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Sommario/riassunto	This book is the result of years of research following a realization of the mismatch of engineering skills produced by universities and those that industry required, based on the situation in Sub-Saharan Africa, equally applicable to other regions in Africa and indeed worldwide. The book is meant to assist engineering academics and engineers in industry to build capacity and cope with the dynamic trends in

technology brought on by the 4th Industrial Revolution and to prepare for the 5th Industrial Revolution, an era predicted to be dominated by critical and system thinkers with creative and innovative skills as basic necessities. The book is also useful for policy-making researchers in academia, industrial and public sector researchers, and implementers in governments that provide required funding for the development of human resources and skills. The book primarily consists of the novel research and innovation approaches of modelling and building systems thinking sub-models which were ultimately integrated into the Universal Systems Thinking (UST) model aimed at improving the quality of engineers and engineering practice. The initiatives in this book include strategies for bridging the gap between industry and academia through systems thinking research. The book provides information on how to model, simulate, adjust and implement integrated systems thinking approaches to engineering education and training for capacity building and sustainability. The book also covers approaches to address research gaps and mismatch of skills while capitalizing on the successes of several projects carried out and supported by the Royal Academy of Engineering over the years. Offers information and references for developing systems thinking models for capacity building; Includes complete research case studies carried out in different engineering companies ranging from mining, mineral processing, manufacturing and general engineering; Presents materials for research-based tertiary institutions and engineering companies in industrializing countries coping with the rapid changes in technology.
