



# Center for Paper Business and Industry Studies

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*Newsletter of the Center for Paper Business and Industry Studies*  
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## **Research Update: Historical Perspectives on Today's Problems**

*(This is the seventh in a series of "Research Updates." Previous installments appeared in the recent September, January, February, March, May and June issues of the Newsletter.) This article is based on a document prepared by Professors Steve Usselman and Gus Giebelhaus, the Principal Investigators of the project described.*

Industrial historians are motivated by the belief that lessons can be learned from past experience and that historical perspective is a useful, indeed a necessary, tool of business and policy analysis. Challenges currently confronting the pulp and paper industry loudly enunciate the need for change, change that must be accomplished against the backdrop of a complex regulatory environment characterized by acute environmental awareness and often complex and overlapping political jurisdictions. This project employs the tools of historical analysis to illuminate the present situation through study of similar episodes of transition in the past. Its premise is that insights from history will facilitate the broad-based strategic thinking required to innovate successfully under adverse conditions.

The key questions being addressed in the course of this study are:

- How has public policy – especially antitrust and environmental regulation – historically influenced the course of technical innovation in the industry?
- What strategies of innovation (e.g., process vs. product; cooperative vs. proprietary) have proven most effective for firms in the industry?

Answers will be found in two doctoral dissertations, one ongoing, the other complete. For descriptions of these, see the article on Unger's work in the March 2004 issue of this Newsletter, and the article on Toivanen's work in the current issue, below. Specific preliminary research findings: 1) case studies of the relationship between industry mass production and segmented industry organization; 2) the evolution of strategies of expansion and learning; 3) connections between the trajectory of innovation and the business cycle; 4) examples of the development of specialty production in pulp and paper and their relation to corporate organization; 5) case studies of the relationship between corporate strategies and government regulation.; 6) a retrievable data base of significant industry patents; and 7) a chronology of key events in the evolution of environmental regulation and policy affecting the industry.

Examination of the evolving interplay among technical innovation, industry organization, and government policy at the local, regional, and national levels provides an opportunity to use the experiences of the past to illuminate the present and inform future decisions. Findings to date make it apparent that the history of this industry must go beyond simply noting the achievement of economies of scale through greater throughput and the introduction of larger and faster paper machines. For example, firms typically followed either a strategy of intensively technological and economic production of paper or they were situated in the converting sector, where competitive strategies rested on proprietary rights. Large paper manufacturers (e.g., International Paper and

Weyerhaeuser) tended to focus on economies of scale and market control – a strategy of efficiency. Specialty manufacturers, on the other hand, built distinct competitive strategies by carefully patenting products such as paper boxes, cups, bottles, and bags (e.g. Hinde and Dauch, Union Paper and Bag, Scott, Kimberly-Clark). In some cases patents trusts developed which later ran into antitrust difficulties. Preliminary studies of such related issues as geographic expansion, product diversification, distinct “waves” of innovation, the introduction of new technologies in specific firms, and the organization of learning within the firm also suggest lessons to be studied by today’s industry.

Further work on such issues as past cycles of antitrust investigation and prosecution, wartime economic controls, the blending of differing traditions of industry practice through merger, and the ways in which various environmental challenges have been addressed, particularly since World War II, will resonate with the needs of current industry analysts and leaders. The compilation of an integrated history of the pulp and paper industry, which emphasizes the link between competitive structure and technological innovation, promises to be a useful tool. Finally, case studies of how firms interacted with one another across the industry in the past may be expected to shed light on how differing business strategies at various moments in time involved elements of both cooperation and competition.

For further information on this project, please contact Dr. Steven W. Usselman, 404-894-8718, [Steve.Usselman@hts.gatech.edu](mailto:Steve.Usselman@hts.gatech.edu), or Dr. August W. Giebelhaus, [gus.giebelhaus@hts.gatech.edu](mailto:gus.giebelhaus@hts.gatech.edu). Both are at Georgia Tech’s School of History, Technology and Society.

### ***CPBIS Ph.D. Student to Graduate***

We congratulate Hannes Toivanen, a CPBIS-affiliated candidate for the Ph.D. degree in Georgia Tech’s School of History, Technology and Society, who successfully defended his thesis on April 16 and will formally graduate on July 30.

His dissertation was entitled “Learning and Corporate Strategy: The Dynamic Evolution of the North American Pulp and Paper Industry, 1860-1960.” Hannes presented the results at the annual dissertation conference of the Consortium on Competition and Cooperation (CCC), held this year at Emory University on April 24 and 25. Sponsored in part by the Sloan Foundation, the CCC brings together scholars and doctoral students from around

the world to consider the latest research into industry dynamics.

Hannes’s thesis research was supervised by Professor Steve Usselman and sponsored by CPBIS, via funding of the project described earlier in this issue. Hannes provided the following brief summary:

“This study analyzes the long-term evolution of the North American pulp and paper industry, and offers a new synthesis of the dynamic forces that spearheaded the expansion and transformation of this large manufacturing industry. The evolution of the North American pulp and paper industry between 1860 and 1960 was driven by successive waves of technological learning that spawned structural change. Such waves transformed and expanded the sulphite and sulphate pulp, envelope, paper container, paper bag, magazine and printing paper, coated paper, board, and many other pulp and paper industry sectors between 1860 and 1960. These waves repeated a pattern of co-evolution of technology and industrial organization that enveloped dynamic forces of change, such as innovation, corporate strategies, industrial relocation, and policy. As distinct branches of the pulp and paper industry passed from the early nascent phase to full maturity, the sources of innovation, nature of technological change, strategy and structure of leading firms, and industrial organization underwent thorough transformation. As these waves of industrial change passed from a nascent phase to maturity, the reciprocal dynamics between organization, corporate strategy, policy, and technological learning co-evolved, and established the evolutionary path of the North American pulp and paper industry.”

### ***Upcoming Events***

**Six Sigma.** The PIMA/CPBIS Webcast Course on Six Sigma will begin on September 8. See <http://www.pimaweb.org/training/fall04seminar2.html>

**CPBIS Industry Advisory Board (IAB) Meeting,** Thursday September 23, 9:00 a.m. - 3:00 p.m., Room 114, IPST at Georgia Tech. IAB members, please mark your calendars.

**CPBIS at the TAPPI Fall Technical Conference.** Nov. 1-3, Atlanta. CPBIS will sponsor sessions on “Workplace and Antitrust Issues” and “Economics, Logistics and Supply Chains.” Watch for details.

**Management Development Course.** October 25-29, IPST. A unique opportunity to acquire skills that will radically improve your management performance and value to your organization. ■