

Comparative Advantage in the Knowledge Economy

This page intentionally left blank

Comparative Advantage in the Knowledge Economy: A National and Organizational Resource

EDITED BY

RAJIB BHATTACHARYYA

Goenka College of Commerce and Business Administration, India



United Kingdom – North America – Japan – India – Malaysia – China

Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2021

Copyright © 2021 by Emerald Publishing Limited

Reprints and permissions service

Contact: permissions@emeraldinsight.com

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. Any opinions expressed in the chapters are those of the authors. Whilst Emerald makes every effort to ensure the quality and accuracy of its content, Emerald makes no representation implied or otherwise, as to the chapters' suitability and application and disclaims any warranties, express or implied, to their use.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-80071-041-2 (Print)

ISBN: 978-1-80071-040-5 (Online)

ISBN: 978-1-80071-042-9 (Epub)



ISOQAR
REGISTERED

Certificate Number 1985
ISO 14001

ISOQAR certified
Management System,
awarded to Emerald
for adherence to
Environmental
standard
ISO 14001:2004.



INVESTOR IN PEOPLE

Table of Contents

About the Contributors	<i>ix</i>
List of Contributors	<i>xv</i>
Foreword	<i>xvii</i>
Acknowledgment	<i>xix</i>
Introduction	<i>xxi</i>
Chapter 1 Knowledge-Based Economy: Enhancing Economic Growth and Development of Human Capital Through Information and Communications Technology Education	1
<i>Napoleon Kurantin and Bertha Z. Osei-Hwedie</i>	
Chapter 2 Sub-Saharan African (SSA) Growth Trajectory: How Far has Knowledge Contributed?	11
<i>Ezebuilo R. Ukwueze, Oliver E. Ogbonna, Ozoemena S. Nwodo, Chinasa E. Urama, Tochukwu G. Onyechi and Augustine J. Mba</i>	
Chapter 3 Central Bank Independence and Economic Efficiency: Historical Analysis Based on Knowledge Economy	25
<i>Partha Gangopadhyay and James Glenn</i>	
Chapter 4 Reshaping Indian Higher Education Post COVID-19: A Case for Blended Learning and Widespread Adoption of Learning Management Systems	41
<i>Sudipta Roy</i>	

Chapter 5 Disruptive Technology and Development Dynamics: Case of Knowledge Economy with Reference to India	53
<i>Mainak Bhattacharjee and Sanghita Ghosh</i>	
Chapter 6 A Theoretical Approach of Understanding the Impact of Arbitrage Process by Implementing Knowledge Economy by a Country	65
<i>Abhijit Dutta and Madhabendra Sinha</i>	
Chapter 7 Existence of Speculative Bubbles in the Indian Stock Market: Knowledge Gained During the US Subprime Crisis	75
<i>Sovik Mukherjee and Asim K. Karmakar</i>	
Chapter 8 E-knowledge of Indian Rural Consumers: A Field Survey Result Based on Durable Goods	85
<i>Debabrata Mukhopadhyay and Arun Kumar Mandal</i>	
Chapter 9 Impact of Information and Communication Technology on Human Development: A Cross-Country Analysis	97
<i>Abhijit Bhattacharya</i>	
Chapter 10 Role of FDI in Developing the Base of Knowledge – An Analysis of the BRICS Nations	113
<i>Nilendu Chatterjee and Dipak Kundu</i>	
Chapter 11 ICT as Enabler of Knowledge-Based Economy: An Empirical Investigation in India Based on NSSO Unit-Level Data	127
<i>Adwaita Maiti, Sebak Kumar Jana and Asim K. Karmakar</i>	
Chapter 12 Trade Openness and Skill Formation: Some Theoretical Issues in Relation to Less Developed Economy	139
<i>Mainak Bhattacharjee, Dipti Ghosh and Debashis Mazumdar</i>	
Chapter 13 FDI and Transition to Knowledge Economy With Special Reference to India	151
<i>Debjani Mitra</i>	
Chapter 14 Innovation in Utility Craftsmanship: Analysis Based on Human Capital	161
<i>José G. Vargas-Hernández and Lic Jonathan Daniel Chávez Ascencio</i>	

Chapter 15 Agricultural Knowledge System in Ensuring Food Security in India	171
<i>RajatJyoti Sarkar and Moumita Karmakar</i>	
Chapter 16 Managing and Leveraging Knowledge Assets of the Firm: The Call of the Day	181
<i>Sandip Kumar Pandit</i>	
Chapter 17 Measuring Student Satisfaction of Master Level Students: Evidence from University of North Bengal	195
<i>Kanchan Datta and Jannatul Firdous</i>	
Chapter 18 The Role of Trade Liberalization and Knowledge Exchange Programs in India and South Korea Relations: In Search of Soft Power Connectivity	209
<i>Debasish Nandy</i>	
Chapter 19 Impact of Knowledge Flows and FDI on Intra-industry Trade in Asian Region	219
<i>Suvayan Neogi and Pragati Sharma</i>	
Chapter 20 A Study on the Digital Economy and Recent Trends of Digitalization in India with Respect to the Nordic Region	229
<i>Subhankar Parbat, CS Trupti Upadhyay and Adwiti Raj Banerjee</i>	
Chapter 21 Investment on Higher Education: A Source of Knowledge Creation and Income Generation	241
<i>Sujata Mukherjee and Rajat Jyoti Sarkar</i>	
Chapter 22 Application of Information and Communication Technology and Its Relation With Urbanization in India	251
<i>Mahananda Kanjilal</i>	
Index	261

This page intentionally left blank

About the Contributors

Adwityraj Banerjee – Attached to IIM, Calcutta, as a Trainee Teaching Associate (TTA). He also worked as a Research Assistant at Institute for Culture and Society of the University of Navarra (UNAV-ICS), Pamplona (Spain).

Mainak Bhattacharjee is an Assistant Professor in Economics at Loreto College, Kolkata, India, and formerly, in The Heritage College, Kolkata, India. His area of interests is Macroeconomics and International Trade. He has contributed many articles in journals and chapters in edited volumes. He has a number of undergraduate level text books to his credit.

Abhijit Bhattacharya is an Assistant Professor in the department of Economics, Pingla Thana Mahavidyalaya, Maligram, Paschim Medinipur, West Bengal, India. His area of interest includes Applied Econometrics, International Finance and Rural Development.

Nilendu Chatterjee, PhD is an Assistant Professor in the Department of Economics, Bankim Sardar College, West Bengal, India. He has research interest in Resource Economics, General Equilibrium, and Development Economics. He has published many publications including International Journal of Sustainable Economics Management, Economic Affairs, and Foreign Trade Review.

Kanchan Datta is an Associate Professor of Economics in the University of North Bengal. He has teaching experience of more than 20 years. His area of specialization is in Econometrics. He has one YouTube Channel on research methodology. So far, he has uploaded 20 videos and got 60 subscribers.

Jonathan Daniel Chávez Ascencio is pursuing Masters in Business and Economic Analysis at the University Center for Economic and Managerial Sciences, University of Guadalajara. Currently, he is Research Assistant at the Department of Administration, University of Guadalajara.

Abhijit Dutta is Professor of Commerce and Dean of Professional Studies at Sikkim (Central) University, India. He has more than twenty-five years of teaching experience at UG and PG levels, and he is also serving as a doctoral supervisor. His areas of research interest include Globalization, Capital Market, Infrastructure Finance, and Behavioral Finance.

Jannatul Firdous is a PG student, University of North Bengal.

Partha Gangopadhyay is a Professor of Economics at Western Sydney University and held chair professorships at European University of Viadrina, Germany, and University of the South Pacific. He held visiting professorships at State University of New York, Binghamton, Boston University, Delhi School of Economics, Jawaharlal Nehru University, Indian Statistical Institute. He is the current Chair, Economists for Peace and Security, Australian Affiliate.

Dipti Ghosh is currently working as Junior Research Fellow in Economics at Jadavpur University, Kolkata, India. Her research interests lie in Macroeconomics and Indian Economy. She has been associated with Bijoy Krishna Girls' College, Howrah, India, as a College Contractual Temporary Teacher (CCTT) of Economics

Sanghita Ghosh is presently associated with Jadavpur University, India, as Junior Research Fellow in Economics. She obtained MPhil and MA degrees in Economics from the same institution. Her research interest lies in the area of Development Economics and Econometrics. Previously, she served at IMI, Kolkata, in the capacity of Research Associate. She has published articles in reputed journals.

James Glenn received a first-class honors degree in economics and BA in law from Western Sydney University. He won the Honors Economics Society Award in 2006. He has worked in Reserve Bank of Australia, Intergral Energy and National Australia Bank as a professional economist. He is currently the principal economist at NSW Treasury, Australia.

Sebak Kumar Jana is currently Professor of Economics in the Department of Economics, Vidyasagar University, West Bengal, India. His major areas of research include Environmental and Resource Economics, Rural Development, and Economics of Education.

Mahananda Kanjilal is an Associate Professor of Economics in Jogesh Chandra Chaudhuri College, Kolkata. She also teaches in the Department of Commerce, University of Calcutta. Her area of specialization is Urban Economics. She worked as an Educational and Cultural Ambassador of India in Germany in 2010.

Asim K. Karmakar is now Assistant Professor in Economics, School of Professional Studies, Netaji Subhas Open University, Kalyani, Nadia – 741 235, West Bengal, India. He has written several coedited books published by Springer and others as well as research articles in national and international journals of repute.

Moumita Karmakar is Professor of Economics in Durgapur Women's College. She also qualified UGC – NET Examination in Economics. Now, she is pursuing her PhD in Economics in the Burdwan University.

Dipak Kundu, PhD is an Assistant Professor in the Department of Commerce, Bankim Sardar College, West Bengal, India. He has publications to his name in UGC recognized journals like *Anveshak*, *Asian journal of Banking and Finance*, *SCMS Journal of Management*.

Napoleon Kuratin – Senior Lecturer in Development Economics and Head of Department of Development Policy in the School of Public Service and Governance (SPSG) at GIMPA. He holds a PhD in Development Economics from the University of Guelph, Canada; MES from York University, Canada; MSc in GISc from the University of Salzburg, Austria.

Adwaita Maiti is an Assistant Professor of Economics in Prabhat Kumar College, Contai, India. He is a PhD Scholar at the Department of Economics, Vidyasagar University, India. He has obtained MPhil degree in Economics from this University. He is interested in Education and Development Economics.

Arun Kumar Mandal has obtained his PhD degree in Economics from the West Bengal State University in 2019.

Debashis Mazumdar (PhD, Economics) is working as Professor of Economics at The Heritage College, Kolkata. Dr Mazumdar was Associate Professor in Bangabasi College under Calcutta University. He is also acting as visiting faculty in the PG Department (Commerce) at Naba Ballygunge Mahavidyalaya, Kolkata, and in the PG (Economics), IGNOU, Muralidhar Girls' College, Kolkata.

Augustine J. Mba has BSc and MSc in Economics (bias in Public Finance) from the prestigious University of Nigeria, Nsukka. He is a PhD student and currently a Lecturer in the Department of Economics of the University. Before his appointment, he has published widely in both local and international journals.

Debjani Mitra is an Assistant Professor, Dept of Economics, Bijoy Krishna Girls' College, Howrah, India. She has done her PhD in Economics and has 17 years of teaching experience. Her interest in research includes Data Analysis on Contemporary Issues in Development Economics. She has 35 national and 5 international publications.

Sujata Mukherjee is an Assistant Teacher in Economics in a Government-Aided High School. She also qualified UGC – NET Examination in Economics. Now, she is pursuing her PhD in Economics in the Burdwan University.

Sovik Mukherjee is an Assistant Professor in Economics, Faculty of Commerce and Management at St. Xavier's University, Kolkata, India. He was a Visiting Research Fellow at NISPAcee, Slovakia, for 2019–2020. His research interests are in the areas of Applied Game Theory, Applied Econometrics of Financial Crises, Public Policy, and International Economics.

Debabrata Mukhopadhyay has been serving at present as a Professor in the Department of Economics at the West Bengal State University, Kolkata. He has obtained his PhD degree in Quantitative Economics from the Indian Statistical Institute in 2008.

Debasish Nandy is an Associate Professor, Department of Political Science, Kazi Nazrul University, India. He is the Visiting Faculty in the Department of International Relations, Tajik National University, Dushanbe, Tajikistan. His research interests include India's Foreign Policy, South Asian Politics, and Security Affairs.

Suvayan Neogi is working as Senior Research Fellow (Economics) at the Center for WTO Studies. Currently, he is pursuing PhD in Economics from Symbiosis International, Pune. His research focuses on issues related to Agriculture SDGs, and FTAs.

Ozoemena Stanley Nwodo has MSc, a PhD student in Economics, University of Nigeria, Nsukka, and an associate member of UNCTAD Virtual Institute

Oliver Ejike Ogbonna: He has his MSc in Economics and is young Lecturer in the Department of Economics, University of Nigeria, Nsukka. He is also a PhD Student in the same Department and University. His research interests include Development Economics, Trade and Investment, Monetary Economics, and Financial Economics.

Tochukwu Georgina Onyechi is a Lecturer in the Department of Economics, University of Nigeria, Nsukka. She holds BSc and MSc in Economics (all First Class), and an online certificate (Harvard X) in Child Protection: Theory and Practice from Harvard University. She is the founder, Africa Initiative for Child Protection.

Bertha Z. Osei-Hwedie is a Professor of International Politics, GIMPA, Accra, Ghana. She was Professor and Chairperson of Center for Culture and Peace Studies, University of Botswana. She holds PhD from Brandeis University, US, and MA from Carleton University.

Sandip Kumar Pandit is an Associate Professor of Goenka College of Commerce and Business Administration, Kolkata. He has published 4 articles in national and international journals and also published 4 books. His research interests include Knowledge Asset Management and Accounting for Intangibles.

Subhankar Parbat is currently pursuing PhD in Finance. At present, working as a Trainee Teaching Associate at IIM, Calcutta. He also worked with Ernst and Young GDS. His areas of interest include Microfinance, Digitalization, Banking Sector, and Hedge Funds

Sudipta Roy teaches at the University of St. Francis in Joliet, Illinois, US. She earned her PhD from Indira Gandhi Institute of Development Research, Mumbai. Her previous experience includes brief stints at Industrial Development Bank of India and the National Stock Exchange of India Ltd and a ten-year tenure at Kankakee Community College.

Rajat Jyoti Sarkar is now working as an Associate Professor and Head (W.B.E.S) in Economics in Chandernagore College. He obtained his PhD in Economics from the Burdwan University. He has 27 publications in different reputed books and journals.

Pragati Sharma is pursuing Masters in Economics from Symbiosis, Pune. She is currently working as consultant in SG Analytics, ESG Department. She has interned with RBI and RIS. Her research focuses on International Economics Related Issues.

Madhabendra Sinha, PhD, is an Assistant Professor at the Department of Business Administration, Raiganj University, India. He obtained the degree of PhD in Economics from NIT Durgapur, India and prior to that he earned MSc and MPhil in Economics from the University of Calcutta, India. He has several SCOPUS/ABDC listed publications from Elsevier, Springer, Wiley, Taylor & Francis, Sage, Emerald, Inderscience, IGI Global etc. in international economics, development economics and macroeconomics areas.

Ezebuilo Romanus Ukwueze (PhD): He has PhD in Economics (with area of specialization in Development Economics), and he is also Senior Lecturer at the Department of Economics, University of Nigeria, Nsukka in Enugu State, Nigeria. He has published widely in both local and internationally recognized journals. He teaches and supervises graduate students.

CS Trupti Upadhyay is Lecturer in the Bhawanipur Education Society College. She completed Company Secretary Course and working as the Group Company Secretary at BLA Group of companies. Her areas of interest include Corporate Governance, International Business, and Finance.

Chinasa Ebere Urama (PhD): Born on 5th July 1973 at Obollo-Afor, Udenu Local Government Area of Enugu State, Nigeria. She has PhD in Economics from University of Nigeria, Nsukka. She teaches Economics at the Prestigious University of Nigeria, Nsukka in Enugu State, Nigeria.

José G. Vargas-Hernández (MBA, PhD) is a Research Professor at the University Center for Economic and Administrative Sciences of the University of Guadalajara. He is a Member of the National System of Researchers of Mexico. He obtained PhD in Economics (Columbia University) and PhD in Public Administration (Keele University), and his research interests include Organizational Economics, Sustainable Development, Global Marketing, and Strategic Management.

This page intentionally left blank

List of Contributors

<i>Adwitiraj Banerjee</i>	Calcutta, India
<i>Mainak Bhattacharjee</i>	Loreto College, India
<i>Abhijit Bhattacharya</i>	Pingla Thana Mahavidyalaya, India
<i>Nilendu Chatterjee</i>	Bankim Sardar College, India
<i>Kanchan Datta</i>	University of North Bengal, India
<i>Jonathan Daniel Chávez Ascencio</i>	University of Guadalajara, Mexico
<i>Abhijit Dutta</i>	Sikkim (Central) University, India
<i>Jannatul Firdous</i>	University of North Bengal, India
<i>Partha Gangopadhyay</i>	Western Sydney University, Australia
<i>Dipti Ghosh</i>	Jadavpur University, India
<i>Sanghita Ghosh</i>	Jadavpur University, India
<i>James Glenn</i>	NSW Treasury, Australia
<i>Sebak Kumar Jana</i>	Vidyasagar University, India
<i>Mahananda Kanjilal</i>	Jogesh Chandra Chaudhuri College, India
<i>Asim K. Karmakar</i>	Netaji Subhas Open University, India
<i>Moumita Karmakar</i>	Durgapur Women's College, India
<i>Dipak Kundu</i>	Bankim Sardar College, India
<i>Napoleon Kuratin</i>	Ghana Institute of Management and Public Administration (GIMPA), Ghana
<i>Adwaita Maiti</i>	Prabhat Kumar College, India
<i>Arun Kumar Mandal</i>	West Bengal State University, India
<i>Debashis Mazumdar</i>	The Heritage College, India
<i>Augustine J. Mba</i>	University of Nigeria, Nigeria
<i>Debjeni Mitra</i>	Bijoy Krishna Girls' College, India

<i>Sujata Mukherjee</i>	Burdwan University, India
<i>Sovik Mukherjee</i>	St. Xavier's University, India
<i>Debabrata Mukhopadhyay</i>	West Bengal State University, India
<i>Debasish Nandy</i>	Kazi Nazrul University, India; Tajik National University, Tajikistan
<i>Suvayan Neogi</i>	Centre for WTO Studies, India
<i>Ozoemena Stanley Nwodo</i>	University of Nigeria, Nigeria
<i>Ogbonna, Oliver Ejike</i>	University of Nigeria, Nigeria
<i>Tochukwu Georgina Onyechi</i>	University of Nigeria, Nigeria
<i>Bertha Z. Osei-Hwedie</i>	Ghana Institute of Management and Public Administration (GIMPA), Ghana
<i>Sandip Kumar Pandit</i>	Goenka College of Commerce and Business Administration, India
<i>Subhankar Parbat</i>	IIM Calcutta, India
<i>Sudipta Roy</i>	University of St. Francis in Joliet, Illinois, USA
<i>Rajat Jyoti Sarkar</i>	Chandernagore College, India
<i>Pragati Sharma</i>	Symbiosis; SG Analytics, India
<i>Madhabendra Sinha</i>	Raiganj University, India
<i>Ukwueze, Ezebuilo Romanus</i>	University of Nigeria, Nigeria
<i>CS Trupti Upadhyay</i>	The Bhawanipur Education Society College, India
<i>Urama, Chinasa Ebere</i>	University of Nigeria, Nigeria
<i>José G. Vargas-Hernández</i>	University of Guadalajara, Mexico

Foreword

The present book on “*Comparative Advantage in the Knowledge Economy: A National and Organizational Resource*” is a timely endeavor to capture the significant role which the knowledge economy plays in the economic growth of a nation. Needless to say, knowledge economy is an umbrella term, which embraces human skill, embodied knowledge in research and development (R&D), information and communications technology (ICT) as an input in the production process, spread and quality of higher education, and so on. As a result, the editor of the book has tried to bring in as many aspects as possible under one fold to give somewhat a holistic picture about the interrelation between knowledge economy and economic growth. This is no small task, and the book has done justice to this.

There are several dimensions which are highlighted in the book – one is country studies like Ghana, Sub-Saharan Africa, or Nordic nations, either in a stand-alone fashion or in a comparative dimension. Another set of papers have discussed the issue in terms of better human capital which a knowledge economy brings through better R&D and digitalization to enable faster growth in a nation. The third type of papers has stressed the contribution of specific sectors like education, ICT, banking, agriculture, etc., in accelerating economic growth of a nation. In addition, the open economy implications are captured by a set of papers dealing with foreign direct investment (FDI) which transfer advanced embodied knowledge through production technology. After reading the chapters, the reader will be enriched with a holistic view about the interconnection between evolution of knowledge economy and economic growth of nations.

The editor must be complemented for undertaking such an arduous task of compiling such a diverse range of papers efficiently. The contribution of human capital on economic growth is by now well-documented. However, the additional dimension of the role of the knowledge economy in enhancing the human capital, both theoretically as well as with empirical data-based work, is not available in too many collated works. This book is a welcome addition to this end and will surely help students, researchers, as well as policy planners in organizing their thoughts in this respect.

Ajitava Raychaudhuri
Professor and former Head
Department of Economics
Jadavpur University
Kolkata 700032, India

This page intentionally left blank

Acknowledgment

By choosing carefully an international array of authors who are active researchers in their fields of study, as an editor I have provided my persistent endeavor to develop a theme which happens to be very relevant in the present-day context of “Corona Pandemic.” Starting from conceptualization of the theme, selection of papers, editing, and ultimate publication of the proposed edited book entitled “*Comparative Advantage in the Knowledge Economy: A National and Organizational Resource*,” it has been a unique compilation. I really feel delighted and hope that I have succeeded in adding value to a considerable literature in the process of making this edited volume. I also expect that this volume will have a high market demand not only to researchers and academicians but also to policymakers and social thinkers. I really feel proud as an editor that the authors of this book have provided immense support, cooperation, and extended their wholehearted helping hand to make this project a successful one. Hence, it would be unjustified if the contributors are not acknowledged for their valuable contributions. I would also like to express my heartiest thanks to other academicians and resource persons of the society associated with this project.

At the first place, I must thank the entire Emerald Publishing team for their able and insightful guidance and support at every stage of this edited volume. Secondly, I express my deep gratitude and respect toward my teacher, mentor, and Ph.D supervisor, Prof. (Dr.) Soumyen Sikdar, Indian Institute of Management (IIM), Kolkata. I also express my heartfelt thanks to Dr. Ajitava Raychaudhuri, Professor and former Head Department of Economics, Jadavpur University, for his advice, guidance, and valuable suggestions that have paved the right way from the beginning to the finish line. I will also remain indebted to my friend Dr. Sudipta Roy, Professor of Finance, St. Francis in Joliet, Illinois, US, for her mental support. I also express my thanks and gratitude to Dr. Partha Gangopadhyay, Professor of Economics, Western Sydney University, New South Wales, Australia, Dr. Ananya Ghosh Dastidar, Associate Professor in the Department of Business Economics, University of Delhi South Campus, New Delhi, India, for their inspiration and valuable comments.

But above all, I am sincerely grateful to my parents, my wife and my daughters, and other relatives and family members for their cooperation, inspiration, and tremendous mental support.

Dr Rajib Bhattacharyya
Editor

This page intentionally left blank

Introduction

Of late, the issue which has really made a paradigm shift in the landscape of the global economic, social, and political scenario is the transition of world economic order toward a knowledge-based development regime. This has not only being the trend in developed nation, but it is acting as a national, strategic, and organizational resource for emerging, developing, and less developed economies to establish their comparative advantage. “Demographic dividend” has become the popular buzzword in this respect. Globalization and the information and communications technology (ICT) have played a pivotal role revolutionizing in the value creation through the development of human capital formation. The constantly changing needs and structure of the labor market are primarily responsible for conversion of a traditional economy, relying fundamentally on the application of physical abilities like transformation of material resources or exploitation of cheap labor, to a knowledge-based economy relying on ideas, technologies, and innovations. In a knowledge-based economy, knowledge has to created, acquired, developed, transmitted, preserved, and utilized for the improvement of individual, society, and enterprises for the promotion of economic and social welfare.

When learning is purposeful and creative, it blossoms. When creativity blossoms, thinking emanates. When thinking emanates, knowledge is fully lit. When knowledge is lit, economy flourish.

A.P.J. Abdul Kalam

In recent years, the development and proliferation of ICT has revolutionized the access and transmission of information through knowledge networks, innovations, and adaptation capacity. Due to upgradation of hardware, software, computer memories, and semiconductors getting faster, the ICT prices are falling. Dramatic fall in the costs of data transmission, significant growth in bandwidth, expansion, and multiplication of Internet hosts and growing usage of cellular and iPhone worldwide are all adding to the pace of and capacity for change and innovation. This has resulted in shorter product cycles. In terms of both economic growth and employment, small and medium-size enterprises in the service sector have emerged as increasingly important players. The success of a knowledge-based economy rests on four key pillars: (1) framework of supportive economic and institutional arrangements; (2) educated and skilled labor force; (3) dynamism in

information network for dissemination of information; and (4) research and development (R&D) and innovation in conformity with global needs.

Investment in human capital is critical for economic growth. Particularly important are new technology, its dissemination through education, and related externalities (Barro 1991; Lucas 1988; Mankiw, Romer, & Weil 1992; Romer, 1989). Researchers have documented the external effects of human capital in Austria, China, and Guatemala (Sakellariou, 2001; Winter-Ebmer, 1994; Wang & Mody 1997). They have tied growth to knowledge in Israel and found significant spillover effects of human capital in the Republic of Korea (Bregman & Marom 1993; Feenstra and others 1999). The impact of education on economic growth may be as high as the private returns to education estimated in microeconomic studies (Krueger & Lindahl, 1999; Topel, 1999). The quality of education, and therefore of labor, also affects economic growth (Barro, 2001; Hanushek & Kimko, 2000). Science achievement, for example, has a positive effect on growth. Education also has an important effect on several nonmarket outcomes, including crime reduction, social cohesion, income distribution, charitable giving, and more efficient labor market search. Education has an important effect on female productivity in the labor market. Even more important are the positive effects on female labor supply; the associated declines in fertility; and the improvements in the health, education, and life chances of the children of educated women. There is a strong linkage between mothers' education and children's development. Suciú (2004) considers that knowledge and knowledge economy (KE) are based on other means of managing time and distances: information and knowledge. According to Suciú (2004), KE is characterized by imbalance, instability, fluctuations, chaos, due to the mixture of the following phenomena: the technological revolution (rapid technological progress, particularly with regard to new information and communication technologies) and the acceleration of globalization (the internationalization of a part of the world economy and changes induced in the international financial environment).

The Knowledge Assessment Methodology (KAM), which was formulated and developed by the World Bank Institute, is an interactive tool that highlights the basic assessment of nations' readiness for the KE. To measure KE development, the European Bank for Reconstruction and Development (EBRD) in March 2019 has published the EBRD KE Index, spanning 46 economies – 38 where the EBRD invests and eight comparators (members of the Organization for Economic Co-operation and Development, OECD). The new EBRD KE Index contains 38 indicators divided into four pillars: (1) institutions for innovation, (2) skills for innovation, (3) the innovation system, and (4) the ICT infrastructure. Among the EBRD regions, Estonia scores highest and Turkmenistan lowest. Serbia made the greatest progress between 2011 and 2018.

The present book attempts to incorporate the multidimensional issues related to the concept of the development and sustainability of a KE in a comprehensive manner. A brief summary of the chapters are given below:

Chapter 1 portrays the manner in which knowledge-based economy enhances economic growth and development of human capital through ICT education. It

intends to analyze the progress and challenges faced by Ghana as it strives to build a knowledge-based economy that thrives on innovation and creativity.

Chapter 2 tries to demonstrate that education and knowledge have become the prerequisites for the growth and development of any economy. It tries to investigate whether knowledge and human capital have contributed to the growth of sub-Sahara African (SSA) countries. It has tried to show the low ranking of SSA in terms of knowledge economy index (KEI) and suggests production, use, disseminate and transfer of knowledge, ICT, and science.

Chapter 3 attempts to assess whether the new knowledge has real merits vis-à-vis the old knowledge of central banking. It also highlights the potential dangers of using untested new knowledge and its economic consequences. It contributes to the literature on central bank independence by introducing analytical methods and has uncovered the presence of high mobility in economic variables that is unexplained by changes in central bank independence.

Chapter 4 describes the way in which lockdown due to Covid-19 virus has provided the much-needed impetus to reshape higher education in India. It emphasizes the implementation of a blended learning model supported by the adoption and use of learning management systems. It strongly stresses the role of corporations in channeling their unused corporate social responsibility funds to support ICT needs at educational institutions.

Chapter 5 explores the potential consequences of technological transition in the KE brought about by the introduction of virtual system backed by Internet and software innovations. It speaks in terms of skill augmentation, wage inequality, and highlights the overall impact on welfare. It develops a model on small open economy to find out the possible impacts of such disruptive technology on the higher education sector of India

Chapter 6 focuses on the KE as an alternative to production-based economy and brick-and-mortar economy. It tries to develop a model to check whether KE has the ability to support arbitrage process. The result shows that there are positive probabilities of the KE in providing arbitrage premium for individual which can fire the growth of the economy.

Chapter 7 attempts to explain that the knowledge gained by investors is also a part and parcel of an applied KE in a broader dimension. It demonstrates how investors adapt through “learning by doing” is a big issue in the present context, and this is exactly what the paper targets to articulate – how knowledge gained on something unknown can help investors to track down a bubble when the literature actually stated no such existence of formation of a “bubble” component during the US subprime crisis in the Indian stock market.

Chapter 8 evaluates the evolution of e-marketing as a natural outcome of technological changes and marketing innovations resulting from the advent of information technology and the consequent access to Internet. Conscious customers have been increasing their purchase through e-marketing as it has a lot of benefits. It has opened a huge business opportunity for marketers. It attempts to examine the changing consumer perception and environment of e-marketing in rural India for consumer durables based on a primary survey.

Chapter 9 tries to find out the impact of ICT on human development for selected high HDI and medium HDI countries during 2001–2018. Applying panel data technique result shows that ICT has a positive and significant impact on human development. The selected countries are Australia, Denmark, Germany, Iceland, Ireland, Netherland, Norway, Singapore, Sweden, Switzerland, India, Bangladesh, Namibia, Morocco, South Africa, Philippines, Bolivia, Egypt, Iraq, and Maldives.

Chapter 10 demonstrates the role of FDI in developing the knowledge base of an economy. It seeks to analyze both short-run as well as long-run interactions between status of knowledge and FDI in the form of inflow of FDI and proportion of gross domestic product (GDP) used for R&D activities accounting for possible development of knowledge in BRICS (Brazil, Russia, India, China, and South Africa) nations. As panel data analysis support long- and short-run causality running from FDI to knowledge in all BRICS nations, the paper suggests more FDI in development of knowledge-related activities as well as increase in proportion of GDP spent on R&D in BRICS nations.

Chapter 11 reviews the current conditions of ICT use by the students in higher education in India. The major objectives of the study are: (1) assessment of the use of computer and Internet by the students of higher education in India and (2) to find the determinants of use of ICT by the students in India. The study uses the NSSO 71st Round, 2014, Unit Level Data on Social Consumption: Education Survey. The findings from logit analysis suggest the determinants of ICT use by the students in higher education in India are: regional disparities, gender, education levels of households, type of courses pursued by the students, type of institutions, access to computer and Internet facility, consumption levels of households, and students' residence type.

Chapter 12 attempts to investigate the ramifications of foreign trade regime on the technological front in relation with the impact of trade liberalization on the process of skill formation in dual economy setting and thereby, the wage dynamics facing the skilled and unskilled labor. It tries to analyze the consequence of free trade on KE (wherein, the knowledge essentially purports to technical skill, proficiency in various aspects of work and perhaps, to some extent, the case of innovation) and additionally, what it impinges on welfare and economic development for less developed countries.

Chapter 13 aims at evaluating the role of FDI in knowledge transition through improvement in the human development index (HDI), particularly its education index in the context of India and other South Asian Association for Regional Cooperation (SAARC) countries. To study the KE as well as human capital, Intellectual Property Rights (IPRs) are used. Whether the role of FDI is still there in transition to KE or not, relationship between FDI confidence index and education index is taken into consideration. It concludes that the importance of FDI in export promotion in the services sector in India should be pursued as a long-term policy objective.

Chapter 14 attempts to examine the relationship between human capital and artisanal innovation. It was based on a study conducted in 2018 on 73 craft economic units located in Jalisco, Colima, and State of Mexico. Using the

Pearson's chi-square technique and applying the Statistical Package for the Social Sciences (SPSS) program, the qualitative relationship between innovation and human capital was analyzed. The result shows a positive relationship between human capital and innovation.

Chapter 15 focuses on the agricultural knowledge system in ensuring food security in India. The objective of the paper is to show that educated and trained people can acquire new skills and technologies required for growing agricultural output to meet the domestic demand. It is based on a sample survey in the Hooghly district of West Bengal with an aim to examine whether welfare of the economy falls or not if rationing system is completely abolished.

Chapter 16 seeks to develop a theoretical construct in the field of evolution of knowledge asset with a view to explore the concept of knowledge asset and the need for its management in modern day life. It further aims to investigate through an empirical study the qualitative disclosure of knowledge assets in terms of selected attributes for the Indian Pharmaceutical and IT Industries based on their annual reports. Content analysis technique has been used to analyze the degree of disclosure of knowledge assets in terms of attributes.

Chapter 17 tries to explore the satisfaction of the students of the University of North Bengal from the perspective of outcome or services provided by the institution which is essential for its long-run sustenance. . Given that education is an experience good, its efficacy can be measured by evaluating its effect on users, that is, students. This study is based on primary data collected from the structured questionnaire and logistic regression model as a tool. The analysis emphasize on the fact that traditional system in higher education must be revised in light of more market-oriented new KE structure to get better result.

Chapter 18 intends to examine the role of trade liberalization and knowledge exchange programs with regard to soft power connectivity between India and South Korea. The study tries to explore the role of "soft power" diplomacy in India-South Korea relations and also the significance of knowledge-based programs. The study is based on secondary data and uses content analysis and observation methods to arrive at its conclusion.

Chapter 19 concentrates on the impact of knowledge flows and FDI on intraindustry trade in Asian region. It shows how in the postindustrial age, the knowledge is replacing the capital, which is the primal source of economic growth and development. The study highlights the role of R&D as fundamental for the production of knowledge, which leads to create innovation through scientific research, transferred through the basic education and training and dispersed through ICT.

Chapter 20 investigates the enhancement of digitization in India in comparison to countries of Nordic regions like Norway, Sweden, Denmark, and Finland in terms of Digital Economy and Social Index (DESI). It attempts to analyze the comparative advantage Nordic countries has over India in terms of Internet Usage and Mobile Phone Subscription. The data for the model were based on the Word Development Indicator of the World Bank. The study observes that India should try to incorporate the factors which lead to faster digitalization in the Nordic region.

Chapter 21 emphasizes on the role of investment on higher education as a source of knowledge creation and income generation. It hints on the development of a modern and dynamic higher education framework to achieve long-run sustainable growth. The study examines the interplay between the percentage of educational expenditure in total expenditure and per capita Net State Domestic Product (NSDP) of eight selected metro city states of India during the period 2005–2006 to 2015–2016. The result shows strong positive impact of educational expenditure on per capita NSDP. Therefore, the study suggests increasing the percentage share of educational expenditure in total expenditure.

Chapter 22 focuses on the application of ICT and its relation with urbanization in India. For analyzing the development of ICT sector in India, the variables taken are e-infrastructure, telephone density per 100 persons, mobile subscribers per 100 persons, mobile subscribers with Internet, schools with computers and e-participation. The analysis reveals that apart from some exceptions, the relatively economically developed and urbanized states of India are found to have a developed ICT sector.