



New Industrialization and Urbanization Development Annual Conference

——The International Forum on New Industrialization
Development in Big-data Era

Edited by WAN Ming

Co-edited by Andrei Khomenko



SCIENCE PRESS
Beijing

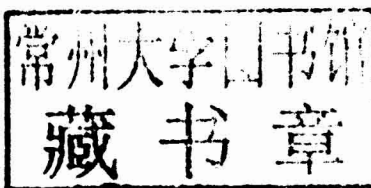
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Science Press

Responsible Editor: WEI Yingjie

Published by
Science Press
Science Press USA Inc.

16 Donghuangchengen North Street
Beijing, 100717, P. R. China
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ISBN 978-7-03-045652-6

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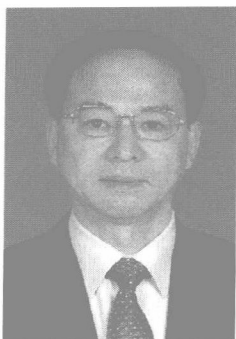
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Biography of Editor in Chief



Wan Ming is a professor, master's supervisor, senior economist, head of New Industrialization and Urbanization Research Institute of East China Jiaotong University, Secretary of the Party Committee of East China Jiaotong University. He obtained bachelor's degree in philosophy from Jiangxi University after four-year studies from September 1978 to July 1982 and graduated from economic management major of Jiangxi Provincial Party Committee Party School after two and a half years of on-the-job graduate studies from September 2001 to December 2003. During the years between January 2001 and April 2013, he worked as vice mayor of Ganzhou city government and its member of the party group, standing member of Ganzhou Municipal Party Committee, party secretary of Ganzhou development zone, party secretary of Ganzhou economic and technological development zone, deputy director-general and member of the party committee of Jiangxi transportation department. He has published more than 20 academic papers and 3 books as chief or a key editor, hosted over 20 research projects, and some of his research results were adopted by the government and applied in economic and technological management. His research orientation specializes in regional economy and management.

Foreword

Along with the development of cloud computing, Internet of Things and Mobile Internet, big data has been exerting an immeasurable effect on the society. As the age of big data brings new challenges to the development of industrialization, how new industrialization should be developed becomes an important research field. For this reason, China New Industrialization and Urbanization Development Annual Conference—Forum on New Industrialization Development in Big Data Era, sponsored by East China Jiaotong University and Jiangxi Association of Science and Technology, co-organized by Jiangxi Soft Science Research Society and New Industrialization and Urbanization Research Institute of East China Jiaotong University, was held in Nanchang, Jiangxi, on March 4th, 2015. 300 scholars and experts at home and abroad attended the forum, on which Vice Governor Li Yihuang made a speech, Academician of Chinese Academy of Engineering, Professor Yang Shanlin from Hefei University of Technology, Professor Li Yijun, Member of National and Natural Science Foundation, Changjiang Scholar, and Professor Jiang Taijiao from Chinese Academy of Sciences, National Outstanding Youth, were invited to make keynote academic speeches. Professor Wan Ming, Secretary of the Party Committee of East China Jiaotong University, Chairman of Jiangxi Soft Science Research Association, Mr. Lu Fucui, Deputy Director-General of the Provincial Department of Science and Technology, and Mr. Jiang Ming, Deputy Director of Jiangxi Industrialization and Informatization Committee, delivered a speech respectively. President Lei Xiaoyan and Vice President Liu Haiwen of East China Jiaotong University hosted the opening ceremony and academic symposium respectively. Mr. Sun Weimin, Vice Chairman of Provincial Science and Technology Association, made a closing speech.

The forum attracted wide attention from society and obtained active response from researchers and scholars. The preparatory committee received approximately 200 English papers from China, Russia, America, Britain and Nepal. The contributors with doctorate degrees or professional status beyond associate professor accounted for 63% of the total number of submission. The organizing committee invited eminent domestic and foreign experts to make rigorous review and selection, and finally decided on the inclusion of 150 papers in the Proceedings of Forum on New Industrialization Development in Big Data Era.

The whole book covers more than ten topics, including New Industrialization Development Strategies in Big Data Era, Research on the Development of Big Data Industry, Industrial Transformation and Upgrading, Scientific and Technological Innovation, Ecological Construction, Intellectual Capital, Railway Building, Smart City and Data Processing in Big Data Era, which generally represent all the aspects of new industrialization development in the new situation, reflect the tendency and law of new industrialization development, and moreover provide important reference and guidance for the industrial transformation and upgrading.

We are especially grateful to East China Jiaotong University for its active assistance and strong support in the organization of the forum, the solicitation of contributions and the publication of the proceedings. Meanwhile we sincerely thank all those participants and contributors. We would also like to express our genuine gratitude to all those who helped us review and revise the papers. And special thanks go to the staff of the Science Press for all their scrutiny and diligence in publishing our proceedings. If there are any mistakes in the book, they are our own faults and we would greatly appreciate your kind correction.

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Part I

New Industrialization Development Strategy under Big-Data

New Industrialization Development under Big Data

Nishant Kumar

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Abstract: Big Data are becoming a new technology focus both in science and in industry and motivate technology shift to data centric architecture and operational models. There is a vital need to define and analyze what is big data and major industry with huge business opportunity using big data. This paper discusses a nature of big data that may originate from different scientific, industry and social activity domains and proposes improved big data definition that includes the following parts: major industry with huge business opportunity using big data, big data: definition (also called Big Data 3V: Volume, Velocity, Variety)^[1], history and evolution.

The paper discusses paradigm change from traditional data to data centric industry and business using big data. The paper analyses use of big data future industry development, new industrialization development strategy requirements and provides main big data needs and challenges.

Keywords: big data technology; big data industry development; new industrialization development strategy under big data

1. Introduction

Big data is a big part of your daily life whether you like it or not—or even realize it. When you visit the doctor, go to work or get directions on your mobile phone, there's a good chance there's software out there quietly collecting and analyzing that information. And depending on the situation, that could be a good or bad thing. Example: Driving Make room for a new passenger: big data. With all the information being generated by a vehicle's brakes, engine and other systems, automakers are awash in data—more than they know what to do with. While such information can help improve the performance and safety of cars, one area that has raised privacy concerns is in-car location-based services. Until all of this is hashed out, just remember: Wherever you go in your car, big data may be going along with you^[2].

We are buried in big data, from a variety of sources and its growing rate of generation. For instance; Driving a car, Using Mobile Apps, Fitness Bands, Cable Set-Top Boxes, Music Streaming Services, Shopping Online, Electronic Medical Records. The term of big-data was coined to capture the profound meaning of this data-explosion trend and indeed the data has been touted as the new oil, which is expected to transform our society. For example; the huge potential associated with big-data has led to an emerging research held that has quickly attracted tremendous interest from diverse sectors, for example, private bank, railways, water resources, tourism, elderly care and health, material flow and delivery, IT, high end equipment manufacturing, energy conversion and environment protection industry, new energy vehicle etc.