

Evolution of the field of operations management

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Abstract

This Special Issue of the *Journal of Operations Management* consists of 16 articles by 26 authors covering Operations Managements (OM) topics and issues from the 16th century to the 21st with predictions for the future. While it does not pretend to be comprehensive, it is representative of the types of subjects of inquiry through out this historical period in what could be considered OM. This introduction attempts to put the papers in context, and concludes with comments about what might be considered fundamental concepts which, taken as a set, can be seen as the foundations of Operations Management today.

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1. Introduction

The spark underlying the idea for this Special Issue of the *Journal of Operations Management* was the 30th Anniversary Meeting of the Operations Management Division of the Academy of Management in 2002. Tom Choi, then OM Division Chair, and Ken Boyer, 2002 OM Division Program Chair, invited all past Division Chairs to attend this Meeting and participate in the Program. Fourteen of the Past Chairs came to Denver for the celebration and gave brief summaries of what was going on in the Division when they were Chairs. Most of the Chairs also participated in the Doctoral Consortium, continuing the tales of past issues, arguments, programs, enthusiasms and poker games.

It became clear that many of these anecdotes, stories and even important intellectual themes – “HMMS” and the “MRP Crusade” in particular – were unknown to our Doctoral Students and junior Faculty. Even the not-so-distant past was disappearing into the mists of time.

Morgan Swink, 2003 OM Division Program Chair, agreed to offer a Session in the 2003 Meeting focused on the history of the field. Chris Voss, Kate Blackmon and I gave a session at that meeting on “The Evolution of the Field of OM”, which was very well attended. Rob Handfield, then Editor of the *Journal of Operations Management*, was there. After the session, we talked and the result was my agreeing to serve as Guest Editor for a Special Issue of the *JOM* on the Evolution of the Field of OM. The following paragraphs are taken from the *Call for Papers* for this Special Issue:

“The field of Operations Management has experienced substantial change – with the occasional identity crisis – since its establishment within manufacturing in the 19th century. Professional organizations which have helped nourish the development of our field are celebrating anniversaries of their establishment, inadvertently marking a change occasioned by retirements of well-known authors and researchers as a “next generation” assumes leadership of these organizations and begins to move on to authorship of best-selling texts. We run the risk of losing valuable lore and information about our

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roots without a record of people and events who laid the foundations of our field.

This special issue of the *Journal of Operations Management* (JOM) is intended to bring together a unique combination of historical reports and analyses about important events, turning points, shifts in focus and intellectual developments which have brought us to the field as we know it today. It will also include biographical information about significant players in the evolution of Operations Management . . .

Given the nature of the information and analyses, which are being sought, it is expected that unfamiliar methodologies will necessarily be included. The tools of the historian, even the skills of the essayist, may be more appropriate for this particular Special Issue. It is not likely that our typical methodologies – survey research, hypothesis testing, causal models, etc. – would be appropriate.”

The 16 articles, which follow have been reviewed and, in most cases, revised several times with substantial help from the Reviewers. This is not a surprise given the “unfamiliar methodologies” required for this Special Issue. Colleagues who reviewed/refereed papers for this Special Issue deserve special commendation for their work which, as predicted, required the “tools of the historian, even the skills of the essayist” for the Reviewers as well as the Authors. I am deeply grateful for the help provided by:

Tom Callarman, Arizona State University and China Europe International Business School (CEIBS)
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 Jack Meredith, Wake Forest University
 Tim Smunt, Wake Forest University
 Marty Starr, Rollins College
 Tom Vollmann, IMD, Switzerland

There were other Reviewers as well: many authors sent their work to colleagues for review before submitting them for the Special Issue and also did this during revisions.

The organization of these papers is roughly chronologic, from the 16th century, ending with a prognosis. The Industrial Revolution, and the works of

Frederick Taylor and Henry Ford are mentioned here but not emphasized: this is territory already relatively well documented, including within our own journals—see, for example, [Abernathy and Corcoran \(1983\)](#) in the third volume of the JOM.

2. The 16th century through the 19th century

[Voss \(2007\)](#) introduces a 16th century text – [Agricola, 1556](#) – which remains in print today. The English translation was done by Herbert and Lou Hoover—yes, that is U.S. President Herbert Hoover who was a well-known mining engineer before (and after) his term as President which began in 1920 ([Hoover and Hoover, 1950](#)). His wife Lou was also a geologist. Voss argues that *De Re Metallica* can be understood as the operations management text of its era. This unique work describes “. . . the technical aspects of mining and metallurgy . . . [and] the organization, management issues and tools to be used.” From an analysis of the content of the 16th century work, Voss offers a “possible medieval MBA curriculum” as well as a comparison of [Hayes’ and Wheelwright’s \(1984\)](#) and [Hill’s \(1989\)](#) characterization of “20th century continuous flow processes” with “mining and metal processing as described by Agricola”.

De Re Metallica describes familiar processes and structures and displays a dedication to empirical research and data collection, predating by four centuries aspects of Frederick W. Taylor’s *Scientific Management* (1911).

[Lewis \(2007\)](#) brings us to the 19th century with an analysis of the works of Charles Babbage (1791–1871). Echoing Voss, Lewis reminds us again that much of what we know about Operations Management has been known and practiced but then, too often, forgotten and re-invented during the Industrial Revolution and once again in our times. The most widely known of Babbage’s substantial body of work is his *On the Economy of Machinery and Manufactures*, originally published in London in 1832 and revised and reprinted by Babbage several times during his lifetime ([Babbage, 1832](#)).

Lewis is particularly focused on “reclaiming” Babbage as an OM pioneer. Babbage is recognized today primarily as a computer pioneer because of his dedication to the development of difference engines and an analytic engine. He was plagued with technical problems in the construction of the actual devices and experienced serious problems financing and managing the design and development project. Success was finally achieved in 1991 – the 200th anniversary of his birth – when the London Science Museum undertook the construction of a replica of what Babbage had intended to build. It worked.

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