



Is it 'augmented reality'? Contesting boundary work over the definitions and organizing visions for an emerging technology across field-configuring events



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ARTICLE INFO

Article history:

Received 17 March 2015
 Received in revised form 22 April 2016
 Accepted 23 May 2016
 Available online xxxx

ABSTRACT

In recent years there has been growing recognition that Field-Configuring Events (FCEs) play an important role in connecting stakeholders, conferring authority to certain members, and shaping the organizing visions surrounding emerging technologies. While much of this work has examined the features of FCEs, the implications and outcomes of FCEs, and the coalescence of FCEs, this study contributes to our understanding of fields that are not converging, rather different stakeholders are actively creating and summoning new FCEs to assert authority. This case also examines the relationship between definitions and organizing visions, as the discursive and social contexts in which these boundaries are being contested. This study follows the emerging interorganizational augmented reality (AR) community, as a group that unites under the term AR but has been continually negotiating its meaning for decades. Through extensive participant observation at numerous global conferences and in-depth interviews, this study shows how various definitions originated and evolved, how new emerging artifacts have challenged definitions, how specific groups have coalesced around definitions, and the various ways that they are organizing at and across FCEs to contest these definitions. These findings of how discourse flows across FCEs contribute to our empirical understanding of the tactics that various actors engage in to draw symbolic, social, and material boundaries around a field, as well as how these debates and commitments ultimately shape the participants in the community and subsequent work that comes out of the community.

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1. Introduction

Emerging technologies are the result of complex social, technical, and organizational negotiations (Abbate, 2000; Bazerman, 1999; Bijker, 1995; Marvin, 1988; Swanson & Ramiller, 1997). In the earliest stages of emergence, they exist as a combination of ideas, blueprints, prototypes, and promises, often surrounded by speculation and speculators hoping to push the technology forward (Brown, Rappert, & Webster, 2000; Flichy, 2007). They are difficult objects to understand, however, given that the space is characterized by frequent unverifiable claims about technologies that have yet to materialize (Callon, 1986; Fortun, 2008; Garud, 2008; Hedgcock & Martin, 2003), entrepreneurial moves toward commercial implementation amidst changing economic conditions (Freeman & Soete, 1997), and problems of political legitimacy (Brown et al., 2000; van Lente & Rip, 1998). Often, these communities form around an organizing vision, defined as “a focal community idea for the application of information technology in organizations (Swanson & Ramiller, 1997; p. 460).”

The question of how communities circulate organizing visions and how these visions become dominant, however, is a complicated issue. One feature that is increasingly prevalent amongst emerging technology fields is the importance of ‘Field-Configuring Events’ (FCEs), or “temporary social organizations [...] in which people from diverse organizations and with diverse purposes

assemble periodically, or on a one-time basis” (Lampel & Meyer, 2008; p. 1026). These conference spaces are not independent organizations, but are places where a heterogeneous set of actors gather that “make it possible for streams of events to intersect, amplifying certain dynamics while dampening others” (Garud, 2008; p. 1084).

While there is increasing recognition that FCEs can effectively connect individual and organizational actors (Anand & Watson, 2004; Garud, 2008; Glynn, 2008), forge collective beliefs (Zilber, 2007), and confer formal authority to members (Meyer, Gaba, & Colwell, 2005; Lampel & Meyer, 2008), the long-term consequences of these FCEs (both planned and unplanned) are still being explored (Garud, 2008; Lampel & Meyer, 2008; McInerney, 2008). Several empirical pieces have examined single FCE (Hardy & Maguire, 2010; Oliver & Montgomery, 2008), and found a wide range of institutional actors, discourses, and interests. More recent work has looked into how the confluence of multiple FCEs form field level multiplicity (Zilber, 2011) and shape transnational policy (Schüssler, Rüling, & Wittneben, 2014), with a recognition that more work needs to be done to understand inter-negotiations between multiple FCEs that are formed across a number of organizational and disciplinary arenas and longitudinally over many years.

This study examines a broad community of multinational actors and organizations that are working on augmented reality (AR) technologies. The term ‘augmented reality’ was coined in the early 1990s by Boeing engineers Caudell and Mizell (1992), but more than 20 years after its conception the significance of the label ‘augmented reality’ is broader than the origins and lies in how it got adopted by a group of people to describe and define their work and activities. In the early years it was a small but steadily growing group of academics working on AR, who gathered at academic workshops and conferences. Later, as developments in mobile smartphone technology made it technologically possible to look through a mobile device and overlay virtual graphics on the space, new commercial and industry stakeholders emerged.

The AR community is a collection of disparate industries, experts, and authorities, with different actors hoping that it might change people’s perception of physical place (Liao & Humphreys, 2015), become a tool to aid medical procedures (Sielhorst, Feuerstein, & Navab, 2008), be useful for maintenance and repair (Henderson & Feiner, 2009), become a way to animate news stories (Pavlik & Bridges, 2013), and serve as a platform for delivering advertising content (Liao, 2015). Given these disparate focuses, this case provides a unique opportunity to study a community that has united under the domain of AR and held FCEs for many years. As they are becoming a burgeoning industry there have been important tensions around the definition of the term AR, all while simultaneously creating the artifacts that enable its existence and industrial/commercial success. This study analyzes the time period where a new set of stakeholders and FCEs formed, and the evolution of various groups and tangible strategies they took to advance and preserve organizing visions and goals that were often at odds with one another.

This study, which has followed the AR community at these events for several years, builds on existing organizational theories and FCE literature to examine 1) the ways that conflict occurs at and between FCEs across time, 2) how a series of FCEs are created in relation to (and sometimes in opposition) to one another, and 3) the ways that FCEs may be preconfigured around certain boundaries and how people at these events enact boundary work. This paper will first build on literatures from science and technology studies, information science, and organizational science, then draw on these theories to analyze the case.

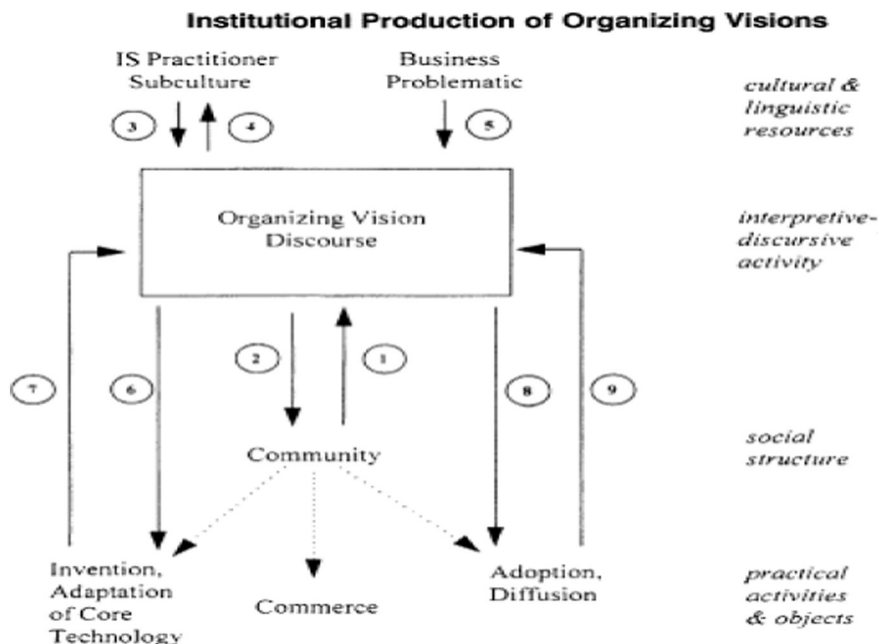


Fig 1. Institutional production of organizing visions (adapted from Swanson & Ramiller, 1997, p. 462).

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