Charles Babbage: Reclaiming an operations management pioneer

Abstract

Charles Babbage (1791–1871) was the embodiment of a polymath: elected a Royal Society fellow, holder of the Lucasian Chair of mathematics at Cambridge, founder of the London Statistical Society, author of many papers and full-length monographs and, most famously from a 21st century perspective, the architect of modern computing with his difference engines and designs for the analytical engine. The scale and complexity of these machines meant their realisation was dependent upon the latest industrial advances like parts standardization and machine tool technology. As a result Babbage committed large amounts of his time and money to the theoretical and empirical study of advanced production and engineering practice.

This paper argues that Charles Babbage deserves to be recognised as a pioneer in the field of operations management. His path-breaking contributions were born of a singular intellect and degree of creativity combined with a commitment to empiricist scientific method and statistical measurement. Moreover, he was working as Britain transformed itself into the most highly industrialized country the world had ever seen. The paper draws in particular upon the various editions of his best-selling book, ‘On the Economy of Machines and Manufactures’, first published in 1832. It reviews the many core operations principles evident in Babbage’s analyses and highlights insights that remain relevant to today’s theoretical and practical concerns. The paper concludes with a discussion of how a combination of contextual and biographical factors left Charles Babbage a largely unsung pioneer in the field of operations management.

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