



Center for Management Studies
of the Building Process
REALDANIA RESEARCH

Workshop on Sustainable Construction

Innovative Technologies and Design Models for Sustainable Construction: Reemployment of Ideas and Practices from the Past

May 19, 2009
9-17, followed by dinner

Copenhagen Business School
Kilen 4th floor, room 4.41
Kilevej 14A
2000 Frederiksberg
Denmark

Introduction

The current interest in environmental sustainability is increasing the demand for new technologies and architectural designs that facilitate the construction of environmentally sustainable buildings. The explicit aim is to construct buildings that consume low energy and ideally no energy at all. For instance, solar cells are added to roof tops, wind turbines are erected in the local community, and water is being recycled or cooled underground, all in an effort to generate or save energy. New construction materials are also being invented, such as concrete that absorbs CO₂ or whose superior strength makes it possible to add more insulation material without increasing the size of the building. And, importantly, new architectural design templates are being invented to integrate these technological developments into coherent building designs.

Although this trend is global, there are remarkable differences in the kind of sustainability initiatives that are developing in different countries. For instance, solar cells are very advanced in France while enhanced and optimized insulation of the building envelope is becoming popular in Denmark. Another indication of national divergence is the production of zero energy houses, which has become more widespread in Austria and Germany than in Denmark. National divergence is attributable in part to national legislation that is being introduced and reinforced to encourage the construction of sustainable buildings. Some convergence is also taking place in response to the tightening of building codes across Europe. An interesting question is how and why sustainable construction is taking different expressions across Europe regardless of increasingly tight European building codes?

Theoretical orientations

Innovation research has contributed numerous insights into mechanisms of innovation (see Aggeri et al. forthcoming). For example, innovators, spontaneously guided by what is familiar, valuable, and meaningful to them, select and recombine elements from the past in more or less conscious ways. This process of bricolage means that new sustainable construction technologies and design templates often embody symbolic elements that are valuable and meaningful to those who innovate them and to the actors that will subsequently employ them. For instance, elements of functionalist architecture from the 1920s and 1930s, associated with Le Corbusier in France and the Bauhaus school in Germany, are being brought back to life and recombined with recent technological developments. Such bricolage results in sustainable construction taking different form depending on the actors involved in the innovation process and the historical elements they evoke in the process. It is thus interesting to explore how innovators, more or less consciously, build symbolic elements into the design of new sustainable construction technologies and design templates.

Institutional research has illuminated how symbolic elements affect the adoption of innovations (e.g. Boxenbaum & Daudigeos 2008 ; Greenwood et al. 2002 ; Rogers 1983; Zilber 2006). This research shows that the innovations that survive and spread contain symbols that carry symbolic significance for potential adopters, often historically rooted. In particular, innovations tend to spread further if they are endorsed by sociopolitical actors, such as professional bodies and governmental agencies (Boxenbaum & Jonsson 2008 ; Greenwood et al. 2002 ; Rao 1998). For instance, endorsement in the form of national subsidies or standards can render specific innovations a cost-effective choice for construction professionals and consumers, thus further stimulating their diffusion within a given country. Such development may eventually give competitive advantage to the organizations and nations that are among the first to launch such innovations on the expanding market for sustainable construction. Moreover, these innovations may eventually crystallize into institutionalized technologies and design templates for sustainable construction. In light of these perspectives, it is interesting to explore the process of diffusing sustainable construction innovations, composed of historical elements that carry symbolic value for potential adopters and that are endorsed by socio-political actors.

Participants

This workshop will bring together a number of European researchers that are interested in tracing how ideas and practices from the past are reemployed and reshaped in response to, and in an attempt to shape, market demands for sustainable construction. Participants will be working from a variety of theoretical perspectives, including innovation research, actor-network-theory, and institutional theory to explore avenues for comparative, cross-national research on innovation within sustainable construction.

Opening keynote:

Professor Stewart Clegg, University of Technology Sydney, Australia.

Title: “Le Corbusier and the Modern” (full paper will be distributed at the workshop)

Invited participants from Denmark, France, and the UK:

Assistant Professor, Aurelien Acquier, ESCP-EAP Paris, France

Professor Franck Aggeri, Centre de Gestion Scientifique, Ecole des mines, France

Dr. Mathias Béjean, Post-doc, Centre de Gestion Scientifique, Ecole des mines, France

Amélie Boutinot, doctoral candidate, Grenoble EM, France

Associate Professor Eva Boxenbaum, Dept. of Organization, Copenhagen Business School

Assistant Professor Thibault Daudigeos, Grenoble EM, France

Researcher Paul Dewick, Manchester Business School, UK

Professor Susse Georg, Dept. of Organization, Copenhagen Business School

Professor Simon Guy, Dept. of Architecture, University of Manchester, UK

Professor Tor Hernes, Dept. of Organization, Copenhagen Business School (?)

Dr. Satu Reijonen, Post-doc, Dept. of Organization, Copenhagen Business School

Professor Majken Schultz, Dept. of Organization, Copenhagen Business School (?)

Professor Elizabeth Shove, Lancaster University, UK

Organizer: Eva Boxenbaum, CBS (eb.ioa@cbs.dk)

Links:

Center for Management Studies of the Building Process (CLIBYG), www.clibyg.com

Department of Organization, www.cbs.dk/IOA

Copenhagen Business School, www.cbs.dk

References

Aggeri, F., Pezet, E., Acquier, A., & Abrassart, C. Forthcoming. *Organizing corporate sustainability : Pioneering corporate strategies and institution building*. Edward Elgar Publishing.

Boxenbaum, E., & Daudigeos, T. 2008. Institutional factors in market creation: Concrete theorization of a new construction technology. *Best paper proceedings of the 2008 Academy of Management annual meeting*.

Boxenbaum, E. & Jonsson, S. 'Isomorphism, diffusion and decoupling'. In R.

Greenwood, R. Suddaby, C. Oliver, & K. Sahlin-Anderson (Eds.), *Handbook of Organizational Institutionalism* (pp. 78-98), Sage.

Greenwood, R., Suddaby, R., & Hinings, C. R. 2002. Theorizing change: The role of professional associations in the transformation of institutionalized fields. *Academy of Management Journal*, 45: 58–80.

Rao, H. 1998. Caveat emptor: The construction of nonprofit consumer watchdog organizations. *American Journal of Sociology*, 103: 912–961.

Rogers, E. M. 1983. *Diffusion of innovation*. New York: Free Press.

Zilber, T. 2006. The work of the symbolic in institutional processes: Translations of rational myths in Israeli high tech. *Academy of Management Journal*, 49(2): 281-303.