-examining stance they were taking towards their lived experience, their beliefs and values. Some reported that they had learned a lot about themselves:

“I really do appreciate being part of this [study], because I got as much out of it as — or more out of it than I ever expected. ... I think I have a lot more awareness of the division between [me] and [my avatar]. In that, I think I've become a lot more secure and confident as both a person and as an avatar, and a person with an avatar. In that I don't think there's any confusion with me about what I'm doing in Second Life, why I'm doing it, why I'm investing so much time in it and that it's not like — I mean, some people would be embarrassed by it but I'm not embarrassed by it.”

The increased self-awareness and confidence that this participant remarked on evolved over the three weeks of photo journaling and the diary interviews.

Similarly, the level of trust between the researcher and the participants generally increased with each photo-diary interview. Some participants only shared their most intimate thoughts and feelings in the final interview, suggesting that the photo-diary interview method is enhanced by multiple interactions (Polkinghorne, 2005).

4. Discussion

In this paper we seek to address the lack of methodological sophistication of interview-based IS research as noted by Myers and Newman (2007) and our follow-up review of the IS literature. In particular, we contend that more attention needs to be paid to means of generating rich data during interviews in order to live up to the interview method's promise of gaining insight into people's life world based on their own experience and the meaning they make of it. While we acknowledge that interviews are sites for generating situated accounts of people's experiences and that they are compromised windows on reality, we nevertheless do not dismiss interviewee's accounts as fabrications, uniquely constructed for the researcher. Instead, we maintain that by seeking to generate rich data, researchers have a better chance of identifying and addressing instances where the interviews are used for political action, impression management and identity work, for instance. In other words, the pursuit of deeply nuanced accounts and rich data that facilitate thick descriptions enhances interviewers' capacity for reflexivity and criticality.

Mixing elements of the romantic and localist perspectives on interviewing (Alvesson, 2003), we adopt a view on interviewing that highlights the researcher's active engagement in the interview and the interview as an occasion for producing situated and morally adequate accounts. By implication, methods capable of generating rich data need to exhibit the following characteristics: (i) grounding the interview in participants' own experiences, (ii) acknowledging and valuing participants' narrative (re)construction of their experiences, and (iii) providing an explicit framework for guiding the participants throughout the interview to articulate and interpret their experiences. The three methods that we introduce and illustrate in this paper meet these criteria.

In order to provide guidance on when each of these methods is most appropriate we need to consider their differences (see Table 2 for a summary). We do not argue that any of the methods is superior to the others; instead, we contend that each provides value if used appropriately given the objectives, scope, context and theoretical assumptions of the research.

With regard to research objectives, appreciative interviewing builds on relational constructionist views to facilitate a process that surfaces generative experiences and a pathway to visionary futures. It is therefore appropriate for studies that examine core capabilities, design requirements, success factors, aspirations, and future concerns in the context of personal and organizational life. Laddering facilitates a process that surfaces personal constructs, both at the individual and group levels. It is therefore useful in studies on core beliefs and values that drive behavior in organizations. Grounded in phenomenological and critical perspectives, photo-diary interviewing facilitates a process that not only makes lived experiences explicit, but also interrogates and re-evaluates them for personal insights.

Table 2
Summary of interviewing methods.

<i>Interview approach</i>	Appreciative interview	Laddering interview	Photo-diary interview
<i>Study objective</i>	Core capabilities, design requirements, success factors, and aspirations	Personal constructs systems, its structures and hierarchical relationships	Meaningful incidents and explanation of events, behaviors, and emotions in that context
<i>Interview questions disposition</i>	Positively deviant and action oriented	Structure and pattern seeking	Re-constructive, critical, and self-reflexive
<i>Data generation logic & discussion aids</i>	Reframe lived experience with a positive lens to construct pathways to aspired futures	Compare and contrast through triads and means-ends analysis	Reflect through annotated visual snapshot to capture event and informant's situated emotions and thoughts
<i>Interviewer role</i>	Help with positive reframing	Give examples and probe	Facilitate the interpretation of photo-diary entries

The methods also vary in their appropriateness in certain research settings. For instance, while appreciative interviewing and laddering can readily be used in organizational contexts, photo-diary interviewing might need to be adapted to an off-line organizational situation where picture taking or video recording might be inconsistent with common practice. However, as digital photography is increasingly embedded in mobile devices such as phones, social norms around photographing and video recording events in everyday organizational settings are likely to change. For instance, people increasingly take digital photographs of information on a white board or a display, thus efficiently copying non-digital information. Additionally, as more and more work is done in virtual spaces, mediated by videoconferencing, screen-sharing software and increasingly virtual worlds (Richards, 2008, Gartner, 2009), the photo-diary interview method becomes increasingly feasible as a means of studying everyday work practices, as participants can simply make screenshots in order to capture incidents.

The photo-diary method benefits from repeated researcher–participant interactions, as does the appreciative interviewing method. In contrast, the laddering technique benefits from having a long interview so that the significance of the attributes that distinguish elements (e.g., IS projects) can be ladder to the highest level, i.e., the interviewee's values.

One key difference among interviewing methods is the kind of questions they instruct interviewers to ask. In appreciative interviewing, questions are framed in a positive, hopeful, and generative fashion to evoke highpoints and visionary thinking. By design, the questions flow from a personal to a collective focal frame of reference, and from a retrospective to a prospective orientation. In laddering, questions probe for elements, constructs, and links and the relationships among them. And in photo-diary interviews, questions encourage self-reflection and the surfacing of tacit knowledge, feelings and meaning.

The methods also differ in their data generation logic and their use of discussion aids. Appreciative interviewing builds on a semantic framing that seeks to stir up virtuous cycles of insightful narratives. In contrast, laddering and photo-diary interviewing rely on visual materials, which serve not only as a memory aid for everyone involved in the interview, but also as a way of disambiguating the conversation. Laddering uses index cards to support the analytical processes of comparing and contrasting, as well as the unearthing of means–ends chains. In photo-diary interviews, the visual materials play a more central role in that the photographs capture incidents in ways that are more detailed and contextualized than any text could. These photographs also serve as the object of the participant's reflection.

Another distinction among the methods relates to the interviewer's role and appropriate degree of intervention. The interviewer's role in appreciative interviewing is the most interventionist in that he or she instructs participants to reframe their lived experience and approach to the world with a positive lens. In other words, the interviewer encourages interviewees to focus on generative instances and suppress low points and deficiencies. This challenges most interviewees' ingrained mental models. In laddering, the researcher can adopt a relatively non-interventionist stance, provided the participant does not get stuck and ask for help, and provided there is enough time to ladder all attributes. However, given the time constraints, the interviewer significantly shapes the account being generated by selecting the elements and attributes to focus on, and by deciding how far to ladder an attribute. In the photo-diary interview, the interviewer is very active as he or she needs to imagine multiple story lines when interpreting the diary's

photos and annotations ahead of the interview in order to formulate interview questions. However, this interviewing method does not curtail the participant's freedom of expression.

Having summarized the key similarities and differences among the methods, we need to stress that we believe that these methods will enhance the generation of rich data even if they are used partially or in combination with other research methods. As our illustration of the laddering method shows, even the partial application of a method can yield valuable insights by stimulating the interviewee's sensemaking capacity during the interview. In addition, laddering's triadic sorting, i.e., comparison and contrast, was used as part of the photo-diary interviews in order to guide the interviewee down the layers of his/her experience. Thus, consistent with our orientation of pragmatic reflexivity to interviewing (Alvesson, 2003), our contention is that interview-based research in IS will benefit from experimenting with different methods focused on generating rich data.

5. Conclusion

The departure point of this paper is Myers and Newman's (2007) observation that very few interview-based IS studies rely on identifiable data generation strategies. We argue that this lack of methodological sophistication presents a missed opportunity, as there are numerous established interviewing methods that could fruitfully be applied to IS topics. In this paper, we therefore introduce three such methods, namely, appreciative, laddering and photo-diary interviews. Except for laddering, which is frequently a part of Repertory Grid studies, these methods are underutilized in IS research. As our illustrations demonstrate, however, they have considerable potential for generating rich data and for recognizing when interviews are less windows on reality than sites for political action, impression management and identity work.

It is our hope that this paper raises awareness of the overall objective of interviewing and the kind of data that it should ideally generate. Furthermore, we hope that this introduction to the diversity of interviewing approaches and their respective benefits and challenges will stimulate experimentation in empirical settings, lead to better reporting on interviewing methods in academic articles, and encourage future research on methods for generating rich data.

We contend that adopting the methods outlined in this paper, either wholesale or in part, will strengthen not only qualitative IS research, but IS research in general. Given that qualitative research is frequently a discipline's theory-development engine, enhancing the data quality through more sophisticated data generation techniques, will ultimately lead to more complete insights and better theorizing. Since interviewing represents the most widely used qualitative research method, an improvement in this method's credibility and results should have a significantly positive impact on the field.

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