Affordance Theory Perspectives on IT and Healthcare Organization

Research-in-Progress

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Abstract

Affordance theory has promise for studying technology’s role in organizational change. By distinguishing properties of technology and their affordances in relation to its users, it facilitates the examination of technological consequences whilst avoiding technological determinism.

This paper argues that it is useful to explore affordances and consequences of their actualization (or the lack of) at an organizational field level, because they might emerge from phenomena cutting across organizational and technological boundaries. Such a focus would include exploration of technological architectures not just specific artefacts, and mapping of complimentary affordances, as well as discontinuities helping or hindering organizations in achieving a shared goal.

The paper introduces our study of IT-enabled change programs in healthcare to illustrate how such research might be conducted from the affordance theory perspective. Our ultimate aim is to contribute to the development of the affordance theory at an organizational field level.

Keywords: Affordance theory, organizational field, information technology, healthcare integration

Introduction

Information Technology (IT)-related changes in work organizations, organizational forms and make up of organizational fields cannot be fully explored unless technology is considered as a significant constituent element, rather than as simply facilitator of change. The concept of affordance, originally articulated by Gibson in 1977 has been proposed as a promising approach to study IT's design (Norman 1999) and consequences (Strong et al. 2014; Zammuto et al. 2007). Gibson (1977 p.67) defines affordances of an environment as “a specific combination of the properties of its substance and its surfaces taken with reference to an animal”. “[t]he affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill.” (Gibson 1986 p. 127, original italics).
In organization and information systems (IS) literature substantial theoretical efforts have been made to adapt and develop affordance theory for the purpose of researching technological artefacts (Hutchby 2001; Kallinikos et al. 2013; Leonardi 2013; Markus and Silver 2008; Strong et al. 2014; Treem and Leonardi 2012). The majority of papers on affordances focus on the relation between technology and an individual or a group. Although there have been calls to broaden the focus either to organizational level in order to study IT-associated organizational change (Pozzi et al. 2014; Strong et al. 2014; Zammuto et al. 2007) or even to a societal level (Vyas et al. 2008) the development of the theory into those areas has been limited. Notable exceptions include papers by Zammuto et al. (2007), Volkoff and Strong (2013) and Strong et al. (2014). Zammuto et al. (2007) sketch out affordance theory for organizing properties emerging from the interweaving of IT and organizational features. They discuss implications of IT affordances for organizational functioning and performance but do not provide empirical examples and guidelines how such a theory could be applied. Strong et al. (2014) on the other hand, build on ideas developed by Volkoff and Strong (2013) and base their theoretical contributions to affordance theory on detailed, grounded-theory led analysis of a multi-site organization. However, they primarily focus on actualization processes and limited their analysis to one organization (albeit with multiple sites).

Two main areas for further research on IT affordances at an organizational level are suggested in the literature: (1) how affordances come to be and change, and how organizational boundaries form (Zammuto et al. 2007), and (2) how outcomes occur and what goals are achieved due to the affordance actualization processes (Pozzi et al. 2014). Both areas are important but we argue here that we should not limit research focus to individual organizations. It is useful to develop an understanding of IT affordances and their potential consequences at an organizational field level. An organizational field, as defined by Scott (2008) is “a community of organizations that partakes of a common meaning system and whose participants interact more frequently and fatefuly with one another than with actors outside the field”. The organizational field comprises actors (individuals, such as patients and doctors) and organizations (e.g. hospitals and professional associations), institutional logics (i.e. norms, beliefs and systems of meaning that guide behaviours, e.g. of medical specialities) and governance structures (regulatory and normative frameworks) (Scott et al. 2000). This definition aptly describes the UK’s National Health Service (the NHS).

Often academic papers, media and policy documents express the transformative potential of IT at a level of an organizational field (e.g. integration of healthcare delivery) or even across different fields (e.g. integration of health and social care delivery, as in current English policy). Agarwal et al. (2010) suggest that impact of IT on healthcare should be examined from a system perspective. Yet, the majority of case studies in IS are based on single organizations or groups within an organization (Currie and Finnegan 2011). Organizational field perspective is missing from affordance studies in IS literature.

So, what does the theory of affordance offer to research into the potential implications of IT on an organizational field level? First, it enables us to take into account materiality of technology and examine its effects without seeing technology as having deterministic outcomes. Technology is not reduced to its interpretations by users or made invisible in organizational practices. Second, it helps to avoid abstract discussions of technology potentialities and simplistic accounts of technology as ‘enabler’, because technology affordances are always considered in relation to someone or something (e.g. organizations, with their own logics, and operating within wider economic and social systems). Third, it does not concentrate on particular features of a technology (which might change frequently) but allows a focus on higher level ‘potential for actions’ of technology materiality for specified people (and, as we argue in this paper, also organizations). Fourth, an organizational field level of analysis, allows to study affordances and consequences of their actualization (or the lack of) that emerge from phenomena cutting across organizational and technological boundaries. For the above reasons we believe that developing organizational field perspective on affordance is a worthwhile endeavour. Thus, in this paper we address the following research questions:

• What are the key concepts that constitute IT affordance theory on an organizational field level?
• How can we study affordances on an organizational field level?
• What can the theory of affordance add to our understanding of potential of IT on an organizational field level (specifically about organizing of healthcare in relation to the goal of integrating healthcare)?
To address those questions we chose as our case study the healthcare field in England. We have focused on the goal of integration of healthcare delivery, particularly in relation to patients’ medication management. Healthcare integration provides exemplary case exploring new ways of organizing and the associated changes to organizational and professional boundaries. It implies the need for organization field level research (in addition to more common single-organization studies). The goal of ‘healthcare integration’ is expressed in England’s national policy papers and linked to different technologies (such as electronic health records and electronic prescribing). In academic literature IT is proposed as having a key role in facilitating integration of services provided by primary care (general practitioners), secondary care (hospitals), community (e.g. nursing homes and social care) and insurance companies (Agarwal et al. 2010; Gianchandani 2011). More recently this aspiration has been extended to systems used and data generated outside institutional boundaries by patients and citizens. However, more research is needed into the role of IT in new models of health care delivery (Kaushal and Blumenthal 2014), and new business models in healthcare (Christensen et al. 2008). Our extension to the affordance theory may offer one way of conducting such research.

The next section reviews the literature on affordance theory, focusing on key concepts that will form the building blocks of our approach. The subsequent section briefly outlines the notion of integration from the perspective of policy, healthcare practice and design. In the full paper this will be followed by an introduction and then a discussion of attempts to integrate health and social care in England, with a view of illustrating an organization field-level perspective on IT affordances. In the full paper will extend our methods section and include a new section with findings and the case study. The discussion will focus on the implications for the theory of affordance. In this current form, the paper presents preliminary contributions to affordance theory and to the understanding of IT’s role in changing the way healthcare is being organized.

Affordance theory and the organizational field level analysis

What is an affordance?

Since Gibson’s (1977) seminal work on the theory of affordances and the ecological approach to visual perception (1986) (first published in 1979) varied interpretations of the nature of an affordance have been developed based on different ontological assumptions (Pozzi et al. 2014). Conceptualizations based on realist and critical realist ontology see affordance as either purely a property of technology, or as ‘real’ (independent of perception) but also relational (only understood in relation to someone or something). On the other hand, constructivists accounts depict affordance as purely relational; not only as in relation to something but as constructed anew in the act of perceiving and enacting an affordance.

Following Gibson we subscribe to the view that affordances are relational – “properties of things taken with reference to an observer ...” (Gibson 1986 p. 137 original italics) but also real – “...not properties of the experiences of the observer. They are not subjective values; they are not feelings of pleasure or pain added to neutral perceptions.” (Gibson 1986 p. 137 original italics). “An affordance is not bestowed upon an object by a need of an observer and his act of perceiving it. The object offers what it does because it is what it is.” (Gibson 1986 p. 139). This statement is sometimes taken as meaning that affordances are independent of an actor’s general ability to perceive. This is not our understanding. We take affordances as properties that need to be (in general terms) perceivable.

What is the object in our research?

In most general terms it is IT, a configuration of objects – that includes digital objects (e.g. programs such as e-prescribing), physical objects (hardware) and conceptual objects (e.g. standards that can be inscribed in the digital). More specifically, in the study that we are describing in this paper, we are examining technologies involved in England’s Electronic Prescription Service. A number of researchers conceptualize digital objects (or digital materiality) as distinct from physical objects (Kallinikos et al. 2013; Yoo 2010; Yoo et al. 2010). For example, Yoo (2010 p.222) defines digital materiality as being “material property inscribed into the physical tools through software” differentiating it from physical materiality which involves the visible and tangible aspects of technology. The researchers suggest that digital objects have particular characteristics, which they describe in different (but nevertheless related) terms, as decomposability, adaptability, traceability and interoperability or programmability, communicability (ability to interface and interact), memorability.
(storing of data), traceability (producing information in an ordered manner), sensibility (ability to receive and read information) and addressability (to be uniquely identifiable) (Yoo, 2010). Digital objects are modular, they may consist of different layers such as the content and tasks they enable (or afford) (Yoo et al. 2010). This is consistent with Gibson’s description of nesting or embeddedness of smaller units of environment within larger units (such as canyons are nested within mountains). This nesting is not in a categorical, hierarchical manner but characterized by transitions and overlaps.

The environments, as Gibson observes, are structured and dynamic, i.e. comprised of changing configurations of substances and surfaces, which include object, layouts and events. As Kallinikos et al. (2013 p. 357) put it: “Digital artifacts are embedded in wider and constantly shifting ecosystems such that they become increasingly editable, interactive, reprogrammable, and distributable. This state of flux and constant transfiguration renders the value and utility of these artifacts contingent on shifting webs of functional relations with other artifacts across specific contexts and organizations”. Software and its components can be combined and re-combined, and the content mixed across platforms, infrastructures and systems (although clearly this is not a friction-free process). In healthcare domain, we might have a portal which combines patient’s information from different sources.

However, IT from the affordance theory perspective, should also be treated as a social object, meaning that “its influence on organizational functioning and performance cannot be separated from expertise, jobs, processes, or structures” (Zammuto et al. 2007).

What it all amounts to is that in the case of digital technology what the object is and what it offers might be difficult to conceptualize. We can approach this task by identifying ‘invariant structures’ (as Gibson calls them) or patterns in the sea of flux. As Gibson suggests change is a property of all objects and environments but there are structural invariants that still enables us to perceive continuity in the entities’ identity despite change. They are both structural invariants (remaining constant in time and with movement enable recognition of objects) and transformational invariants (invariants in the patterns of change that specify the nature of the change). Such invariants might include specific technological architectures or particular organizational configurations (i.e. we could describe how particular configurations of different technologies currently serve the needs of the health service in England and – looking to the future – what might change, what might remain and how this would alter affordances and their consequences).

What, in our research, is the animal that may take advantage of the affordances furnished by the object?

Rather than to an animal we refer to a perceiving–acting system and take, as our point of departure, a definition more widely used in recent writings in ecological psychology, which states that “[a]ffordances are real possibilities for action for a perceiving–acting system” (Wagman and Carello 2001 p. 174). The perceiving–acting system in our case comprises of institutions and organizations that can be collectively described as an organizational field. The objects offer them means to supplement their inherent action capabilities in achieving a goal. In our research we focus on the goal of integrating healthcare (which can be subdivided into sub-goals, such as sharing of healthcare records, exchanging data on medicines) set out in national policy and interpreted in organizational strategies (e.g. of individual hospitals) and enacted in practice. We note that different people within an organization and different organizations within the same organizational field are likely to have (at least somewhat) different goals. However, if we take the goal of integration as agreed upon (at least in principle – see the following section for problematization of this goal) then, we argue, it becomes useful to examine how IT might help to achieve it across organizations (that are relevant to that goal). So, we identify perceiving–acting systems (e.g. organizations and institutions) that are relevant to achieving the goal in mind and consider how affordances of IT (a particular configuration of technologies) furnish their action capabilities. But we don’t take each ‘system’ (organization) in isolation but rather map out the complimentary capabilities, actions and their consequences that are needed to achieve the goal, as well as discontinuity and conflicts (e.g. arising from different perceptions of affordances or different institutional logics). We aim at studying organizations acting on affordances and changing within a wider system/health economy.

Perceiving and acting on affordances

We assume that affordances have to be perceived and actualized for their potential to be exploited. Gibson asserts that affordances are directly perceived. This assertion has been questioned by some. For example
Greeno (1994) suggests that some affordances, that involve perception of symbols (e.g. linked to cultural systems) are recognized, rather than perceived directly. Gibson himself refers to cultural affordances when suggesting that a book affords transmitting information across generations - "they transmit to the next generation the tricks of the human trade" (Gibson 1986 p.258). Furthermore he suggests that objects must be seen within their context and that their affordances may depend on it. He explains that the postbox “affords letter-mailing to a letter-writing human in a community with a postal system” .” (Gibson 1986 p. 139). As argued by Bloomfield et al. (2010) and Petrakaki et al. (2016) perceptions of affordance are shaped by the co-existence of other individuals and artefacts and by meanings they may share within a cultural context outside the immediate use of technology.

We suggest that at an organizational field level perceptions of what an object might enable to achieve are influenced by complex political and social processes that shape a community discourse and help to produce a collective, cognitive view of new technologies – a process that Swanson and Ramiller (1997) describe as ‘organizing vision of information systems innovation’. We suggest that policy and strategy documents create a vision of IT affordances (not the actual affordances but aspirational), and conditions for their emergence and actualization (e.g. by setting targets, outlining IT deployment strategies, distributing funding, etc). Perception and actualization may involve learning. Through learning organization may become more attuned to affordances and how they might be acted upon.

Gibson (1986 p. 139) posits that “the perceiving of an affordance [...] is a process of perceiving a value-rich ecological object.” Drawing on Gibson’s work and Adaptive Structuration Theory, Markus and Silver (2008) elaborate on this, and more specifically on how values are expressed. They make an analytical distinction between technical objects (i.e. IT artefacts and their components), functional affordances (what Gibson calls affordances) and symbolic expressions. They define symbolic expressions as “the communicative possibilities of a technical object for a specified user group” related to values and expressions of functionality. Various symbolic expressions may be in conflict with each other. Thus an object, such as electronic health record, may communicate a value of transparency and openness to some clinicians, and of surveillance and oppression to others. The concept of symbolic expression helps us to incorporate more explicitly meanings and values of technology but we are unconvinced that symbolic expressions need to be separated from affordances. We follow Hutchby (2001) in asserting that affordances constrain both the possible meanings and the possible uses of technological artefacts. Thus, we suggest that the concepts of symbolic meanings (defined here as promises and values expressed) and functional affordances (as defined by Markus and Silver (2008)) although might be taken as analytically distinct, nevertheless form an integral part of affordance.

**Insights from the literature on IT-related organizational affordances**

Pozzi et al. (2014) suggest that an organizational affordance can be thought of as the potential for coordinated action by a group of actors, such as teams or business units. Those groups may originate, perceive and enact affordance with the intention to fulfil organizational goals. Zammuto et al. (2007 p. 752) introduce “affordances for organizing as a bridging concept that emerges from the intersection of IT systems and organization systems". They discuss five possible ‘organizing’ affordances that afford possibilities for new forms of organizing; visualizing entire work processes, real-time/flexible product and service innovation, virtual collaboration, mass collaboration and simulation/synthetic representation (capability to conduct what if-scenarios). They note that affordances for organizing depend on functionality of IT and “expertise, organizational processes and procedure, controls, boundary-spanning approaches, and other social capacity present in the organization” (p. 752).

Strong et al. (2014) claim that organizational-level outcomes of affordances arise from the aggregation of individual level outcomes. They analyse how individuals perceive and actualize affordance (i.e. of what Electronic Health Record (EHR) enabled them to do or restricted them from doing, and how what they did might have changed). Based on those accounts and by linking them to organizational goals (such as ‘provide high quality patient care’) they identify (what they call) ‘organizational affordances’ as emerging from the relation between EHR and the healthcare organization. They also introduce three measures to assess how individual actions and outcomes contribute to emergence of organizational level outcomes, namely: ‘consistency’, ‘extent’ and ‘alignment’. They illustrate that to understand organizational change afforded by EHR we need to consider ‘the bundle of affordances’ and examine how they are interrelated and how they interact, taking into account that their actualization may contribute to achieving multiple goals. Their bottom-up approach is open to criticism that ‘emerging’ aspects may not be captured by
individual accounts. Leonardi (2013) argues that shared affordance, i.e. arising from a group using technology in a similar way to jointly realize affordances the technology enables is not simply a sum of individual affordances and should be studied at a group level. Pozzi et al. (2014) advise that organizational actualization of affordances should be studied in terms of actions taken by an organization seen as a whole rather than simply as the sum of actions taken by actors or groups of actors. They do not suggest how it might be accomplished and in their definition of affordance (given earlier) they refer to groups rather than ‘organization as a whole’.

**IT-related organizing affordances at an organizational field level**

We refer to ‘organizing’ rather than ‘organizational’ affordances to indicate our focus on actions and their consequences (i.e. on what affordances enable to do). We conceptualize IT affordances on an organizational field level as real possibilities for action towards a shared goal for organizations comprising the field. Those affordances are **real** (i.e. not dependent on interpretation) but also **relational** (always in relation to the organizations comprising the field) and **intermingled** with different actors and affordances (technological artefacts, people, organizations, as well as regulations and standards, etc.) and positioned in a socio-cultural context. Our approach to studying affordances includes the following steps:

1. Identifying the boundaries of the organizational field under study and its main stakeholders;
2. Limiting the focus to a particular goal or goals that the perceiving-acting system is trying to achieve;
3. Approaching IT as a constellation of digital and physical objects (taking into consideration their particular characteristics) whilst acknowledging that IT should also be treated as a social object that cannot be easily separated from context-specific arrangements, power relations and practices which are situated and time-specific (Berg et al. 2003; Kling 2000; Zammuto et al. 2007);
4. Studying how affordances emerge, evolve and shape organizational forms and functions (Zammuto et al. 2007) across the field;
5. Looking for invariant structures in the constantly shifting ecosystems;
6. Focusing on boundary crossing (e.g. organizational and professional);
7. Exploring inter-dependencies and complementary affordances (e.g. between organizations) as well as discontinuities and conflicts;
8. Embedding analysis of affordances in broader context of regulatory regime, economic conditions and events.

**Affordances, organizational fields and integrated health care**

The need for an examination of an organizational field level of affordance becomes apparent when attention is given to the current agenda for integration of health care, and in the case of the United Kingdom (UK), integration of health and social care. A review of the contemporary literature both in the UK and elsewhere illustrates the usefulness of the notion of affordances to the understanding of development and use of IT systems that are to enable ‘integration’ of healthcare. In presenting this we offer the perspective of policy, health care practice, and design.

In the case of integrated care, whilst this has been a topic that has appeared in many policy discourses, formal definitions are rare, leading to a lack of clarity as to what the concept represents. For example, Sheiman and Shhevski (2014) commentating on health care in the Russian Federation, talk of a healthcare system built on teamwork between different stakeholder groups with care coordination being undertaken by a single healthcare provider. In contrast, Enthoven (2009), discussing integrated delivery systems in the United States, attention is given to the notion of organized, coordinated and collaborative networks, which provide coordinated, vertically integrated services to patients and communities, and which have clinical and financial accountability (Alley et al. 2016).

In the case of the UK, despite the notion of integrated care appearing in policy documents since 1997 (Department of Health 1997), the term has never been formally defined reflecting an underlying ambiguity over its meaning. Indeed, the only example we found was one from the patient group, National Voices (2013). In their work, they describe a patient-based approach in which the emphasis is on the patient having their care planned by those working together in the patient’s interests, who allow the patient control of care, and who bring together services to achieve those outcomes of importance to the patient. In UK’s policy integration is often expressed in relation to sharing of information by healthcare professional and patients.
and using it to provide ‘seamless care’. This vision is often linked to IT seen as enabler of those goals. In particular, attention has been paid to the design of electronic health records, and integrated digital care records as a means of integrating health and social care (Brennan 2005; NHS England 2013), as well as other applications, like the Electronic Prescription Service, which have been introduced as a means of supporting collaboration between primary care providers in England. Allied to this is the expansion of data to include data generated by patients’ use of telehealth applications (Barlow et al. 2005; Fisk 2003), and social media (Shigaki et al. 2014).

However, there are clear discontinuities within the organizational field of healthcare between alternative perspectives of different healthcare provider’s (e.g. hospitals) and varied institutions (such as, colleges of medicine and nursing) but also in relation to organizations which belong to other organizational fields that define policy (comprising of government agencies) or develop IT systems. From design and practice perspectives research has shown the problematic nature of attempts to construct information standards in support of interoperability (Chen et al. 2012; Lenz 2005; Vest et al. 2012), the problems of constructing meaning from data collected for different specialties (Levy and Rubin 2011; Lovell and Celler 1999), and the timeliness of data provision (Bardach et al. 2009). Effective integration is said to require the alignment of stakeholders and practices (Ackerman and Locatis 2011), potential change in workload (Bornstein 2012) and reflecting differing professional cultures, different expectations about record ownership, and role requirements (Southon et al. 1997). Historically these all represent sources of incongruence between alternative organizational fields of different professional stakeholders, and cultures.

We define integrated healthcare delivery, or integration in healthcare, as a combination of distributed or collaborative work and decision making processes, across organizations that make use of shared data and shared or interoperable systems; these also produce data across the organizational field to allow for control of performance and measurement of achieved objectives.

**Research Methodology**

**Data collection**

Importantly for our research “[t]he unit you choose for describing the environment depends on the level of the environment you choose to describe” (Gibson 1986, p. 9). In our research the level of the environment we describe is the organizational field of healthcare in England and the units we focus on are healthcare organizations, IT systems (primarily as relevant to a patient’s medication management exemplified by electronic prescription service (EPS)). We refer to England, rather than the UK, because other devolved nations in the UK have their own NHS organizations and policies. We have chosen to focus on patient’s medication management because this is an area experiencing the most common interventions, with high impact on NHS budget, and involving distributed activities across settings. It cuts across organizational boundaries and incorporates varied technologies and techniques, including electronic prescribing and dispensing systems, NHS smartcards (id cards for accessing the systems) electronic drug dictionaries and underlying infrastructures (such as N3 – National Network for the NHS) (Hibberd et al. In Press). This case is sufficiently complex to enable us to illustrate how we followed the steps listed in the section on ‘IT-related organizing affordances at an organizational field level’ but sufficiently self-contained so it is possible to describe it in a journal paper.

We have collected primary data during a project involving a large scale evaluation of England’s solution for electronic transmission of prescriptions conducted in the period 2009-2013. This project was a part of the evaluation of the National Programme for IT (NPfIT). This programme was delivered as part of England’s previous health informatics policy. The project involved observation of 18 sites where the service was being deployed, and interviews with 130 stakeholders in the programme, including health care professionals, informatics leads and patients (Lichtner et al. 2013).

We have also collected data during the course of current research for the Delivering Digital Drugs project (D3), which looks at innovations in the digitalization of medicines. Over the course of this project we have interviewed software developers responsible for the creation of apps and portal technologies for the introduction of integrated health and social care, as well as care providers themselves.

We also conducted the following secondary research: (1) reviews of policy documents related to English NHS and strategies for IT use, (2) literature reviews on healthcare integration, healthcare IT and
affordance theory). We conducted reviews of documents relevant to health informatics policy and strategy in the English NHS produced by the Department of Health and the NHS and covering a period between 1989-2015. Underlying the informatics initiatives outlined in those documents is the development of integrated approaches to management of patient healthcare within the NHS and more recently within a wider health and social care system. To understand how these goals can be delivered our analysis draws on a review of the nature of integration within health and social care systems. This review involved a search for relevant academic papers from the Web of Science database using healthcare, integration and information systems, and synonyms as search terms. In relation to affordance theory, we drew on literature from Information Systems, Organization Studies and Management disciplines.

**Data analysis**

We are currently analyzing our findings following a thematic process, through an interpretative approach informed by relevant literature and fieldwork (Strauss 1987). We are focusing on the conceptualizations of IT affordances (within their cultural, political and regulatory context) and notions of healthcare integration. We aim to follow an inductive approach that incorporates reading and manually coding our current interview transcripts, field notes and relevant policy / strategy papers, as well as reports from our projects. We are then going to compare our findings to the literature in order to create themes and sub-themes (Alvesson and Skoldberg 2000) and ultimately develop our contributions.

Our data (documents and interview transcripts) are accounts of people’s perceptions of what technology afford the organization or the organizational field, and organizations’ capabilities for actualizing them. Within this more general dataset, the goal of integrated work for a patient’s medicine management will be taken as an exemplar case study.

We aim to discuss affordances at a level of a class of technologies but to distinguish between different technological architectures and institutional arrangements as those may give rise to substantially different affordances. We are also cognizant that structures (social and material) have emergent properties which cannot be reduced to their constitutive elements (Elder-Vass 2008). Hence, we heed Pozzi et al. (2014) advice that organizational actualization of affordances should be studied in terms of actions taken by an organization seen as a whole rather than simply as the sum of actions taken by actors or groups of actors.

**Conclusion**

Our application of the affordance theory to the organizational field challenges some of the original conceptualizations described by Gibson, but we would argue that it still reflects the original theory main tenets and its ontological roots. Theories are living, and when taken out of their original discipline, undergo changes. That is not necessarily a bad thing.

IS literature treats affordances in relation to individuals, groups (and to lesser extent) whole organizations. However, in this paper, we argue that technologies’ affordances also need to be studied on an organizational field level. Affordance perspective applied to an organizational field enables us to address the consequences of technologies that span organizational boundaries and focus on goals which achievements require concerted actions of more than one organization. It involves a study of technological architectures (not just single artefacts) and an exploration of their consequences for new ways of organizing, including shifting of organizational and professional boundaries, roles and identities. It provides a way of addressing pertinent questions, such as: what does technology (or rather a particular architectures of technologies) afford (a community of) organizations (that have particular goal-oriented action capabilities)? What actions at an organizational and organizational field levels need to be taken to realize those affordances? For those reasons, we argue, that although challenging, this approach is worth pursuing. The case of EPS in England’s health service illustrates how varied affordances of many technologies in relation to different organizations need to be aligned to serve a common goal. It also provides a rich example of how affordances are inextricably bound up with the cultural, political and regulatory context.
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