Industrial digitalization is changing how products are designed, used, operated, and serviced. It is fast transforming the operations, processes, and energy of the factories. The convergence of digital technology has started to recast the landscape of the global industrial manufacturing competition. Digital platforms play a crucial role in addressing competitive pressures and integrating new technologies, apps, and services. Industry 4.0, as a collective term for technologies and concepts of value chain organization, is a complex concept that is not clearly understood by the managers of companies and organizations. There is a need for strategic guidance, detailed roadmaps, and precise implementation details. Significant IT investments are required to achieve vertical and horizontal integration while the uncertainty about the outcomes and the maturity and capability of the companies become real challenges. Management is saddled with the training of people for efficient cyber-physical collaboration between people and the systems, with operations that require a creative process, sensors for monitoring and control. The objective of this thesis is to present the framework for Industry 4.0 through which management can understand the challenges that stem from this technological change. The strategic problems and solutions that will promote the conversion of both small and medium scale industries from the existing operational platform into the new platform are presented and the findings in this thesis. Hopefully, these will serve to help manufacturing and business organizations to reengineer their operational processes, industrial assets, energy requirements and usage, and employee skills acquisition toward Industry 4.0. As the management devotes time and resources to manage this transition, there is no doubt that it will enable them to achieve global competitiveness in the new technological and big-data environment.

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The public is welcome to attend.