

Study of Smart Factory in Indian Companies: Technologies and Challenges

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Abstract

The production facilities have started to use the most advanced manufacturing techniques using technology. Factory based on equipment, automation based on process, factory, logistics, energy, product development, collaborative supply chain is all interconnected with ICT which has resulted into a Smart Factory. All these automations with ICT enables the system to be intelligent, optimized and efficient. The “Smart Factory” phenomenon has already influenced every aspect of business value chains, and hence it has been analyzed by management scholars worldwide. Despite being part of the rhetoric in several recent industrial government plans, industry 4.0 and smart factory has not been systematically reviewed to date. In this study, the researchers have leveraged a systematic qualitative literature review and a qualitative methodology. This study provides a clear picture of the current technologies, case applications and challenges of smart factory in management studies. The researchers explore to understand the technical architectures, involved and the emerging technologies utilized which are embedded or integrated into the smart factory environment. The researchers verify the key technologies and all the associated applications which are effective to the overall equipment leading to smart factory. The researchers develop a clear framework based on the above aspects as well as the extensive literature review. This framework can be used by management scholars to understand the studies surrounding smart factory.

Keywords

Smart Factory; Industry 4.0; India

Biographies

Sidharth is an MBA student in Amrita Vishwa Vidyapeetham University, Bangalore, India. He has a work experience of 18 months at AMAZON India Pvt Ltd and also completed a project on "Business Field Analysis - Smart Factory". He holds a B.E. degree in Mechanical Engineering from Crescent Engineering College (BSAU), Chennai, India.

Shekar Babu Ph.D. is the Professor and Director of “AMRITA Center for Responsible Innovations and Sustainable Enterprises”, “ARISE” Labs. He is also the Founding Head, Department of Management (DoM), Bangalore Campus, AMRITA Vishwa Vidyapeetham University, Bangalore, India. Dr. Shekar holds a Bachelor of Engineering (BE) degree in Electronics and Communications from Bangalore University and a Master of Science (MS) degree in Electrical and Computer Science from California State University, Los Angeles and a Doctoral Degree in Strategic Management from Amrita University. He is a Management Consultant with over 25 years of experience in working at Price Waterhouse, Hewlett- Packard Co and AMRITA University. His research areas are Corporate Social Responsibility (CSR), Corporate Governance (CG), Strategy and Social Development and Sustainable Goals (SDG). He has taught courses in Marketing, Leadership, Management Consulting and Business Ethics and Values.