

# Social Capital and Industry 4.0 Readiness in Developing Countries. Role of Potential and Realized Absorptive Capacity

**Najam Ul Zia, Felicita Chromjaková, and Ledislav Burita**

Faculty of Management and Economics

Department of Industrial Engineering and Information Systems

Tomas Bata University in Zlin, Czech Republic

[zia@utb.cz](mailto:zia@utb.cz), [chromjakova@utb.cz](mailto:chromjakova@utb.cz), [burita@utb.cz](mailto:burita@utb.cz)

## Abstract

This study investigates the interwoven relationships of social capital dimensions and social capital's role on Industry 4.0 readiness in developing economies. We explore the mediating role of knowledge-based dynamic capabilities in the relationship of social capital and Industry 4.0 readiness. Furthermore, moderating role of potential absorptive capacity and realized absorptive capacity is also examined. Structural equation modelling is employed on data collected from 320 managers in 81 export manufacturing firms in Pakistan. Results reveal that structural social capital is positively related to relational social capital, and relational capital is positively associated to cognitive social capital. Moreover, there is a positive relationship between social capital and Industry 4.0 readiness, and knowledge-based dynamic capability mediates this relationship. Results support that realized absorptive capacity moderates the relationship between knowledge-based dynamic capability and Industry 4.0 readiness. We contribute by directing developing economies to implement Industry 4.0 technology and strive in this digital transition epoch.

## Keywords

Industry 4.0 readiness; knowledge-based dynamic capability; social capital; potential absorptive capacity; realized absorptive capacity

## Acknowledgements

The author acknowledges the financial support provided by the Internal Grant Agency (IGA/FaME/2021/006) of Faculty of Management and Economics through Tomas Bata University in Zlin, Czech Republic

## Biographies

**Najam Ul Zia** is a PhD student at Tomas Bata University in Zlin, Czech Republic. His broader research interests are on Industry 4.0, Knowledge management, Social capital, and Big data. His publications have appeared in Journal of Knowledge Management, Computers in Human Behavior, and Technological Forecasting and Social Change.

**Felicita Chromjaková** is a Professor by Industrial Engineering and Information Systems Department, Faculty of Management and Economics, Tomas Bata University in Zlín (CZ). She is active in the field of lean management, process management systems, Industry 4.0 concepts development for small and medium enterprises. She has been recognized as a professional management consultant with over 30 years of experience in working with closely-held businesses. She has taught courses in production planning and scheduling, industrial engineering and production process innovations. His research orientation is based on the analysis, diagnostics and development of lean, automated and digitized production process models for industrial companies, connected with optimal and flexible production performance and customer oriented value added.

**Ladislav Burita** is a professor at the University of Defence in Brno, Faculty of Military Technology, Department of Communication and Information Systems, Czech Republic. Teaching in Development of Information Systems, Management of CIS, and Development of CIS. He is also an academic at the Institute of Industrial Engineering and Information Systems, Tomas Bata University in Zlin, Czech Republic and is active in the field of informatics, information and knowledge systems. Teaching in Informatics for Economists, Information Management, and Business Information Systems (education in English). He is Supervisor of PhD Doctoral Study Program.