© *Academy of Management Journal*
2016, Vol. 59, No. 3, 1009–1035.
http://dx.doi.org/10.5465/amj.2013.0416

TEMPORAL INSTITUTIONAL WORK

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Time is inherently present in empirical research on institutional change—most studies sequence actions and events across stages of development, over time. Yet research has overlooked how temporality, as a negotiated organizing of time, shapes institutional processes, despite the fact that timing, duration, and tenor of relationships are their foundational elements. To unpack the role of temporality in institutions, we examine how actors engage in temporal institutional work—that is, how they construct, navigate, and capitalize on timing norms in their attempts to change institutions. We draw on an inductive study of an institutional project to establish a novel foundation-based university that subsequently came to pace major statewide university reform. We identify three forms of temporal institutional work: entraining—as a top-down, routinized, reproductive form—and constructing urgency, and enacting momentum—both as bottom-up, issue-driven and generative forms. We show that by engaging in these types of work, actors produce windows of opportunity, synchronicity, and irreversibility as shared beliefs of temporality. These beliefs, in turn, shape how the wider institutional change unfolds. Our study shows that temporal institutional work enables institutional change. We discuss the implications for reconceptualizing institutional research from a temporal perspective.

Actors' conceptions of how much time they have, what is urgent, and whether the time is right, have a major impact on their ensuing activities. Importantly, the ability to shape these temporal perceptions can afford actors "significant material and/or symbolic advantages" (Emirbayer & Mische, 1998: 1000) during various processes, including institutional change. Time is inherently present in empirical research on institutions—most studies sequence actions and events across stages of development, over time. However, only more recently has the foundational role of temporality as a changing, constructed, and negotiated organizing of time (Butler, 1995; Orlikowski & Yates, 2002) begun to emerge as a focal domain for institutional research.

To date, a handful of empirical studies have explicitly addressed temporality in institutions. Most of these have explored how actors engage with changing institutions during certain given policy windows (Aberbach & Christensen, 2001; Buhr, 2013; Kingdon, 2003). Other studies have shown how actors reproduce the duration of a TV format through cues in communication (Clayman, 1989), and how they may follow schedules or delay compliance in their attempts to manage institutional complexity (Raaijmakers, Vermeulen, Meeus, & Zietsma, 2015). These studies have assumed *adaptation* to timing norms—types of temporal structure—that as "shared, expected patterns of paced activity" shape actions (Ancona, Goodman, Lawrence, & Tushman, 2001: 648). In this body of research, governmental periods for elections and political tenures, established temporal practices, and expected schedules for decision making provide actors with a common understanding of timing, sequence, and duration. These, in turn, enable actors to coordinate actions and act meaningfully in particular situations (Ancona et al., 2001).

However, by assuming that adaptation takes place, the studies have overlooked how actors enact and manipulate understandings about temporality. This

We wish to express our gratitude to Editor Kevin Corley and the three anonymous reviewers for their invaluable comments and guidance. Discussions with Eva Boxenbaum, Tom Christensen, Steve Cropper, Santi Furnari, Stine Grodal, Juha Laurila, Michael Lounsbury, Saku Mantere, Woody Powell, Nelson Phillips, Davide Ravasi, Chris Rowell, Henri Schildt, and Eero Vaara were highly valuable. We thank the participants of the research seminars in Cass Business School, Grenoble School of Management, Ratio, Uppsala University, OTREG at the University of Cambridge, and HOTREG at Aalto University for insightful comments and suggestions. Finally, we are indebted to our informants, who allowed us unique access and provided insights to their work and experiences.

is despite the fact that, as shared temporal structures, timing norms are an outcome of and a target for actors' construction (Barley, 1988). Moreover, actors engage simultaneously with different timing norms, leading to contradictory temporal expectations and divergent agency (Emirbayer & Mische, 1998; Orlikowski & Yates, 2002). The research on institutional work—which has explored the purposive acts required to maintain, disrupt, and create institutions—seems the most promising domain to address how actors construct and enact timing norms. The studies have uncovered several forms of institutional work, such as boundary and practice work (Zietsma & Lawrence, 2010), and defensive and disruptive work (Maguire & Hardy, 2009; for reviews see Lawrence, Leca, & Zilber, 2013; Lawrence, Suddaby, & Leca, 2009), but have so far neglected temporality.

While overlooked in institutional studies, research on organizations is well informed on agency and temporality. Yet studies that have addressed timing, pacing, rhythm, and synchronicity have tended to either assume adaptation to given timing norms (Czarniawska, 2013; Staudenmayer, Tyre, & Perlow, 2002; Waller, Zellmer-Bruhn, & Giambatista, 2002), or conversely take them as malleable and pay little attention to the temporal boundaries for action that they may impose (Amis, Slack, & Hinings, 2004; Brown & Eisenhardt, 1997; Klarner & Raisch, 2013; Souitaris & Maestro, 2010). Recent research on strategy processes (Kaplan & Orlikowski, 2013), identity formation (Schultz & Hernes, 2013), and different time conceptions and their implications (Reinecke & Ansari, 2015; Slawinski & Bansal, 2012, 2015) have provided understanding of how actors enact and produce temporality in organizations. However, such acts are likely to differ from those in an institutional context, with a distributed set of actors, each having a limited influence and each subscribing to a broader variety of timing norms.

In brief, scholars have acknowledged that institutional agency is temporally embedded (Battilana & D'Aunno, 2009; Dorado, 2005), and argued that comprehending how institutions change and develop over time requires a "fine-grained understanding of temporal dynamics" (Lawrence, Winn, & Jennings, 2001: 625). Yet there is a lack of empirical research on how "actors formulate new temporally constructed understandings" of their and others' capability to engage with change; leaving us uninformed on "how these microlevel processes intersect with longer-term social, political, and economic trajectories" (Emirbayer & Mische, 1998: 1011). As a result, there is little knowledge on how actors enact and manipulate understandings about temporality, although this may be a fundamental process in facilitating institutional change. To address this gap, we set out to examine how actors engage in temporal institutional work—that is, *how they construct, navigate, and capitalize on timing norms in their attempts to change institutions.*

We empirically studied attempts to establish the first foundation-based, autonomously run university within a Northern-European country; we label this Innovation University. As one of the central participants in the change process, Innovation University became perceived as a spearheading project for simultaneously proceeding wider university reform, and came to pace this tightly coupled institutional change. Both the project and the reform unfolded with unexpected and surprising speed. This extreme case of rapid institutional change provides a rich setting for examining temporal institutional work.

Our research makes several contributions. We develop a model of temporal institutional work by showing how actors construct beliefs about temporality during institutional change. We identify three types of work: entraining (as a top-down, routinized, reproductive form), constructing urgency, and enacting momentum (where the latter two are both seen as bottom-up, issue-driven and generative forms). We show how the combinations of these types of work produce windows of opportunity for action, synchronicity between institutional project and wider institutional change, and perceptions of irreversibility that the change will ultimately happen. These shared beliefs about temporality, in turn, have a constitutive impact on how the wider institutional change unfolds. In particular, rather than givens (Suarez, Grodal, & Gotsopoulos, 2015; Tyre & Orlikowski, 1994), we find that windows of opportunity are socio-temporal constructs that actors produce when they shape temporal boundaries for issues. They provide an explanation for the timing of, and participation in, the change project. Further, synchronicity is a result of an interpretive, reflexive process in which actors adapt to what they perceive as external and given timing norms, but also purposively and strategically articulate these and pace activities to serve their desired outcomes. Finally, perception of irreversibility is an important temporal element in objectifying (Berger & Luckmann, 1966; Colyvas & Powell, 2006) a novel institution. As a shared, deterministic belief transforming participants' perceptions of a future eventuality into a current fact, it represents an interpretive shift of a temporal

kind, and provides explanations for the pace of, and management of resistance during, the change process.

While time has been an analytical dimension in most institutional studies, there have been very few attempts, or means, to theorize temporality. Our study provides a set of conceptual tools that enable future explorations of a variety of institutional processes from a temporal perspective. We discuss the role of temporal maintenance and discontinuities in the (re)production of stability and change, clashing pace, and rhythms of different temporal logics and their interactions, and call for more refined understandings of temporal foundations of legitimacy and embedded agency. Reconceptualizing institutions as temporally constituted entities is a novel approach to exploring the key processes that govern institutions.

TIMING NORMS AND INSTITUTIONAL CHANGE

Most institutional studies have implicitly assumed *isochronism*—that is, that organizations experiencing the same field context come to adopt homogenous tempos and phases for their activity cycles (Pérez-Nordtvedt, Payne, Short, & Kedia, 2008). In the handful of empirical institutional studies that have paid explicit attention to temporality, agency and actions for change typically take place in temporally homogenous and bounded settings. The studies have examined how actors align their activities with some given policy windows (Aberbach & Christensen, 2001; Buhr, 2013), these being a result of, for example, a new political power balance, a shift in public preferences, or a problem attracting the attention of key stakeholders (Kingdon, 2003). A further study explored the connections between the nature of interaction and institutional forms by looking into how actors reproduce the temporal boundaries of the news interview format through different cues in interaction, marking beginnings and transitions (Clayman, 1989). Raaijmakers et al. (2015), in exploring the adoption of a new practice among child care managers, found that institutional complexity led them to delay decision making. However, it was outside each of these studies' scope to examine how actors construct temporality, and how this in turn would impact the shared beliefs that guide their activities.

To better ground a temporal understanding of institutions, we draw on the broader literature on temporality in management and sociology and, in particular, the concepts of timing norms and entrainment. According to Ancona et al. (2001: 651), "timing norms provide a temporal lens that requires us to think of all behavior, interaction, activity, and events as embedded within a paced, temporal context." We theorize that in the above studies, isochronism arose as an outcome of actors sharing a set of timing norms that, as context-specific temporal structures, guided social processes within the particular context. Like any social structures, timing norms become internalized when, through interaction and experiencing similar contexts, actors begin to share a scheme of "expected sequences, durations, temporal locations, and rates of recurrence" (Barley, 1988: 129). Timing norms provide actors with common heuristics, for example to estimate how long a change process might take from start to some level of accomplishment (Ancona et al., 2001; Dille & Söderlund, 2011; Huy, 2001). Perceptions of something happening slowly, rapidly or in synchronicity, therefore, stem from experiences and expectations of pace, duration, and sequence in a particular context.

Furthermore, we conceptualize that timing norms are enacted through entrainment—referring to the process by which "rhythmic patterns come into alignment and then behave in a parallel fashion" (Bluedorn, 2002: 147). In other words, actors synchronize their activities with the rhythm that timing norms impose (Ancona & Chong, 1996; Pérez-Nordtvedt et al., 2008). Typically, one rhythm—called a *zeitgeber*, which is German for "time giver"—dominates the other rhythms that then become entrained to the *zeitgeber* (Bluedorn, 2002; Khavul, Pérez-Nordtvedt, & Wood, 2010). For example, the tenure clock provides a rhythm for many professional activities of an assistant professor, and political parties entrain their activities with the cycles of upcoming elections and democratic decision making (Schedler & Santiso, 1998). In these examples, the *zeitgebers* are the rules and schedules for attaining tenure and the government periods of the democratic system, respectively. Entrainment can be a two-way process, where any rhythm or stimulus can begin to provide the rhythm for another (Ancona & Chong, 1996). Yet, as shown above, in the few empirical studies on institutional change, entrainment has been considered as a process of adaptation, assuming *zeitgebers* as external and unmodifiable.

While there have been few attempts to develop a more temporally situated approach in institutional studies (Buhr, 2013; Pierson, 2004; Raaijmakers et al., 2015), agency has predominantly been a concern for planning and alignment, where timing norms provide temporal boundaries for activities (see Yakura,

2002). However, like any other social structures, timing norms are not only contexts for but also targets of action (Barley, 1988; Giddens, 1984; Orlikowski & Yates, 2002). Moreover, institutional change is driven by issues that actors construct in an unpredictable manner, change thus being uncontrollable in terms of its timing and duration (Granqvist & Laurila, 2011; Greenwood, Suddaby, & Hinings, 2002; Hoffman, 1999; Munir, 2005). Despite these dynamic aspects, empirical studies have paid little attention to how actors engage with and produce timing norms during institutional change.

TOWARD TEMPORAL INSTITUTIONAL WORK

In order to develop a perspective that accounts for how actors engage with temporality during institutional change, we introduce the concept of temporal institutional work. Here, we build on organizational research on temporality and agency. By temporal institutional work, we refer to purposive actions by which actors construct, navigate, and capitalize on timing norms in their attempts to change institutions. The concept draws on Orlikowski and Yates' (2002: 688) conceptual work on temporal structuring in organizations:

> People are purposive, adaptive and inventive actors who, while they are shaped by established temporal structures, can also choose (whether explicitly or implicitly) to (re)shape those temporal structures to accomplish their situated and dynamic ends.

Kaplan and Orlikowski (2013), in their study on strategy-making in a large incumbent firm, focused on such temporal structuring. They explored how actors engage in temporal work "by reinterpreting the past, responding differently to present concerns, and envisioning the future in innovative ways" (Kaplan & Orlikowski, 2013: 991). They found that the more involved skilled actors are in temporal work—particularly in imagining alternative futures—the more "degrees of freedom relative to the past" they can create, which may result in a change of taken-for-granted mental models (Kaplan & Orlikowski, 2013: 991). Schultz and Hernes (2013), studying identity construction in the LEGO Group, similarly investigated how conceptions of the past are evoked and how they influence the articulation of claims for future identity. Their arguments, like those of Kaplan and Orlikowski's (2013), are grounded in an ongoing present perspective, in that "the organization's future is continually enacted from past experience using materials available in the present" (Schultz & Hernes, 2013: 1; see also Hernes, 2014; Mead 1932). In other words, reactivation of past and construction of future happen in tight connection with present concerns.

Other studies have explored how conflicting temporalities create a context for agency, with particular focus on clock time and event time. The clock time view assumes that time is objective and proceeds linearly, deterministically, and measurably, and is thus a finite resource (Mosakowski & Earley, 2000; Orlikowski & Yates, 2002; Zerubavel, 1981). The event time view, in contrast, assumes that time is subjective, allowing many interpretations, and that it proceeds cyclically and is endogenous to the flow and duration of events and processes (Mosakowski & Earley, 2000; Orlikowski & Yates, 2002). In her study on pacing in a new venture, Gersick (1994) found that time-based pacing with attention to deadlines, and event-based pacing with a focus on managing unfolding events and achieving certain outcomes, result in conflicting dynamics. Slawinski and Bansal (2012), in turn, explored how firms' different temporal perspectives influence their responses to climate change. They found that companies with a linear clock time perspective are concerned with finding immediate solutions. However, those with an event time perspective not only adopt a thorough approach, resulting in slower responses, but also a more realistic understanding of the timeframe and an improved tolerance of uncertainty (Slawinski & Bansal, 2012). Reinecke and Ansari (2015) studied how actors reconcile conflicting timeframes within Fairtrade International. They discovered that viewing the same phenomenon through different temporal lenses of clock time of markets and event time of development allowed interpretive shifts within an organization that straddled multiple temporal orientations—making the organization ambitemporal—resulting in changes in its activities (Reinecke & Ansari, 2015). Conflicting temporalities, as in the above studies, are inherently present in institutional change, where established timing norms are constantly challenged by the emerging issues and their active construction.

Finally, organizational studies on momentum are concerned with how change processes are driven by actors' perceptions and beliefs on temporality (Jansen, 2004; Miller & Friesen, 1980; Plowman, Baker, Beck, Kulkarni, Solansky, & Travis, 2007). Momentum refers to continuity in movement that can either maintain stasis, or energize change as time passes (Amburgey, Kelly, & Barnett, 1993; Beck, Brüderl, & Woywode, 2008; Miller & Friesen, 1980). It is a static–dynamic concept aiming to explain the

forces for maintenance and for new trajectories (Jansen, 2004), and thus has a strong resonance with institutional work. A key insight from research on momentum is that actors' beliefs, for example that a change is urgent and progressing toward a future outcome, influences their consequent actions and interactions (Dutton & Duncan, 1987; Gersick, 1994; Jansen, 2004). These studies suggested that people simultaneously draw on and reproduce momentum, which becomes a dynamic force that supports change. Momentum is hence a useful concept for exploring how perceptions and actions on temporality may empower, or hinder, institutional change.

To conclude, we know that timing norms enable and limit action through anticipation of future possibilities and constraints (Emirbayer & Mische, 1998; Kingdon, 2003; Pierson, 2004). However, on the whole, previous research lacks empirical evidence on how timing norms become enacted and constructed in specific situations, and what implications this may have for institutional change. Drawing on our extensive data, in the remainder of this paper we develop a model for temporal institutional work to examine how actors construct, navigate, and capitalize on timing norms in their attempts to change institutions. Our study provides several contributions and develops a new perspective from which to study institutions.

METHODS

Research Setting

The university sector has experienced increasing pressures for transformation in many developed economies (Deema, Mokb, & Lucasa, 2008; Mohrmana, Mab, & Bakerc, 2008). This is especially true in the Northern-European country that provides the context for our study. On the one hand, there are external pressures stemming from the harmonization efforts of various state institutions among the European Union and OECD (Organisation for Economic Co-operation and Development) member countries, as well as those related to the increasing global competition and focus on university rankings (Marginson, 2006; Wedlin, 2006). On the other hand, and more visible in our data, these pressures are internal to the university institution. Actors within the university sector in the country had, over an extended period of time, expressed discontentment with the status and resourcing of research and teaching, and the lack of autonomy in decision making.

This dissatisfaction related to the broader developments of the university institution in the country. The university sector had grown tremendously during the 1960s and 1970s with the founding of many new universities. In the 1990s and early 2000s, as a turn of the tide, pressures emerged to reduce their number. At this time, deans and officials at the Ministry of Education made suggestions for merging and closing down units. In addition, deans together with industry leaders made proposals for the privatization of universities. However, all these initiatives failed or led to compromises (see Table 1). Rather than cutting the number of units, which was a politically difficult issue, all merger and privatization initiatives resulted in adding new organizational layers, such as joint institutes or networks, or broadening the activities of existing universities. However, by providing alternative options for developing universities these failed attempts accentuated discontentment. Moreover, they acted as community-building platforms and

TABLE 1
Chronology of Key Events

Year	Key events
Prior to the institutional project	
1995	Suggestion for privatizing a technical university (failed)
1996	Suggestion for merging a technical university with a business school (failed)
1998	Suggestion for Network University
1999	Suggestion for founding a university in partnership with a U.S. Ivy League university (failed)
2000	Establishment of Network University (terminated after a few years as a failure)
2001	Suggestions for "IT University" (failed)
2002	Rectors' Council Report on "The financial autonomy of universities"
2003	Government program on increasing productivity in public sector organizations begins
During the institutional project	
8/2005	Suggestion for Art University (competing proposal)
9/2005	Suggestion for Innovation University
10/2005	Deans' Council Manifest for increased autonomy in universities
12/2005	Ministry of Education commissions an extensive study from Ombudsmen on renewal of financial and administrative status of universities
10/2006	Ministry of Education establishes high-level working group (Nyberg Committee)
1/2007	Ombudsmen's final report on university reform
2/2007	Publication of the Nyberg Report
4/2007	University reform and Innovation University included in the new government's program
10/2007	Ministry of Education gives an execution order to form Innovation University
5/2008	The foundation for Innovation University is established
6/2009	Parliament accepts the new university law
8/2009	Innovation University is formally established

made the dissatisfied actors aware of each other, sharing the sentiment that change was well overdue. Simultaneously, the political climate had become more open toward further reducing state control and increasing the autonomy of state institutions.

In the early 2000s, the government program to improve the productivity of public sector organizations gave rise to a period of restructuring, which also affected universities. At this time, the Minister of Education launched the preparation for university reform by assigning two ombudsmen to explore the possibilities. In this broader context, and as a response to the Ministry's proposal to establish Art University, Paul Helleberg,[1] the dean of Art and Design University, an organization that was to be affected, suggested an alternative. He introduced the idea for Innovation University, which would be created through a merger of three universities in the capital region: Technical University, Business School, and Arts and Design University. Establishing the first foundation-based, semi-autonomous university would represent a radical departure from the existing university institution, which had traditionally been subject to state governance and budgeting. Table 2 presents the key elements of change that later took place, including new funding bases, employment relations, and principles for governance. This required major changes in the state legislation that were, in turn, tightly coupled with wider reform of the entire higher education sector.

Resulting from the broad interest and support among the key constituencies, and as a means to push forward the wider reform, the Ministry of Education granted Innovation University the status of a spearheading project for complete university reform across the country. Innovation University thereby became an institutional project; that is, a purposive endeavor to change rules and regulations in a nested and relatively bounded political-institutional setting (Holm, 1995). A unique feature was that this status led to a situation in which the Innovation University project began to pace the broader institutional change, as we show in our ensuing analyses. Moreover, participants considered that the progress of the Innovation University project was unexpectedly and unprecedentedly rapid. In their experience, previous public sector reforms had been lengthy, and had resulted in compromises or had failed (Table 1). In contrast, the suggestion for Innovation University was made in September 2005, and thereafter it took only 18 months for the plan for execution to be included in the country's newly formed government's program. Parliament accepted the new university law in June 2009, thereby sealing entire reform, and Innovation University formally began operations in August 2009. Our study covers the activities and events leading to this point in time.

[1] All names we use in the empirical study are pseudonyms.

Data Collection

To explore how actors engaged in temporal institutional work within the Innovation University project, we draw on various empirical materials (see Table 3). We conducted 44 interviews representing all the key actors, including the deans and staff of the three universities, ministers and other public servants, parliamentarians, representatives of the industry and labor unions, and students. We identified the informants through several methods—by studying various documents, reports, and news stories, and through snowball sampling during interviews. In addition, to ensure that all voices were heard (Hardy & Phillips, 1998), we covered more critical tones by interviewing opponents of the venture.

The interviews took place between March 2008 and March 2010, and lasted between 45 minutes and two hours. A semi-structured approach was used; we had certain themes regarding the renewal of university education, the events leading to the proposal of Innovation University, and the unfolding of events after the proposal, which culminated both in the legislative reform and the founding of Innovation University. The interview method allowed us to trace informants' perceptions and experiences flexibly, while at the same time providing some focus on the general theme. Almost all interviews were conducted by two interviewers, a main interviewer and a note taker. This made the process reflexive, as we discussed experiences and observations after each interview (Denzin, 2001). As a result, we often followed up with refining questions through email. All the interviews were recorded and transcribed, resulting in over 500 pages of material for analysis. Finally, we conducted three supplementary interviews during autumn 2013 to explore certain details regarding the previous failed proposals that had laid the foundations for the initiative.

At the same time as conducting interviews, we collected a wealth of archival data, including a comprehensive set of reports, documents, and media coverage of both the Innovation University project and broader university reform. Archival data provided accounts on events and actors' perceptions at

TABLE 2
Key Elements of Change from Old to New University Institution

	University institution in the country pre-2009	University institution the country post-2010
Principles for governance	Subject to state regulation and budgeting	Semi-autonomous decision making, economic autonomy
Role of the board	Board as a middleman between the state and the university. Accepts plans and budgets. Evaluates and promotes proposals.	Board as a responsible decision maker of economic issues, strategy, resource allocation, goals. Appoints the dean.
Professional authority	National professional associations	International professional associations
Source of legitimacy (universities)	National and regional university rankings	Global university rankings
Source of legitimacy (profession)	Professional expertise: Relevance (applicability) and expertise in research and teaching	Professional expertise: Excellence in research (established through publications) and teaching
Funding sources	Allocations from state based on the number of graduates. No fundraising or fees allowed.	Allocation from state based on excellence in research (publications), graduates, and societal impact. Fundraising allowed. Right to charge fees for education.
Principles of employment	Personnel employed as state officers. Appointment of professors defined by law and instituted by state. Positions permanent.	University as employer. University independent in appointing professors. Tenure-track appointments.

the time (Lofland & Lofland, 1995), allowing us to examine the changing perceptions toward the merger as they unfolded. Archival data were also important in tracing the intricate connections between the Innovation University project and broader university reform. We gathered 74 reports and memos, exceeding 2,700 pages of data for analysis. These include all the preparation reports by the key ministries regarding both the Innovation University project and university reform. In addition, we collected all available university internal memos and other preparation documents, and searched for texts and documents from the universities' Internet pages. Further, we examined reports, research articles, and news stories to which our data sources referred, and traced speeches and reports on prior proposals for university reforms.

Finally, in order to map how the media reported the merger, we systematically collected news stories during the period of investigation (September 2005 to December 2009). We used search words (pseudonyms) "Innovation University," "Top University," "Northern Institute of Higher Education" and "Northern University," using the newspapers' own databases. Our search resulted in 641 news stories and 1,010 pages for analysis. The newspapers included *Nation Daily* (the largest daily newspaper in country), *Regional* (the largest regional newspaper in the country), and *Capital* (the leading business newspaper).

Data Analysis

We began our fieldwork with the broad aim of tracing institutional change as an ongoing process in the context of shaping a new university, coinciding with major reform of the university sector. Consistent with the nature of an inductive study (Lee, 1991), our research question emerged from the observations and analyses of the data. Figure 1 presents the analytical process by which we moved from the data toward higher levels of abstraction. The two first levels of abstraction follow the so-called Gioia method (Gioia, Corley, & Hamilton, 2013; Gioia & Thomas, 1996), presenting the second- and third-order concepts. Thus, the column on the left presents the bundles of temporal activities as the first level of abstraction from the data, and the middle column depicts the forms of temporal institutional work as aggregate constructs, as the second level of abstraction. Similar to the analyses by Zietsma and Lawrence (2010), the column to the right, which shows the outcomes of these types of work as the third level of abstraction, represents the relationships between the aggregate constructs. Below, we describe the process of abstraction in detail.

We began our analyses by tracing the history for the formation of Innovation University and its connections to the ongoing university reform. We analyzed the interviews for such narratives, and studied archival materials to minimize retrospective bias

TABLE 3
Data Table

		Archival data			
	Interviews	**Speeches and pamphlets**	**Preparation and project reports**	**Legislative and policy documents**	**News and media coverage**
Data items	44	18	46	10	641
Pages	about 500	57	2550	177	1010
Timing	Mar 2008–Mar 2010, Sep 2013	Jun 1987–Oct 2005	2000–2010	2000–2009	Sep 2005–Dec 2009
Description of the data	All key stakeholders: rectors, professors, university staff, government officials, politicians and industry representatives	Speeches and articles on needs, tensions, and rationales for a merger and university reform	Committee and working group reports (ministerial, OECD, university interest groups). Presentations of the merger and university reform.	Legislative and formal policy documents, initiatives, and hearings on preparing university reform and the merger of universities	News stories and public opinion expressions reflecting the perceptions and attitudes toward the merger and university reform.
Type of information provided	Overview of key events, sentiments and reasoning, and activities by key actors	Portrayal of the need and argumentations for and against the merger and university reform	Evaluations, analyses, and presentations by stakeholders of the university institution	Legitimation processes at the government level	Opinions and cultural dissemination of varying framings by stakeholders and the media
Emergence of the issue, 1986–2005					
Quality of evidence	++	++	+++	+	+
Institutional project, 2005–2009					
Quality of evidence	+++	++	+++	+++	+++
Limitations of the data	Post-hoc rationalization	Protagonist and antagonist perspectives, does not provide data on the final stage	Structural perspective, does not provide much data on the actual work of the committees	Does not provide data on the early formation	Biases and partiality of media coverage, opinionated

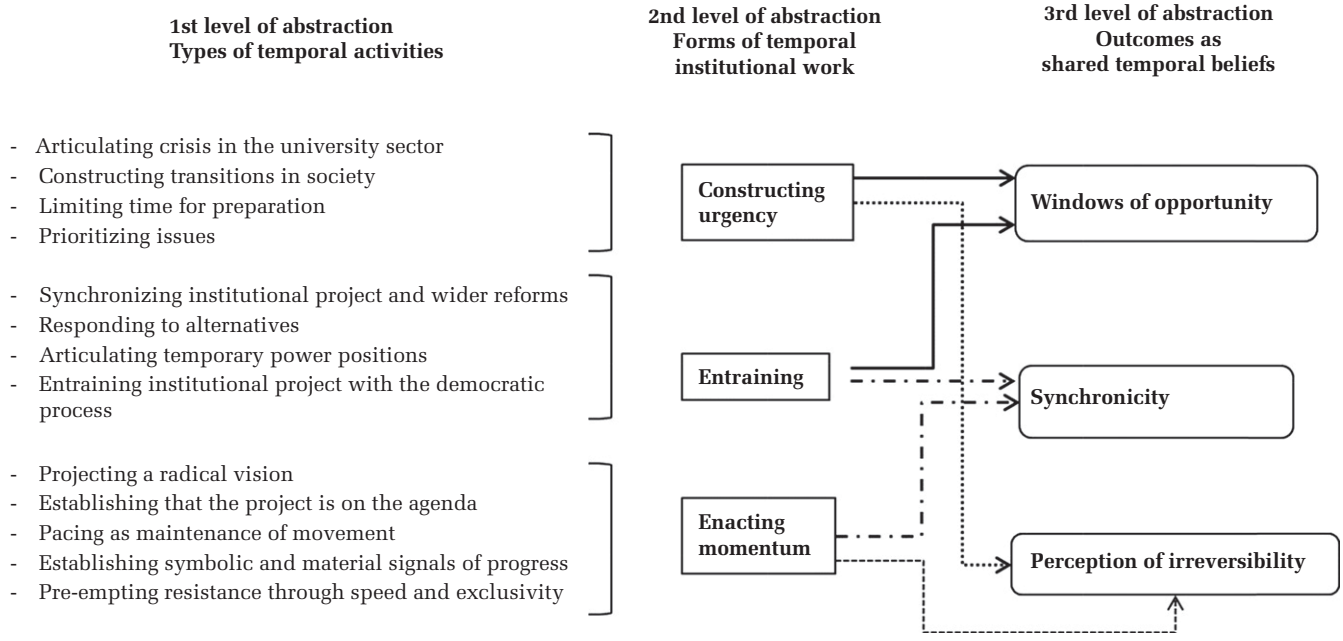
Notes: Quality of evidence in each period: + low, ++ moderate, +++ high.

(Lofland & Lofland, 1995). We created chronology tables (see Table 1) to order the key events and activities. We sketched several figures to trace the relationships between various actions and events, thus enabling the "development and verification of theoretical ideas" (Langley, 1999: 700), and allowing us to condense and make sense of vast quantities of complex longitudinal data. Next, we wrote a long narrative of the context and activities leading to the formation of Innovation University. The narrative also identified the relationships between university reform and the Innovation University project, and analyzed the participants' activities.

During this iterative analysis, we uncovered interesting aspects on the temporal nestedness of the Innovation University project and broader reform. We found that while university reform provided a temporal frame for the Innovation University project, the project itself had an impact on the wider scheduling of this institutional change. We also found that a great majority of our informants expressed that the formation of Innovation University had, in their experience, been an unprecedentedly rapid process. A typical passage was, "it is extraordinary that [Innovation University] has proceeded so rapidly … without [many] changes to the basic concept" (Jacob, university management). We began to grasp that the data were rich on temporal perceptions and purposive actions that were related to both the Innovation University project and ongoing reform. This represented a puzzle with much potential for productive theorizing (Agar, 1986), and we focused our analyses on these elements in our dataset.

During our second stage of analysis, to explore temporal perceptions and forms of agency, we open coded the interview dataset for temporal activities.

FIGURE 1
The Process of Abstraction from the Data



As a result, we had a wealth of passages in which actors expressed how they engaged with time and temporality during the change process. In the third stage, as *the first level of abstraction from the data*, we iteratively coded these temporal activities by continuously discussing the emerging structure and check-coding coded sections to ensure internal consistency throughout the process (Locke, 2001; Miles & Huberman, 1994). During this analysis, we aggregated similar types of temporal activities into second-order themes, such as "synchronizing institutional project and wider reforms," and "pre-empting resistance through speed and exclusivity." These are presented in the left column in Figure 1.

As *the second level of abstraction*, using axial coding (Strauss & Corbin, 1997) we then grouped these themes into aggregate dimensions (Gioia & Thomas, 1996), as forms of temporal institutional work. Our reading of the literature on temporality contributed to interpreting the data and shaping these three forms: "constructing urgency," "entraining," and "enacting momentum." Actors constructed urgency by expressing perceptions that change was necessary. These expressions were inseparable from their personal interests as well, as those of their organizations. A typical example is: "Something needs to be done... competition will only get fiercer. In an international market for competence, with the old structures [the country] just won't manage" (Peter, university management). Entraining was present in actors' passages where they aligned their activities with some external timing norms: "it seems like that there is such hurry because this issue [Innovation University] needs to be driven very far during this government period" (Elina, labor union). Enacting momentum was shown in passages where actors described how the process was in motion toward a future outcome: "we need to maintain a positive vibe in that we are making favorable changes and are on the way towards a better situation, and that requires work" (Henrik, university management).

We then compared these forms of temporal institutional work with the historical narrative and chronologies, and identified that these types of work are temporally sequenced and co-occurring (see also Zietsma & Lawrence, 2010). In the fourth stage, and as *the third level of abstraction*, in order to trace their temporal occurrence we recoded all the passages informing on the temporal activities, and then aggregated these to different types of temporal institutional work. During this coding, we found that certain temporal beliefs were present in these passages, and that actors produced and reproduced these beliefs through temporal institutional work. We carefully elaborated the interplay between these beliefs, the types of work, and their co-occurrence. We experimented with several explanations and

models until we found ones that were coherent with our data. As a result, we uncovered three partially overlapping sequences of temporal institutional work giving rise to shared temporal beliefs, "windows of opportunity" (Sequence I), "synchronicity" (Sequence IIa), and "irreversibility" (Sequence IIb) (see Tables 4–6 for empirical illustrations). Windows of opportunity emerged in relation to actors enacting urgency and entraining the issue with openings in timing norms. Synchronicity came about when actors entrained their activities with timing norms and simultaneously enacted momentum, resulting in the institutional project beginning to pace wider processes of reform. Irreversibility was an outcome of actors stating that some issues were more urgent than others, and enacted a perception that the change process has a great deal of momentum. Based on this analysis, we developed the model of temporal institutional work during institutional change.

Simultaneously, complementing the analyses described above and as a final stage, we searched for further evidence of the emergence of windows of opportunity, synchronicity, and irreversibility as shared beliefs and as outcomes of temporal institutional work throughout our data. Based on the additional analyses of the interview data, we found that windows of opportunity as a belief was present throughout the dataset as describing the early stage of the institutional project, and enabled and energized the two following sequences of temporal institutional work. Regarding synchronicity, we traced the

TABLE 4
Sequence I: Window of Opportunity Quotes

SEQUENCE I: WINDOW OF OPPORTUNITY	
Constructing urgency	**Entraining**
Articulating crisis in the university sector I.1 When people sense that we are in crisis we can accomplish great changes. During good times, no way.—Pekka, government official I.2 The Shanghai list was published. . . at that stage [a local magazine] wrote articles that we do not have top-ranking universities . . . and that we too need to have one.—Sara, university management I.3 Running universities is so resource-demanding that we need to do something . . . The perception is that all the time we are left more and more behind.—Oliver, university management *Constructing transitions in society* I.4 We have been guarding the Fatherland's interests . . . we are worried . . . whether we'll have jobs and also a competitive edge in the future.– Harry, industry I.5 Many more people exit the job market than enter it. We need to think about structures. We live in a totally different world from 10 years ago. . . . There are entirely different demands in terms of competencies. . . . The education sector must answer these calls. We are undergoing a phase of tremendous transition.—Patricia, government official	*Synchronizing institutional project and wider reforms* I.6 These suggestions have gained wide acceptance at this very point in time, similar ideas have been presented before but they have not gained wind under their wings . . . I believe that the reason why these suggestions go further is that the time is really ripe for this, that they must happen now. And of course the previous initiatives that have been made have helped the process.—Karl, government official I.7 In the Ministry of Education the change of legislation was on the way. We saw that this is going to happen, and later then realized that we need to make a total reform.—Jacob, university management I.8 We presented this initiative on Innovation University in the end of 2006 when the Ministry of Education asked universities to make proposals for projects of structural development [of the university sector].—Peter, university management *Responding to alternatives* I.9 The motive for Helleberg [suggestion for Innovation University] was to make sure that Art and Design University does not end up as a part of Art University . . . that for all the wrong reasons we end up with a right outcome.—Esko, industry I.10 In this very situation when ideas for structural development are pushed forward by the ministry [. . .] it is sensible to react to the proposals that emerge.—Johan, university management *Articulating temporary power positions* I.11 To me it seems that there is such a hurry because some might be afraid that they won't be members in the next government.—Ellen, labor union
Perception of Window of opportunity	
I.12. It [the proposal of Innovation University] fit well in that external zeitgeist.—Sam, university management I.13 I see that this [Innovation University] is a unique opportunity to advance the Technical University. I also see clearly that the time is now, that the world has changed, and that this is also a question of great importance for the whole university infrastructure in the country.—Johan, university management	

execution of suggestions in the so-called Nyberg Report, and found that 10 out of 14 suggestions, including all changes to the legislation, were executed in the outlined schedule. We take this as evidence that in addition to the enactment of government periods and tenures as external, top-down timing norms, the bottom-up pacing was influential. In this way, we show that synchronicity was an outcome of actors both enacting and modifying timing norms.

Finally, in order to gain a stronger understanding regarding irreversibility as a shared belief that evolves over time, we traced how Innovation University was framed and debated in the newspapers during September 2005 (when the idea was first expressed) and August 2009 (when the university was opened), which equated to a total of 641 news articles. We coded observations from the data, where statements by each individual in each news story represented one observation, resulting in 749 observations. To trace rejection versus acceptance, we coded each observation in terms of whether it represented positive, neutral, or negative associations toward the project. We also coded for whether the news story assumed that Innovation University would, or would not, be established, or adopted a neutral view. Finally, we took a random sample of 10%, representing 65 media articles that were second coded by a researcher external to the project. Intra-class correlation for the variable "Positive and negative opinion of the merger" was 0.63, and for the variable "Associations about the merger happening or not" was 0.57, representing values between a good and adequate level of agreement (Glick, 1985). Below, we present the findings of these analyses.

FINDINGS

The Model of Temporal Institutional Work

In our quest to explore temporal institutional work during change, we examined the institutional project around Innovation University with its close links to broader university reform. Based on our extensive analyses, we uncovered how actors engage in this work—that is, how they construct, navigate, and capitalize on timing norms in their attempts to change institutions. The outcome of these analyses is the model of temporal institutional work, which we present in Figure 2 and elaborate throughout the Findings section.

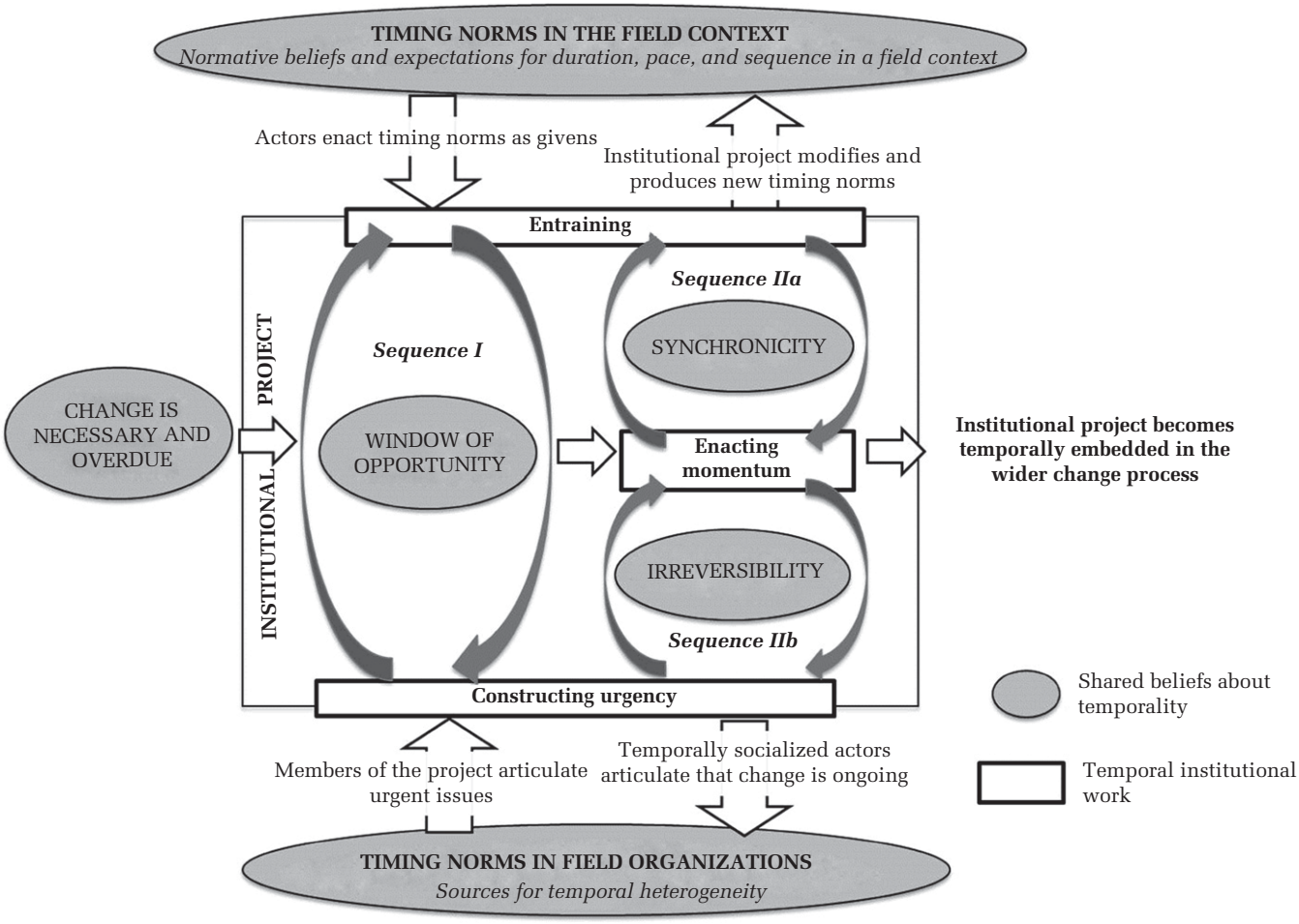
As the first element in the model, we identified a shared perception among a group of actors that change is necessary, which created the foundations for the institutional project. This perception originated from several previously failed attempts for change, where awareness of the issue and of like-minded people emerged. Timing norms at the top of the model refer to the normative beliefs and expectations regarding, for example, duration, pace, and sequences in a given institutional context—in this case, changing the university institution. The bottom of the model depicts the timing norms present in field organizations—universities, firms, labor unions, and state bureaucracies—that are sources of temporal heterogeneity, and ground both institutional project members' priorities and their broader perceptions of temporality. The institutional project in the middle of the figure forms and functions in the confluence of these varying timing norms but, importantly, acts as a community for generating alternative temporal beliefs.

We identified three types of temporal institutional work in which actors engaged in this context: constructing urgency, entraining, and enacting momentum. We uncovered three sequences of this work by which actors produced, as shared temporal beliefs, the window of opportunity (Sequence I), synchronicity (Sequence IIa), and irreversibility (Sequence IIb). These distinct but interrelated beliefs about temporality not only contributed to the establishment of a novel kind of a university, but also helped to accentuate, pace, and restabilize wider reform of the country's university institution. In our study, the institutional project began to act as a pacing tool for wider institutional change, thereby influencing the field-level timing norms. Further, by articulating finite openings and irreversibility of the process, members of the institutional project influenced the timing norms present in their respective field organizations. The outcome of the work was that the institutional project became temporally embedded in the wider change process. This was visible in the reciprocal influence between the temporal beliefs produced within the institutional project, and the timing norms present in the field organizations and those addressing change at the field level. The following sections elaborate this model in detail.

Sequence I: Emergence of the Window of Opportunity

The first sequence of activities was characterized by the emergence of the window of opportunity as

FIGURE 2
The Model for Temporal Institutional Work during Institutional Change



a shared temporal perception (see Figure 2). The window of opportunity emerged as an outcome of two forms of temporal institutional work: constructing urgency and entraining. The key actors constructed urgency through actively portraying Innovation University as a solution to a general sense that change of the university sector was necessary, and well overdue. Entraining focused on establishing why the project needed to proceed at that moment in time. This work centered on actors articulating that a necessary opening in timing norms was at hand, and its duration was limited. During this sequence, a shared, deterministic perception emerged that change must happen within this given opening, with a focus on one particular project. This was helpful in mobilizing action there and then. In the following, we show how this sequence of activities unfolded.

Constructing urgency. Perceptions that change was necessary and overdue had already emerged during several prior failed initiatives to reform the university sector (see Table 1). Urgency was present in passages where actors described the problems with the university institution, and voiced that addressing these issues was a pressing necessity. During this sequence, actors—the university management, key officials in the Ministry of Education, and local business leaders—constructed urgency through two sets of activities: articulating crisis in the university sector, and constructing transitions in society.

Throughout the early 2000s, university management, and deans in particular, constructed urgency notably around the need to reform the university institution. This reflected the wider consideration that a sense of crisis is effective in engaging people in

action (Table 4, quote I.1). In their accounts, it was urgent to gain autonomy over university finances, in defining the quality of research and education, and in investments in hiring staff. This was crucial in order to strengthen universities' rankings and competitiveness in the global higher education market (quote I.2 and I.3). In this context, in September 2005, Paul Helleberg, the dean of the Art and Design University, expressed the idea of merging three universities in the capital region to establish Innovation University. He simplified the complex venture into an idea where a focus on business, design, and technology would bring together product development, product design, and commercialization. This made the idea accessible and relevant to non-academic audiences in industry and at the ministries.

Business leaders linked urgency to broader transitions in society, and Innovation University had a strong resonance with these needs. As Harry (industry) stated:

> We discussed at the general level that something needs to be done, and at the same time the Innovation University project appeared as a concrete entity that perfectly fits our domain of activity.

For business leaders, it was urgent to develop the university sector because it had a direct connection to the competitiveness of local firms in terms of producing skilled employees and cutting-edge research. More generally, these developments were necessary to sustain the competitiveness of the entire nation (I.4).

Among the officials within the Ministry of Education, as a further group of key stakeholders, the sense of urgency originated from the ongoing government program to improve public sector productivity with implications for the university sector, and from an understanding that the higher education sector was entering a period of major transition (I.5). As a concrete project with resonance and the right timing, Innovation University provided the solution to addressing urgent and pressing issues within these key communities. The shared sense of urgency, while originating from different interests, provided "readiness to consider larger changes" (Kalle, government official). The crisis sentiment, indeed, had an activating impact on various participants.

However, constructing urgency alone does not explain why the Innovation University project proceeded at this specific moment in time, after many years of failed attempts. For this, actors needed to construct an understanding that the time for action is now.

Entraining. By entraining as a form of temporal institutional work, we examine how actors enact what they consider to be external timing norms in a given situation. Participants articulated that change should take place at a particular moment of time because there was an external opening or possibility (I.6). We identified three types of entraining during this sequence of activities: synchronizing institutional project and wider reforms, responding to alternatives, and articulating temporary power positions.

With regard to synchronizing the institutional project with wider reforms, first, officials within the Ministry of Education and the Ministry of Finance enforced the ongoing government program to improve productivity in public sector organizations. The key people in the Ministry of Education therefore enacted the timing norms imposed by the government program. In this vein, during the summer of 2005 it was increasingly evident that the Ministry was engaging with structural reform and investigated the possibilities for merging existing universities (I.7–8). Innovation University, in terms of its timing and implications—reducing the number of universities through a merger—was a good fit. Second, the proposal for Innovation University itself was an example of entrainment, as its timing was a direct response to a competing program—the Art University initiative (I.9). Overall, it was a means to respond to the broader ongoing developments within the university sector (I.10).

Third, a very powerful type of entraining was articulating the temporary power positions of the key individuals then holding office. Esko (industry) discussed this aspect:

> The core of our message was that "okay if you have one and half years left [in a powerful position] . . . you can now decide whether you continue [business as usual]. . . or remain in history as [an executive] that has done something groundbreaking."

This conveyed a strong message for those in power, in that they have unique power for only a limited time and can use this power position to act and leverage wide influence in society around the issue at hand (see also I.11).

Window of opportunity. As a result of the temporal institutional work of constructing urgency and entraining, actors began to perceive that a window of opportunity had emerged. The

window of opportunity refers to a deterministic belief in which actors began to perceive a temporally limited period for change, with the particular opportunity to promote the Innovation University project. This set the change process in motion. As Jacob (university management) expressed:

> We discussed the window of opportunity that had opened, that if we had the courage to move on there would be opportunities for collaboration and developing universities such that might never again appear.

Our data contain several passages in which actors express strong resonance with the Innovation University project and articulate a window of opportunity (I.12–I.13). The data also contain several more generalized arguments, which reflect this deterministic belief on timing. Jacob (university management) stated: "by chance, the timing and the idea matched," whereas Max (university management) observed: "the Helleberg proposal really hit the spirit of the times . . . the time was right." The Innovation University project had a strong resonance as a solution to the challenges experienced in that moment in time.

We next present the two sequences of temporal institutional work that followed and that partly overlapped, giving rise to synchronicity and irreversibility.

Sequence IIa: Establishing Synchronicity Between the Institutional Project and University Reform

The second sequence of activities was characterized by the gradual emergence of synchronicity between the Innovation University project and wider university reform. Synchronicity requires that the two processes are ongoing and have internal rhythms that then assume similar rhythms (Ancona & Chong, 1996; Orlikowski & Yates, 2002). Synchronicity emerged as actors engaged in temporal institutional work of enacting momentum and entraining (see Figure 2). Actors enacted momentum around the venture in order to keep it in motion toward the future outcome. While on the move, actors entrained their activities with timing norms where the schedule for university reform was the *zeitgeber*, thus providing the rhythm for entrainment. However, we also found that through pacing activities to create and maintain momentum, the Innovation University project itself became the *zeitgeber*, and provided the rhythm for several elements of wider university reform. We discuss below how these types of temporal institutional work gave rise to synchronicity.

Enacting momentum. We identified three types of temporal activities for enacting momentum that were present during this sequence: projecting a radical vision, pacing as maintenance of movement, and establishing perception that the project is on the agenda. First, to get the process into motion, actors enacted momentum by projecting a radical vision. In this regard, a crucial element was the speech where Paul Helleberg first presented the idea of Innovation University (Table 5, IIa.1). Previous initiatives had faded into compromises, and Innovation University as an ambitious goal and a radical break from the past was considered a means to avoid such an outcome (IIa.2). Jacob (university management) stated: "something radical needed to be done so that the change would proceed . . . [a] 'let's be better friends' style approach would not have created such a momentum."

Drawing on their experiences of the failed attempts and political decision making, the key actors among the university management realized that they needed to pace the activities to keep Innovation University on the agenda, and to feed the movement toward the envisioned future state (IIa.3). Disregarding the pacing activities and the initial excitement around the Helleberg proposal, "discussion withered away" (Ivar, university management) and the momentum faded due to a passive response. Ivar continued: "among themselves, universities cannot agree on focus areas or structural changes. It has to come from the outside ... Universities are incapable of making these changes or discontinuing their own operations." At this stage, the locus of agency moved from the university management to the business community and the Ministry of Education. In order to keep Innovation University on the agenda and maintain the momentum, some industry leaders considered it important to get the Ministry, as the key regulatory organization, to "take the ball" (Esko, industry). Involving the minister in person was important as he was considered "an exceptionally strong Minister of Education" (Harry, industry) owing to his long-term political experience in key positions, with connections to the business community and across party lines. His social position was suitable for mediating varying interests and getting the process in motion at the governmental level. The industry leaders also interacted with the deans during times when resistance emerged, with the aim of establishing support. The ensuing flow of small events and participation of key actors

TABLE 5
Sequence IIa: Synchronicity Quotes

SEQUENCE IIA: SYNCHRONICITY	
Enacting momentum	**Entraining**
Projecting a radical vision IIa.1 [The] Helleberg speech in autumn 2005 provided a major pulse.—Wilhelm, university management IIa.2 What was very influential was that there was a proposal [Innovation University] that was so radical. It forced the entire solution to a different trajectory, and universities understood that there will be real change that will lead to a new kind of a competitive situation between universities.—Jacob, university management *Pacing as maintenance of movement* IIa.3 We had one meeting . . . where I wanted a decision to be made on the next steps so that the process [did] not just fade off.—Jacob, university management [IIa.4–5 see below] IIa.6 The committee suggests the following schedule for the implementation: 2007: . . .establishing the project organization, fundraising campaign by the industry. . . 2008: . . .necessary legal changes to be addressed by the parliament, establishing the foundation. . . 2009: New university begins its operations on Jan 1 . . . first academic year begins on Aug 1.—The Nyberg Report *Establishing perception that the project is on the agenda* IIa.4 The small events that I have participated in during the process have given me a lot of faith that we can make this work.—Georg, industry IIa.5 Management needs to have time for joint discussions . . . [to establish] a shared process, a flow of events.—Mark, university management [IIa.6 refer to the box above]	*Entraining institutional project with the democratic process* IIa.7 Elections were on the way. Not knowing at all who is going to win, and to make sure the new government program would make it possible to . . . establish Innovation University . . . the whole work and the [Nyberg Committee] proposal was scheduled in such a way that we can have it included in the new government's program. . . . That is the slot of time to which the proposal was targeted so that we can change things, and it succeeded.—Jacob, university management IIa.8 Before the new government was established in spring 2007 we made a quick decision in the industry association that we would commit 80 million euros as part of the 200 million euros initial capital that was outlined for the new foundation university. . . .This, in part, speeded up the government program preparations I think when they saw that the industry was so supportive.—Esko, industry *Entraining the university reform with the democratic process* IIa.9 Already before this idea [Innovation University] we [within the government] had extensively prepared university reform. The preparations had begun before [the governing period] and were in such a speed . . . we wanted to get that going during [that government period].—Sebastian, government official IIa.10 A really tight schedule was set as a target so that the government proposal for the new university law could be ready in the start of year 2009.—Leila, government official
Synchronicity	
IIa.11 It [Innovation University] then progressed, [as did the work of] the Nyberg Committee and then there emerged a common outline for the goals and what I would call a framework for what we are about to aim for and what we can achieve. After that the project has progressed very rapidly—Johan, university management IIa.12 We [the Ministry] did parallel projects all the time so that the preparation moved rapidly forward. We knew that the timetable was so very, very tight.—Leila, government official	

reinforced the belief that the project was on the key actors' agenda and that it was, in fact, proceeding (IIa.4–5).

As an important act, the Ministry of Education established The Nyberg Committee in October 2006. Its task was to put forward a suggestion to deepen collaboration among the three universities, with the implicit aim of exploring the possibilities for their merger into Innovation University. The outcome of the committee work, the Nyberg Report, was published in February 2007, and itself became a very influential pacing tool that maintained momentum. It was carefully crafted, for example explicating the jurisdictional form for the university (a foundation), developing guidelines for its management and organizational structure, and outlining the elements of autonomy from the state. All these issues were summarized into a 14-point action plan (see also IIa.6). This was followed by a detailed execution plan containing the necessary changes in university law, and a project plan with scheduled subprojects. Our informants observed that this schedule was followed to a surprising extent in subsequent university sector reform. We found that 10 out of 14 action points were executed according to the schedule, including all required changes to the legislation. Regarding the process, Pekka (government official) said:

> In retrospect sometimes things just come together with amazing ease. In autumn 2006, I would have never believed that this will proceed like a train until this point. . . . we made a deliberately tight schedule . . . and defined the projects that needed further preparation . . . we set a dozen such issues and scheduled their execution. And somewhat surprisingly they were executed according to the schedule. According to my experience, it could have easily taken quintuple [the] amount of time.

The Innovation University project thus provided the pace for wider university reform. However, this was intricately intertwined with the timing norms of the democratic process.

Entraining. In addition to enacting momentum around the Innovation University project, we found that during this sequence actors entrained their activities with what they considered the external timing norms provided by the cycles of democratic decision making. Entraining addressed both the institutional project and wider reform, which were tightly intertwined. Regarding the latter, the key people in the Ministry were committed to getting wider university reform well under way before the end of the government and parliamentary term in April 2007 (IIa.7). According to Sebastian (government official):

> Nyberg finalized the report to include minor detail with the [Minister's] message in mind that there needs to be clear guidelines for the next government negotiations so that they [negotiators] can start with and take further the major [university] reform with a tight schedule.

To this end, the Minister entrained the Nyberg Committee work with the ongoing government period. Further, industry organizations committed to providing a substantial sum of money for the Innovation University foundation, which signaled strong support to government players (IIa.8). This speeded up the process as these funds would not be accessible until it was legally possible to establish a foundation-based university.

As discussed above, in order to proceed with Innovation University, the legislation required reform. Before establishing the Nyberg Committee, the Ministry of Education had set up two ombudsmen to develop a proposition on how to proceed with wider reform. Entraining this process with political cycles was also clearly reflected in the timing and pacing of this work in that the ombudsmen were given two milestones. The first was to produce an interim report during spring 2006 to outline "measures for increasing universities' financial autonomy in the short term" (Ombudsmen Report, 2007: 3). The officials in the Ministry of Education scheduled the interim report in such a way that the proposed changes could be implemented during the remaining government period. This report enabled new legislation that increased the financial autonomy of universities, which was a step toward making foundation-based universities such as Innovation University possible. The second milestone was the ombudsmen's final report, published in January 2007—close to the end of the government period—outlining profound guidelines for university reform. It was politically important that both the university sector reform and Innovation University as a spearheading project were at an advanced stage of preparation prior to formation of the new government (IIa.9–10). These are examples of entraining both the Innovation University project and wider university reform with government periods of office.

Synchronicity. Throughout this sequence of activities, actors both paced the process to maintain momentum and entrained their activities to the institutionalized timing norms. The interplay of these types of work establishes intricate interconnections between bottom-up pacing of the process and enacting top-down timing norms (IIa.11–12). The elaborate synchronization was driven by actors' belief that it enables change. The following passage from Ivar (university management) describes these perceptions:

> We scheduled the process in terms of when the decisions needed to be made. The schedule was synchronized with the up-coming elections, and preparations for the government program. [We considered] what was the right timing to establish the [Innovation University] foundation. Then there was the schedule for collecting the capital for the foundation [. . .] We calculated from these elements when the new university could begin its operations.

When articulating the window of opportunity, actors portrayed the timing norms as fixed and given, and opportunities existed in their limits. In contrast, when pacing the process to feed momentum, actors also came to modify the timing norms. In particular, the Nyberg Report scheduled the pace for the ensuing university legislation. This turned the institutional project into the *zeitgeber* that began to pace the legislation process, governing wider university reform. Yet, as we show, in intricate ways these pacing activities happened in synchronicity with the timing norms of the democratic process.

While thus far seemingly fluid, the process was not without resistance. We next turn our attention to temporal work on managing resistance and the emergence of a perception of irreversibility among stakeholders.

Sequence IIb: Establishing the Perception of Irreversibility

This sequence of activities, which partially overlapped with that of synchronization, was characterized by the gradual emergence of irreversibility (see Figure 2). This perception in our analyses appeared as a shared, deterministic belief that the project would proceed to its envisioned outcome. During this sequence, actors engaged in two types of temporal institutional work. They constructed urgency by limiting time for preparation, which, together with prioritizing certain issues and actions over others, forced the focus on a solitary option. Simultaneously, actors enacted momentum by establishing symbolic and material signals of progress, and preempting resistance. Irreversibility emerged as a perception that execution of a particular option was inevitable, on the one hand, because it represented a solution to the most urgent issues, at least for those holding power; and on the other hand, because the process seemed to be forcefully on the way toward a defined future outcome. We next discuss the temporal institutional work that gave rise to the perception of irreversibility.

Constructing urgency. During this sequence, actors constructed urgency by limiting time for preparation, and by prioritizing certain issues over others. These temporal activities were related to each another, and forced a focus on the Innovation University project, excluding any competing issues. In terms of limiting the time for preparation, the way in which the work of the Nyberg Committee was scheduled was very effective. The Ministry granted the Nyberg Committee a shorter time period than usual. This reflected the understanding that this type of preparatory work needs to happen quickly (Table 6, IIb.1). Overall, using committees had proven to be effective in finding consensus in a short time (IIb.2). The Nyberg Committee convened in November 2006, and worked under time pressure until February 2007 when its report was due. As Pekka (government official) explained: "It was quite a short time period . . . we worked very intensively for just over three months." Ivar (university management) described how the short period for preparation forced focus on the committee work because there was no time to consider alternatives:

> Everybody understood that the discussion about . . . Innovation University was in the background . . . in the initial phase . . . there was no preference for a merger but it emerged through the discussions. But not in the way that one would have compared the options very analytically, as there was this requirement of getting the work of the committee done within a short period of time.

Regarding prioritizing issues, the Ministry had stated that the Nyberg Committee should create a unanimous proposition that all its members could support. With this in mind, the committee avoided stumbling over any controversial issues and was forced to prioritize (IIb.3). The committee struggled with internal tensions around several issues, resulting in crucial aspects—such as the location of the new university, whether it should have one or many campuses, and concerns about the management and the composition of the board—being addressed in an open-ended way. These were described in the report as less urgent issues that could be returned to at a later stage of the process.

A further element of forcing prioritization was that the Nyberg Committee, in their report, denied the possibility to dismantle the proposal and prioritize any single element. The report stated: "in order to reach the set goal—that of a world-class university—the entity that these suggestions form needs to be fully executed." The committee members had discussed the problems that would emerge if the proposal was not executed in full (IIb.4). They believed that failing to execute the proposal and necessary legislative changes both in the proposed form and in the suggested schedule would lead to failure of the entire venture. This strategy of either accepting the whole package or not proceeding at all was productive in facilitating rapid agreement once the report was published. A high threshold was set for both internal and external actors to voice concerns over any detail of the proposal, or indeed to begin to prioritize some elements in it over others. To further enforce this view, industry leaders stated that the industry would withdraw from financing Innovation University entirely if the plan would not be executed in full. By such means, the Nyberg Committee and their report were important tools for creating a sense of urgency that focused attention on a solitary option and a process for execution.

Enacting momentum. Actors engaged in temporal institutional work of enacting momentum by establishing symbolic and material signals of progress, and

TABLE 6
Sequence IIb: Irreversibility Quotes

SEQUENCE IIB: IRREVERSIBILITY	
Constructing urgency	**Enacting momentum**
Limiting time for preparation IIb.1 We deliberately planned a tight schedule . . . that would be extremely tight but not impossible. An issue as simple as that has a big impact . . . I believe that our shared experience of similar situations is that you can easily spend time and after a certain period the use of time is not productive anymore.—Pekka, government official IIb.2 We have tried to use more ministry internal committees, and one-man committees . . . so that we have coherent proposals, and rapidly enough. . . . This has meant that decisions have been made more quickly.—Ivar, university management	*Establishing symbolic and material signals of progress* IIb.5 It is very important that we have got something concrete and visible on the move . . . if there is no action and nothing observable, the momentum gets lost.—Henrik, university management IIb.6 Another important catalyst was the publishing of the Nyberg Report, where very big ideas were said in public. And the third critical was that this project got into the government program because today the governments do not execute anything except what is in the program.—Wilhelm, university management
Prioritizing issues IIb.3 From the beginning we aimed for a unanimous proposal so that we [didn't] have any dissenting opinions because that would have jeopardized the execution of the proposal.—Ivar, university management IIb.4 So important in addition to the radicality of the project [Innovation University] . . . was that it was this kind of package [. . .] A package that could not be opened and which should be kept sealed [. . .] we went through worst-case scenarios [of] what could happen if it would not be a package.—Jacob, university management	*Preempting resistance through speed and exclusivity* IIb.7 If we would have used a lot more time for preparation. . . all the [political] parties would have had time to notice what's going on.—Karl, government official IIb.8 My experience from different ministries is that if we want to take further some major issues . . . the preparation needs to be profound . . . and then presented to others. . . . In politics, if you move on with insufficiently prepared issues, there will be so many questions that you cannot answer.—Sebastian, government official IIb.9 During the committee work we knowingly decided that we are not going to hear the staff organizations at all . . . We knew that . . . it would have consumed all our time. We did not hear student organizations either. It was a conscious choice of not using time on it.—Pekka, government official IIb.10 They of course want to do the work in peace and only listen to certain parties . . . this means that preparations are done at least partly under secrecy.—Ellen, labor market organization
Irreversibility	
IIb.11 The discussions in the Parliament that are now ongoing are really "backward" in that no one really believes [laughs] that they would have any impact [on the process] . . . this is very different from most reforms in that this has been planned for a much longer time and a lot of time was used for the preparations exactly for the reason that it would not be so sluggish at this stage.—Pekka, government official IIb.12 It was a very skillfully conducted decision-making process, in which one issue at a time was decided. This then created a situation that the process is in such advanced stage of progress that it cannot be reversed.—Jacob, university management IIb.13 I opposed it . . . and then the Nyberg Committee was formed. . . . The Nyberg Report was published and the dean held a briefing . . . I think he betrayed us.—Sara, university management	

preempting resistance through speed and exclusivity. Regarding symbolic manifestations of power and progress in the project, perhaps the most important element was when, in October 2006, the Ministry of Education set up special "spearhead projects" to develop far-reaching collaboration among universities in three regions: Old City on the west coast, Eastville in the east of the country, and Innovation University in the capital region. This made the project a visible and concrete endeavor, and by such means it fed the momentum (IIb.5). According to Sebastian (government official), the Innovation University project acted as the driving force for the entire wider educational and socio-political reform:

> [Innovation University] fitted well to pull forward the structural reform of the entire university sector, these three spearheading projects, the University of Eastville, the Old City—and then Innovation University as the driver. The idea was that if we get these going, it will make the entire structural reform much easier . . . it was a very broad education political and social political operation that we got on the move.

Appointing Rolf Nyberg, a renowned policy maverick, as the chair of the committee was another symbolic act feeding momentum. The popularly adopted eponymous name for the Nyberg Committee accentuates the symbolic power associated with its

leader. Harry (industry) expressed that the status of Nyberg was a signal that this was a priority project that would be well resourced: "three groups were set to make proposals for structural development [. . .] and when Nyberg was appointed to lead the Innovation University project, everybody believed straight away that there [would] be money."

Moreover, the committee was staffed with the key individuals with power for execution, representing key interest groups and powerbases: the deans of the three universities, high-status representatives of the Ministries of Education and Finance, key individuals from the business community, and two renowned professors as a secretariat. As noted by Leila (government official): "the preparatory work was unprecedented when we saw that so many actors and forces were on the move in society." This constellation of powerful individuals created tremendous momentum around the project through manifesting that key people and organizations were committed to its execution. An outcome was that soon after publication of the Nyberg Report, both university reform and Innovation University were included in the new government's program (IIb.6).

As a second set of activities, the key protagonists, particularly within industry and the Ministry of Education, engaged in preempting resistance through speed and exclusivity. In our analyses, we found that the strategy to move quickly was aimed not only at creating focus and a sense of urgency, as discussed in the previous section, but also at managing the opposition (IIb.7). According to Erik (industry), opposition could be thwarted by speed:

> It was important that during the planning stage there was a hell of a speed. That they did not begin to ask from a thousand people but they tried to keep up a tremendous speed because otherwise resistance would have emerged.

In a similar vein, drawing on their substantial political experience, the people in the Ministry of Education had learned that preparing the issues profoundly in relative secrecy was the best way to account for potential resistance (IIb.8). Planning and scheduling the next steps were decided within an exclusive circle of participants. The work of the Nyberg Committee in particular was deliberately exclusive. Although the committee work included much interaction with different stakeholders, this happened on the members' terms and within the boundaries that they set for interaction and its leverage. For example, the Nyberg Report also explicated time pressure and the non-pressing nature of certain issues, such as changes to employment relationships, as reasons for not engaging and hearing some stakeholder groups during the committee work (IIb.9–10). By such means, the committee members guarded the momentum around the Innovation University.

Irreversibility. The combination of power, speed, and secrecy in preparatory work overwhelmed the opposition and gave rise to a perception of irreversibility. As Karl (government official) noted, once the opposition finally began to organize, it was already too late because of the wide legitimacy and political acceptance that the project had gained:

> This has been a very interesting case in that it has proceeded so far so rapidly. . . . Those who later began to oppose this have been far too late. The enterprise had already proceeded so far before the opposition . . . emerged. . . . No one really believes that [the opposition] has any real chance anymore.

Irreversibility in our data refers to the fact that actors, both proponents and opponents, began to share a belief that change was irreversibly in motion and that it was too late to do anything—a perception well expressed in Karl's quote above (see also IIb.11).

Interestingly, opponents' lack of response to the initiative in its early stages was a deliberate strategy. Sara (university management) noted that active contestation would only create momentum around the suggestion: "We discussed that it is better not to react to this suggestion, and the idea will die away. If we begin to contest, that will only feed the fire." However, this approach would prove problematic because the opposition failed to develop momentum around an alternative approach. The serious attempts to mobilize wider opposition took place largely after the Nyberg Report was published, but this resistance was not effective. At the same time, the skillfully managed progress of the Innovation University project had advanced to a stage where it seemed unstoppable (IIb.12).

Our analyses of the interview data suggest that publication of the Nyberg Report marked a turning point. After its publication, the perception of irreversibility emerged when the focus of the debates began to move from "what to do," to "how to do it." In other words, irreversibility marks the moment when actors ceased talking about whether Innovation University should take place, to discussing how it was to be executed. Ellen (labor union) linked this situation to deliberate actions: "the proposal [by the Nyberg Committee] that comes out is such that it will be executed and there are no options." The strong

momentum around the Nyberg Report resulted in complete disillusionment among many staff members in that people who did not believe that the project would go forward suddenly "realized" that it would happen (IIb.13). In this sense, the perception moved very rapidly from "it will not happen anyway" to "there is nothing we can do to stop it." The perception of irreversibility further energized proponents and discouraged opponents in the various field organizations.

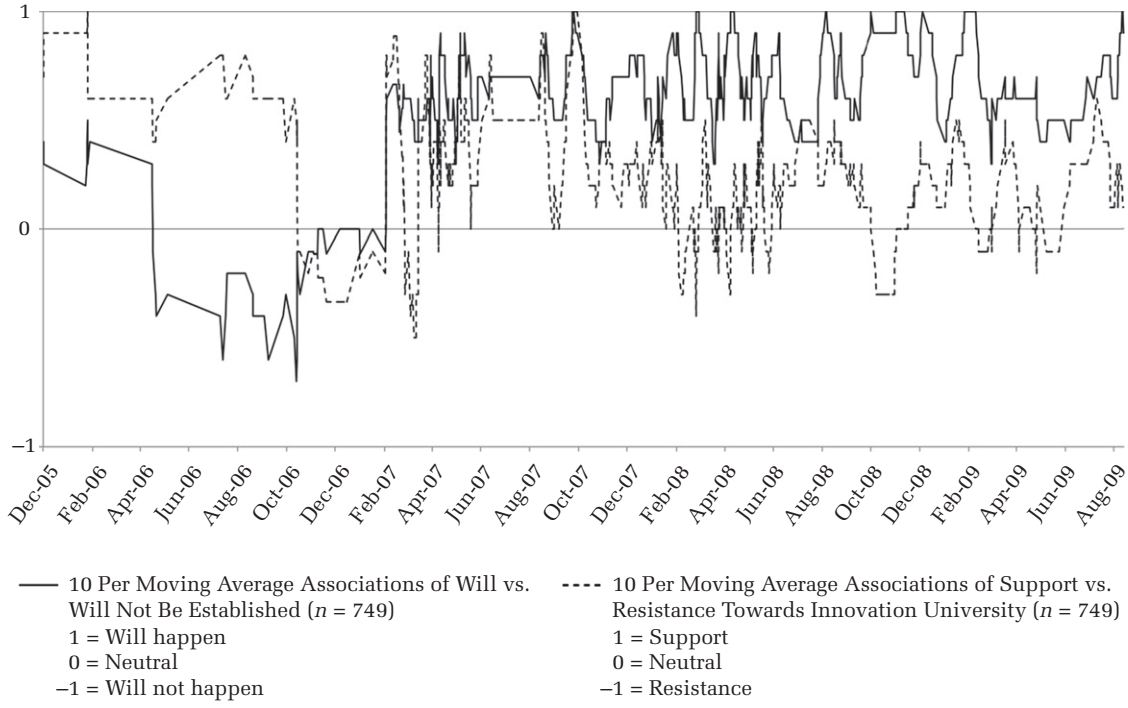
Our subsequent analyses of the media data confirm that publication of the Nyberg Report in February 2007 indeed represents a watershed. This is shown in Figure 3, where we plot the movement of the trend line of an average of 10 observations to follow the changes in media associations over time. The continuous trend line above the 0 level refers to news stories on average reporting that the merger would take place, whereas when below this level stories reported that the merger would not materialize. Similarly, the dotted trend line above the 0 level refers to news stories on average reporting support for the merger, whereas when below the line stories reported opposition. The figure shows that after the Nyberg Report was published, the media stories unilaterally reported that the Innovation University project would go forward, even though criticism of the venture continued with the same intensity as before. The perception of irreversibility emerged regardless of whether official decisions had been made—it was only in June 2008 that the Innovation University foundation was established, and in 2009, over two years after the report's publication, parliament voted on the merger of the three universities and enacted the new university law.

Our analyses established different types of temporal institutional work in which actors engage, and the types of shared beliefs about temporality that they produce during institutional change. Drawing on the model of temporal institutional work and the supporting analyses, we next discuss the contributions of the study.

DISCUSSION AND CONCLUSIONS

Research on institutional work has explored several types of purposive actions in which actors engage when they aim to change institutions. To date, however, these studies have overlooked temporality, despite the fact that agency is "a temporally embedded process of social engagement" (Emirbayer & Mische, 1998: 963). On the whole, understanding of temporality in institutional research has been very

FIGURE 3
Associations that Innovation University "Will or Will Not Be Established" and "Support and Resistance toward Innovation University" as Expressed in the Media (n = 749)



limited, with rare empirical studies. Consequently, time and temporality seem to be among the last enclaves, in which the role of agency and the nature of institutional work have been little considered, taking actors as temporal "dopes." Drawing on an inductive study of an institutional project to establish a novel foundation-based university—which also paced wider university reform—this paper develops a new perspective of institutional work and makes important contributions to the emerging research on temporality and institutions.

A Temporal Perspective to Institutional Work During Change

Our central contribution is to develop a temporal perspective to institutional work and institutional change. While stage models plot events and actions over a period of time, they pay little attention to how dominant and changing perceptions of temporality come into play and influence institutional processes. Further, the emerging body of research on institutions and temporality has assumed a top-down reproduction of timing norms (Aberbach & Christensen, 2001; Buhr, 2013; Kingdon, 2003; Pierson, 2004). We show that temporality is a more complex construct, and one that is foundational for institutions. Timing norms, as context-specific temporal structures, set boundaries for the pace, sequences, and rhythm of change (Ancona et al., 2001; Barley, 1988); whereas unfolding events and their theorizing occur bottom up, in an unpredictable and even chaotic manner (Greenwood et al., 2002; Munir, 2005), and constantly challenge those temporal structures. Our study exposes how actors engage in action in the confluence of such pressures. Some conceptual papers have discussed a structurationalist approach to temporality in organizational and institutional research (Barley, 1988; Orlikowski & Yates, 2002). However, the way in which actors enact temporal structures in the context of institutional change has been overlooked. Our study is thus one of the first empirical pieces in institutional work, and in the wider institutional research, that accounts for how actors construct, navigate, and capitalize on timing norms in their attempts to change institutions. We label this temporal institutional work.

Our contribution is part of the recent broader interest in temporality in management, and answers a call to uncover "precisely how ... temporal constructs are likely to come into play," and what the "mediating mechanisms through which these ... constructs may exert their influence" are (Bamberger, 2008: 843). Our model develops such understanding. We identify three forms of temporal institutional work that play a role in reproducing and creating timing norms: entraining (as a top-down, routinized, reproductive form), constructing urgency, and enacting momentum (where the latter two are both seen as bottom-up, issue-driven and generative forms). Further, we show that by engaging in these types of work, actors jointly construct shared beliefs about temporality. Windows of opportunity, synchronicity, and irreversibility—as these beliefs—may, in turn, have a performative impact on institutional change. By uncovering these constructs and dynamics, our model makes an important contribution to research on institutional work and temporality in institutional change. In the following, we develop more fine-grained arguments for the contributions.

Constructing Temporal Openings and Temporal Boundaries for Issues

Drawing on our analyses, we show that temporal institutional work is at the center of any process of institutional change because it is an inherent aspect of issue construction. Previous research has identified that events per se do not result in change; for this to occur, actors need to construct events into issues and make them meaningful to various stakeholders (Bansal, 2003; Dorado, 2005; Greenwood et al., 2002; Munir, 2005). We add to this understanding by showing that ensuing action can be explained only by accounting for how actors make temporality meaningful during issue construction. To accentuate issues, actors construct urgency by linking particular pressing interests and priorities with certain current solutions. At the same time, they engage in entraining; that is, they construct the connections of issues and proposed solutions to what they frame as external timing norms, and articulate openings in them. By such means, they produce windows of opportunity as shared temporal beliefs, and thereby create and enact temporal boundaries (Yakura, 2002) for action around an issue. This, in turn, provides an explanation for why people take action at a specific moment of time, within a given time frame. Temporal institutional work is thus consequential for explaining action in the context of institutional change.

Regarding the broader literature on temporality, our findings afford an alternative conceptualization to the current understanding of windows of opportunity as unmodifiable givens, provided by developments in the external environment (Buhr, 2013; Suarez et al., 2015; Tyre & Orlikowski, 1994). We show that rather than givens, windows of opportunity are socio-temporal constructs that are outcomes of and a domain for temporal institutional

work. When actors engage in constructing such temporal openings and boundaries for issues, they simultaneously articulate time as linear and finite, and issues as open ended but possible to achieve if only they are addressed at the given moment. Our conceptualization of windows of opportunity has resonance with Reay, Golden-Biddle and Germann (2006), who found that rather than a single opportunity, an institutional landscape is peppered with multiple opportunities. In their study, actors continuously assessed opportunities and timing for action by drawing on their social connections, experiences, and understanding of the context for actions. Although carefully contextualizing opportunities, even this study assumes windows of opportunity as temporal givens. Our research, thus, opens up an approach to examine windows of opportunity as arenas and outcomes of construction, where actors "make" time for issues.

Entrainment with Timing Norms During Institutional Change

Our study contributes by developing a vocabulary and, hence, a set of conceptual tools to address temporality in the institutional research. In this way, we join only a handful of previous studies (Barley, 1988; Pérez-Nordtvedt, et al., 2008; Pierson, 2004). We employ the concepts entrainment, timing norms, and *zeitgebers*, which we show to be central to characterizing temporality in the context of institutions. Although our study addresses temporal institutional work during change through these concepts, it also uncovers their reproductive and stabilizing elements. In particular, we conceptualize entraining, which is well established in the broader literature on temporality (Ancona & Chong, 1996; Bluedorn, 2002), as a form of temporal institutional work that maintains institutions. Through entraining, actors mediate *isochronism* (Pérez-Nordtvedt et al., 2008), a process whereby organizations within a field come to adopt the same rhythms and tempos for their activities. Previous research has assumed that entrainment is a top-down process, where a *zeitgeber*, or metronome-like timegiver, is external to the "system" (Aberbach & Christensen, 2001; Buhr, 2013; Kingdon, 2003; Pierson, 2004). We show that through entraining, actors reproduce timing norms as institutionalized temporal routines for "cycles, rhythms, beginnings, endings, and transition points" that at the same time help them define their "roles, obligations, and the tenor of relationships" (Barley, 1988: 125). Entraining as a type of temporal institutional work thus enforces continuity and predictability during the cycles of institutional stability and change, and thereby explains many elements of pace and rhythm.

However, our study uncovers that entraining goes beyond actors merely reproducing timing norms. Rather, they also opportunistically articulate finite periods. As a clear break from past assumptions, we show that entrainment can be a two-way process. We find that the locus of a *zeitgeber* can change from merely enacting top-down timing norms, to the pace that actors construct within an institutional project. We therefore show that temporal institutional work, when effective and successful, can have a profound impact on the timing and pacing of wider societal reforms. Entraining in this sense entails adaptation to perceived timing norms, but also their purposive and strategic articulation. Consequently, timing norms come into play and are modified through an interpretive, reflective process, in contrast to being merely automated, reactive acts, reproduced by temporal "dopes."

Perception of Irreversibility and Institutionalization

As a final contribution, the perception of irreversibility has been largely overlooked as a belief about temporality that underlies and enables institutional change. According to Callon (1991: 150), irreversibility depends on "the extent to which it is impossible to go back to a point where [a particular understanding] was only one amongst others; and the extent to which it shapes and determines subsequent [understandings]." The result is that actors begin to deem something as predictable, or even unavoidable (Callon, 1991). We show how actors produce the perception of irreversibility through temporal institutional work. They construct urgency by forcing prioritization of a solitary option, and enact momentum by establishing symbolic and material signals of progress, and preempting resistance. Seo and Creed (2002) theorized that reflective shifts of consciousness are necessary for actors to engage in collective action. We establish that the perception of irreversibility, as a collective belief, transforms a future eventuality into a perception of a current fact. Thus, irreversibility represents a reflective shift of a temporal kind that mobilizes and legitimates action and novel organizing.

These findings on irreversibility can be related to Suddaby and Greenwood's (2005: 55) study on rhetorical strategies of legitimacy, and, in particular, the cosmological rhetoric, where the source of change is articulated as "outside of the control of those affected by it" because greater forces are at play in a natural

unfolding of events, making resistance futile, if not dangerous. Suddaby and Greenwood (2005) found that such accounts are used by proponents of change with the aim of disempowering opponents' agency. However, their study did not conceptualize this as a temporal strategy, nor did they examine the mechanisms by which such rhetoric may become performative. We show that irreversibility is an outcome of articulating time as a linear, irreversible force that is on the move toward a predestined future. With regard to institutional change, the perception of irreversibility as a product of temporal institutional work forms a dynamic and temporal force for objectification. We show how even unmet goals and visions, such as the articulated plan for establishing Innovation University, may as "an externalized product of human activity ... attain the character of objectivity" (Berger & Luckmann, 1966: 60). The perception of irreversibility thereby leads participants to increasingly take for granted that something is going to inevitably happen, which enables the ensuing change. Thus, our study contributes to research on institutionalization (Colyvas & Powell, 2006; Tolbert & Zucker, 1996) by developing temporal foundations for how taken-for-grantedness emerges. The surfacing of the shared perception of irreversibility marks an important, yet previously overlooked, cultural-cognitive process for objectifying institutions, as a key antecedent for, and predictor of, institutionalization.

Implications and Future Research

Institutional maintenance and change. The focus of this study has been to develop a perspective on temporal institutional work during institutional change. Our findings provide several implications for examining temporality across varying institutional settings and contexts, including periods of both stability and transformation. In terms of stability, several studies on institutional work have explored ways in which actors maintain and reproduce institutions (Dacin, Munir, & Tracey, 2010; Lok & de Rond, 2013; Quinn-Trank & Washington, 2009). Although not within our scope, we provide insights to how such temporal maintenance work may occur, particularly through the concept of entraining. Overall, temporal maintenance in the context of both stable and changing institutions calls for more research. Studies could examine how actors engage with temporality to produce and reenact stability, and what temporal elements mediate stability in varying institutional contexts. Particularly interesting questions are, for example, how institutions are temporally maintained in turbulent and discontinuous contexts, and what may enable their relatively rapid change during stability.

In terms of change, our study has several important implications for the research on synchronicity and asynchronicity. While addressed to some extent at the organizational level (Bluedorn, 2002; Garud, Gehman, & Kumaraswamy, 2011; Hassard, 1991; Pérez-Nordtvedt et al., 2008), there has been little research on how these might come into play during institutional change. We show that actors synchronize their activities to what they perceive as external timing norms, but also purposively construct and modify them. Thus, while being skillful and strategic in enacting timing norms, these can also be disrupted, creating temporal shifts. However, the current study does not elaborate in length on the issue of how changing paces and rhythms can disrupt existing activity patterns, and how this may enable institutional change; or what rhythms are more or less important. In other words, how and why certain timing norms become *zeitgebers*, and how do yet others take over, remains to be studied. Furthermore, one might ask to what extent such desynchronization from existing patterns is required, and whether this is the case for all institutional change. Can it be that actors' and organizations' synchronicity or asynchronicity with surrounding institutions explains some aspects of their agency? How are these related to long-term change processes versus short cycles of protest in society (McAdam & Sewell, 2001)? Can temporal institutional work relating to desynchronization explain the accelerating rhythm for change (or, at least, the perceptions thereof) in society?

Temporary organizing. Many recent studies have directed attention to temporary organizing in firms by discussing its principles and coordination (Bakker, 2010; Kenis, Janowicz-Panjaitan, & Cambré, 2009; Valentine & Edmondson, 2015) and, more broadly, exploring the proliferation of the project organization (Cattani, Ferriani, Frederiksen, & Täube, 2011; Jones & Lichtenstein, 2008). Studies on temporary organizing have shown that even failed initiatives develop new knowledge through learning, and foster connections among actors that have similar grievances (Bechky, 2006; Grabher, 2004). The very existence of a project "may be the best way of spreading a sense of urgency" that a change is necessary at a given moment in time (Lundin & Söderholm, 1995: 438). Despite the fact that projects are the key means for organizing change, studies have not examined how institutional change might unfold as a series of such temporary organizations. Our study shows that taking projects and other forms of temporal

organizing as focal contexts for empirical research might provide a fruitful path for examining temporality in institutional change. Future studies could examine institutionalization as a flow of projects. When and how can institutional change proceed as a series of temporal organizations? What kind of temporal dynamics are inherent in such project-driven institutional change, for example in terms of pacing, synchronicity, and entraining? How do agency and temporal orientations change from one project or stage to another? How are history and continuity versus breaks from the past made to matter in such contexts?

Institutional logics and complexity. While studies have uncovered several carriers for institutional logics, including beliefs, practices, and materiality (Friedland & Alford, 1991; Thornton & Ocasio, 1999; Thornton, Ocasio, & Lounsbury, 2012), they have overlooked temporality. Our study uncovers temporality as another source of institutional complexity, and suggests that it is an important carrier for logics. Institutional orders such as capitalism, religion, and state bureaucracy (Alford & Friedland, 1985) all hold particular beliefs about temporality (for example, predestination vs. open endedness), their practices are historically paced and sequenced in different ways (eternity vs. a quarter), and their material-temporal representations vary (ancient places of worship vs. ultramodern office buildings). Recent studies on ambitemporality (Reinecke & Ansari, 2015) and temporal ambidexterity (Slawinski & Bansal, 2015) have uncovered how organizations incorporate multiple temporalities as a way to manage conflicting orientations of different temporal logics, such as those of markets and development or sustainability. Similarly, in our study, the shared goal and collaboration within an institutional project synchronized actors' clashing temporal perceptions that originated from their memberships in universities, state bureaucracies, and firms. Future studies could further examine various temporal representations of logics, and the complexities that they induce. How does temporality act as a carrier of varying logics? Through what mechanisms and processes do temporal logics influence action? What kinds of contexts and issues are particularly prone to clashes of temporal logics? How can actors and organizations alleviate tensions that originate from different temporal logics?

To conclude, the current study develops understanding of the temporal aspects in institutional work during change. Our study is among the first in the institutional literature to theorize on temporality, by uncovering the way in which temporality comes into play and how actors in the process shape new temporal beliefs. These beliefs, in turn, have a major impact on how change unfolds. The study opens up several novel streams of research on temporality and institutions. As such, it marks an important step forward by providing a set of tools to analyze the sources of agency, mediators of institutional logics and complexity, and temporal and temporary elements in a variety of institutional processes.

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