### MODELS OF MODERN INFORMATION ECONOMY

### MODELS OF MODERN INFORMATION ECONOMY: CONCEPTUAL CONTRADICTIONS AND PRACTICAL EXAMPLES

### EDITED BY

ALEXANDER P. SUKHODOLOV

Baikal State University, Irkutsk, Russian Federation

### ELENA G. POPKOVA

Volgograd State Technical University, Volgograd, Russian Federation

### TATIANA N. LITVINOVA

Volgograd State Agrarian University, Volgograd, Russian Federation



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

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

First edition 2018

Copyright © 2018 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: 978-1-78756-288-2 (Print) ISBN: 978-1-78756-287-5 (Online) ISBN: 978-1-78756-287-9 (Epub)



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

INVESTOR IN PEOPLE

Certificate Number 1985 ISO 14001

### **Contents**

List	of	Contri	butors
List	of	Contri	butors

#### Introduction

#### **PART I: THEORETICAL MODEL OF MODERN INFORMATION ECONOMY**

Chapter 1 The Notion and Essence of Information Economy	
Alexander P. Sukhodolov, Elena G. Popkova and Tatiana N. Litvinova	7
Chapter 2 Basic Characteristics of Information Economy	
Alexander P. Sukhodolov, Elena G. Popkova and Tatiana N. Litvinova	17
Chapter 3 Basic Characteristics of Information Economy: Theoretical Features and Analytical Aspects	
Karina V. Kuznetsova, Elena N. Klochkova, Tatiana L. Lukyanchikova and Mikhail S. Shmarkov	25
Chapter 4 Stages of Information Economy's Formation	
Alexander P. Sukhodolov and Elena G. Popkova	37
PART II: PRACTICAL EXPERIENCE OF FORMATION OF INFORMATION ECONOMY'S MODEL	
Chapter 5 Information Economy in Asian Countries	
Alexander P. Sukhodolov and Elena G. Popkova	47
Chapter 6 The European Experience of Information Economy's Formation	
Aleksei V. Bogoviz, Olga A. Mishchenko, Svetlana G. Bychkova, Marina V. Bogdanova and Elena N. Kolomoets	57
Charter 7. The American Dresting of Inglanding the Medel of	

#### Chapter 7 The American Practice of Implementing the Model of **Information Economy**

Aleksei V. Bogoviz, Tatiana V. Skryl, Irina S. Ferova, Anna A. Burdina and Aigul Sultanguzhiyeva

1

67

### PART III: PECULIARITIES OF INFORMATION ECONOMY **IN MODERN RUSSIA**

Chapter 8 The Basic Preconditions of Information Economy's Formation in Modern Russia	
Larisa A. Ilyina, Lilia V. Ermolina, Anton N. Sunteev and Lyudmila D. Orlova	81
Chapter 9 Barriers on the Path of Information Economy's Formation in Modern Russia	
Zhanna V. Gornostaeva, Ekaterina S. Alekhina, Inna V. Kushnareva, Olga Y. Malinina and Sergey L. Vasenev	89
Chapter 10 Implementation of CALS Systems as a Condition of Information Economy's Formation in the Russian Production Practice	
Viktor P. Kuznetsov, Ekaterina P. Garina,	
Natalia S. Andryashina and Elena V. Romanovskaya	99
Chapter 11 Stages of Development of Information Economy in Modern Russia	
Aleksei V. Bogoviz, Vladimir S. Osipov, Aleksei G. Zeldner, Nadezhda K. Rozhkova and Olga V. Titova	115
PART IV: LOGICAL DISPARITIES OF THE MODEL OF INFORMATION ECONOMY	
Chapter 12 Unreadiness of Society for Information Economy's Formation	
Aleksei V. Bogoviz, Vladimir S. Osipov, Olga A. Ageeva, Elena V. Kletskova and Ludmila V. Makuschenko	125
Chapter 13 Entrepreneurship's Potential in Economy's Informatizati	on
Zhanna V. Gornostaeva	137
<b>Chapter 14</b> Institutional Contradictions of Information Economy Larisa A. Ilvina, Yuliya A. Panteleeva, Dmitriy L. Skipin and	
Alexandra N. Bystrova	147

171

193

#### PART V: RECOMMENDATIONS FOR OPTIMIZATION OF THE MODEL OF INFORMATION ECONOMY

Chapter 15	Mechanism of Optimization of the Model of	
Information	Economy	

Tatyana E. Kozhanova, Irina A. Tarasova, Nataliya V. Asanova and<br/>Natalia A. Shchukina157

**Chapter 16** New Balance in the Model of Information Economy Yulia I. Dubova

#### Chapter 17 Perspective Model of Well-balanced Information Economy

Larisa A. Ilyina, Oksana Y. Eremicheva and Tatyana N. Kochetova 183

#### PART VI: THE KEY CHARACTERISTICS OF THE OPTIMIZATION MODEL OF WELL-BALANCED INFORMATION ECONOMY

#### Chapter 18 The Principles of Implementation of Innovational Model of Well-balanced Information Economy

Valentina N. Parakhina, Olga Boris, Pavel Timoshenko and Svetlana Panasenko

#### Chapter 19 Priorities of Implementation of the Optimization Model of Well-balanced Information Economy

*Elena Y. Merkulova, Natalia S. Morozova, Anastasia A. Kokoreva and Tatiana D. Samoylova* 203

## Chapter 20 The Main Components of Well-balanced Information Economy

Vera I. Menshchikova, Sergey P. Spiridonov, Margarita A. Aksenova and Galina K. Gudovich 213

## Chapter 21 The Basic Institutes of Well-balanced Information Economy

Svetlana V. Lobova, Igor A. Prodchenko, Tatiana M. Rogulenko,Svetlana V. Ponomareva and Victor V. Gorlov227

#### PART VII: METHODOLOGICAL PROVISION OF MONITORING AND CONTROL OVER IMPLEMENTATION OF THE OPTIMIZATION MODEL OF INFORMATION ECONOMY

## **Chapter 22** Indicators of Efficiency of the Process of Implementation of the Optimization Model of Information Economy

Yulia V. Ragulina, Elena V. Popova, Lyudmila I. Chistohodova, Mikhail A. Mikhaylov and Marina Y. Eremina

237

265

285

293

#### Chapter 23 Criteria of Effectiveness of State Management of the Process of Implementing the Optimization Model of Information Economy

Yulia V. Ragulina, Leonid F. Malinovski, Yuliya A. Agunovich,<br/>Larisa A. Kapustyan and Oksana M. Zaryankina245

# Chapter 24 Target Indicators of Implementing the Measures on Formation of the Model of Information Economy

Gilyan V. Fedotova, Natalia N. Kulikova, Lyubov V. Perekrestova and Yuri A. Kozenko 255

# Chapter 25 The Main Directions of Development of Information Production of Russia's Tax System

Lyubov I. Vanchukhina, Tatiana B. Leybert, Elvira A. Khalikova and Evgeny A. Shamonin

#### PART VIII: ADAPTATION OF THE OPTIMIZATION MODEL TO THE MODERN RUSSIA'S ECONOMY

# Chapter 26 The Framework Strategy of Implementing the Information Economy's Optimization Model in Modern Russia

Alexander N. Alekseev, Yulia A. Romanova, Irina M. Zurakhovskaya, Valeriy V. Mishchenko and Valentina V. Latysheva 277

### Chapter 27 Algorithm of the Strategy of Implementing the Information Economy's Optimization Model in Modern Russia

Larisa V. Popova, Tatiana A. Dugina, Natalia N. Skiter and Ivan S. Korabelnikov

# Chapter 28 Perspectives of Information Economy's Formation in Modern Russia

Larisa A. Ilyina, Olga A. Babordina, Marina P. Garanina and Vladimir S. Tikhonov

Chapter 29 Expected Scenarios of Development of Information Economy in the Global Economic System	
Aleksei V. Bogoviz, Dina N. Savinskaya, Alfira M. Kumratova, Tatiana B. Fonina and Naimdzhon M. Ibragimov	303
Chapter 30 The Essence and Peculiarities of Implementing the Optimal Scenario of Digital Economy Development in Modern Russia Irina V. Gashenko, Irina N. Bogataya, Irina V. Orobinskaya	
and Yulia S. Zima	313
Chapter 31 Practical Recommendations for Monitoring and Control of the Implementation of the Optimization Model of Digital Economy in Modern Russia	
Natalia N. Khakhonova, Elena N. Makarenko,	
	323
Chapter 32 Correlation of Evolutional and Revolutionary Transformations in a Socio-Economic System in the Conditions of Information Economy's Formation Aleksei V. Bogoviz, Anna V. Bodyako, Alexander A. Pochestnev, Natalia A. Medvedeva and Larisa O. Velikanova	333
Chapter 33 The Role and Value of Information in the Economic System: Opposition of Post-industrial and Information Economy	
Aleksei V. Bogoviz, Yulia V. Ragulina, Tatiana V. Tkachenko, Tatiana N. Agapova and Viktor E. Saykinov	343
Conclusion	
Elena G. Popkova, Alexander P. Sukhodolov and Tatiana N. Litvinova	351
Index	353

### **List of Contributors**

Tatiana N. Agapova	Federal State Public Educational Establishment of Higher Education "Moscow University of the Ministry of Internal Affairs of the Russian Federation named after V.Y. Kikot," Moscow, Russian Federation
Olga A. Ageeva	Federal State Budgetary Educational Institution for Higher Professional Education "State University of Management," Moscow, Russian Federation
Yuliya A. Agunovich	Federal State Budget Educational Institution of Higher Education "Kamchatka State Technical University," Petropavlovsk-Kamchatskiy, Russian Federation
Margarita A. Aksenova	Russian Presidential Academy of National Economy and Public Administration, Lipetsk branch, Lipetsk, Russian Federation
Ekaterina S. Alekhina	Institute of Service Sphere and Entrepreneurship (branch) of Don State Technical University, Shakhty, Russian Federation
Alexander N. Alekseev	Moscow Aviation Institute (National Research University), Moscow, Russian Federation
Natalia S. Andryashina	Kozma Minin Nizhny Novgorod State Pedagogical University, Nizhny Novgorod, Russian Federation
Nataliya V. Asanova	Volgograd State Technical University, Volgograd, Russian Federation
Olga A. Babordina	Samara State Technical University, Samara, Russian Federation
Anna V. <b>B</b> odyako	Federal State Budgetary Educational Institution for Higher Professional Education "State University of Management," Moscow, Russian Federation
Irina N. Bogataya	Rostov State University of Economics, Rostov-on-Don, Russian Federation
Marina V. Bogdanova	State University of Management, Moscow, Russian Federation

Aleksei V. Bogoviz	Federal State Budgetary Scientific Institution "Federal Research Center of Agrarian Economy and Social Development of Rural Areas – All Russian Research Institute of Agricultural Economics," Moscow, Russian Federation
Olga Boris	North-Caucasus Federal University, Stavropol, Russian Federation
Anna A. Burdina	Federal State Budgetary Educational Institution for Higher Professional Education "Moscow Aviation Institute (National Research University)" (MAI), Moscow, Russian Federation
Svetlana G. Bychkova	State University of Management, Moscow, Russian Federation
Alexandra N. Bystrova	University of Tyumen, Tyumen, Russian Federation
Lyudmila I. Chistohodova	Moscow State Regional University, Moscow, Russian Federation
Yulia I. Dubova	Volgograd State Technical University, Volgograd, Russian Federation
Tatiana A. Dugina	Volgograd State Agrarian University, Volgograd, Russian Federation
Oksana Y. Eremicheva	Samara State Technical University, Samara, Russian Federation
Marina Y. Eremina	Federal State Budget Educational Institution of Higher Education "Kamchatka State Technical University," Petropavlovsk-Kamchatskiy, Russian Federation
Lilia V. Ermolina	Samara State Technical University, Samara, Russian Federation
Gilyan V. Fedotova	Volgograd State Technical University, Volgograd, Russian Federation
Irina S. Ferova	Federal State Autonomous Educational Institution of Higher Education "Siberian Federal University," Krasnoyarsk, Russian Federation
Tatiana B. Fonina	Moscow Region State University, Moscow, Russian Federation
Marina P. Garanina	Samara State Technical University, Samara, Russian Federation

Ekaterina P. Garina	Kozma Minin Nizhny Novgorod State Pedagogical University, Nizhny Novgorod, Russian Federation
Irina V. Gashenko	Rostov State University of Economics, Rostov- on-Don, Russian Federation
Victor V. Gorlov	Federal State Budgetary Educational Institution of Higher Education "Gubkin Russian State University of Oil and Gas (National Research University)," Moscow, Russian Federation
Zhanna V. Gornostaeva	Institute of Service Sphere and Entrepreneurship (branch) of Don State Technical University, Shakhty, Russian Federation
Zhanna V. Gornostaeva	Institute of Service Sphere and Entrepreneurship (branch) of Don State Technical University, Shakhty, Russian Federation
Galina K. Gudovich	Financial University under the Government of the RF, Lipetsk, Russian Federation
Naimdzhon M. Ibragimov	Novosibirsk State University, NGU, Novosibirsk, Russian Federation; Institute of Economics and Industrial Engineering, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russian Federation
Larisa A. Ilyina	Samara State Technical University, Samara, Russian Federation
Larisa A. Kapustyan	Federal State Budgetary Educational Institution "Altai State University," Barnaul, Russian Federation
Natalia N. Khakhonova	Rostov State University of Economics, Rostov- on-Don, Russian Federation
Elvira A. Khalikova	Ufa State Petroleum Technological University, Ufa, Russian Federation
Irina A. Kislaya	Rostov State University of Economics, Rostov- on-Don, Russian Federation
Elena V. Kletskova	Federal State Budget Educational Institution of Higher Education "Altai State University," Barnaul, Russian Federation
Elena N. Klochkova	Plekhanov Russian University of Economics, Moscow, Russian Federation; Russian Presidential Academy of National Economy and Public Administration, Moscow, Russian Federation

Tatyana N. Kochetova	Samara State Technical University, Samara, Russian Federation
Anastasia A. Kokoreva	Financial University under the Government of the RF, Lipetsk, Russian Federation
Elena N. Kolomoets	Moscow Aviation Institute (National Research University)
Ivan S. Korabelnikov	Volgograd State Agrarian University, Volgograd, Russian Federation
Yuri A. Kozenko	Volgograd State University, Volgograd, Russian Federation
Tatyana E. Kozhanova	Volgograd State Technical University, Volgograd, Russian Federation
Natalia N. Kulikova	Volgograd State University, Volgograd, Russian Federation
Alfira M. Kumratova	Federal State Budgetary Educational Institution of Higher Education "Kuban State Agrarian University named after I.T. Trubilin," Krasnodar, Russian Federation
Inna V. Kushnareva	Institute of Service Sphere and Entrepreneurship (branch) of Don State Technical University, Shakhty, Russian Federation
Viktor P. Kuznetsov	Kozma Minin Nizhny Novgorod State Pedagogical University, Nizhny Novgorod, Russian Federation
Karina V. Kuznetsova	Orel State University, Orel, Russian Federation
Valentina V. Latysheva	Moscow Aviation Institute (National Research University), Moscow, Russian Federation
Tatiana B. Leybert	Ufa State Petroleum Technological University, Ufa, Russian Federation
Tatiana N. Litvinova	Volgograd State Agrarian University, Volgograd, Russian Federation
Svetlana V. Lobova	Altai State University, Barnaul, Russian Federation
Tatiana L. Lukyanchikova	Orel State University, Orel, Russian Federation
Elena N. Makarenko	Rostov State University of Economics, Rostov- on-Don, Russian Federation
Tatiana V. Makarenko	Rostov State University of Economics, Rostov- on-Don, Russian Federation
Ludmila V. Makuschenko	Surgut State Pedagogical University, Surgut, Russian Federation

Olga Y. Malinina	Institute of Service Sphere and Entrepreneurship (branch) of Don State Technical University, Shakhty, Russian Federation
Leonid F. Malinovski	State Educational Institution of Higher Professional Education Moscow Region "Moscow Regional State University," Moscow, Russian Federation
Natalia A. Medvedeva	Federal State Budgetary Educational Institution of Higher Education "Vologda State Dairy Farming Academy by N.V. Vereshchagin," Vologda Russian Federation
Vera I. Menshchikova	Tambov State Technical University, Tambov, Russian Federation
Elena Y. Merkulova	Tambov State Technical University, Tambov, Russian Federation
Mikhail A. Mikhaylov	Federal State Budgetary Educational Institution for Higher Professional Education "State University of Management," Moscow, Russian Federation
Olga A. Mishchenko	Altai State University, Barnaul, Russian Federation
Valeriy V. Mishchenko	Federal State Budgetary Institution of the Higher Education "Altai State University," Barnaul, Russian Federation
Natalia S. Morozova	Financial University under the Government of the RF, Lipetsk, Russian Federation
Lyudmila D. Orlova	Dimitrovgrad Engineering Institute of Technology – (branch) of National Research Nuclear University of MIFI, Dimitrovgrad, Russian Federation
Irina V. Orobinskaya	Voronezh State Agrarian University, Voronezh, Russian Federation
Vladimir S. Osipov	Plekhanov Russian University of Economics, Moscow, Russian Federation; Federal State Budgetary Scientific Institution "Market Economy Institute of Russian Academy of Sciences," Moscow, Russian Federation
Svetlana Panasenko	Plekhanov Russian University of Economics, Moscow, Russian Federation
Yuliya A. Panteleeva	Samara State Technical University, Samara, Russian Federation

Valentina N. Parakhina	North Caucasus Federal University, Stavropol, Russian Federation
Lyubov V. Perekrestova	Volgograd State University, Volgograd, Russian Federation
Alexander A. Pochestnev	Moscow Aviation Institute (National Research University), Moscow, Russian Federation
Svetlana V. Ponomareva	St. Petersburg State University of Economics (UNECON), St. Petersburg, Russian Federation
Elena G. Popkova	Volgograd State Technical University, Volgograd, Russian Federation
Elena V. Popova	Federal State Budgetary Educational Institution of Higher Education "Kuban State Agrarian University named after I.T. Trubilin," Krasnodar, Russian Federation
Larisa V. Popova	Volgograd State Agricultural University, Volgograd, Russian Federation
Igor A. Prodchenko	Federal State Federal Military Educational Establishment of Higher Education "Military University" of the Ministry of Defense of the Russian Federation, Moscow, Russian Federation
Yulia V. Ragulina	Federal State Budgetary Scientific Institution "Federal Research Center of Agrarian Economy and Social Development of Rural Areas – All Russian Research Institute of Agricultural Economics," Moscow, Russian Federation
Tatiana M. Rogulenko	Federal State Budgetary Educational Institution for Higher Professional Education "State University of Management," Moscow, Russian Federation
Yulia A. Romanova	Federal State Educational Budget Institution of Higher Professional education "Financial University under the Government of the Russian Federation," Moscow, Russian Federation; Federal State Budgetary Institution of Science Institute of Market Problems, Russian Academy of Sciences, Moscow, Russian Federation
Elena V. Romanovskaya	Kozma Minin Nizhny Novgorod State Pedagogical University, Nizhny Novgorod, Russian Federation

Nadezhda K. Rozhkova	Federal State Budgetary Educational Institution for Higher Professional Education "State University of Management," Moscow, Russian Federation
Tatiana D. Samoylova	Financial University under the Government of the RF, Lipetsk, Russian Federation
Dina N. Savinskaya	Federal State Budgetary Educational Institution of Higher Education "Kuban State Agrarian University named after I.T. Trubilin," Krasnodar, Russian Federation
Viktor E. Saykinov	Federal State Budgetary Educational Institution of Higher Education "Kuban State Agrarian University named after I.T. Trubilin," Krasnodar, Russian Federation
Evgeny A. Shamonin	Ufa State Petroleum Technological University, Ufa, Russian Federation
Natalia A. Shchukina	Plekhanov Russian University of Economics, Moscow, Russian Federation; Financial University under the Government of the Russian Federation, Moscow, Russian Federation
Mikhail S. Shmarkov	Orel State University, Orel, Russian Federation
Dmitriy L. Skipin	University of Tyumen, Tyumen, Russian Federation
Natalia N. Skiter	Volgograd State Technical University, Volgograd, Russian Federation
Tatiana V. Skryl	Plekhanov Russian University of Economics, Moscow, Russian Federation
Sergey P. Spiridonov	Tambov State Technical University, Tambov, Russian Federation
Alexander P. Sukhodolov	Baikal State University, Irkutsk, Russian Federation
Aigul Sultanguzhiyeva	West Kazakhstan Innovative Technological University, Uralsk, Kazakhstan
Anton N. Sunteev	Samara State Technical University, Samara, Russian Federation
Irina A. Tarasova	Volgograd State Technical University, Volgograd, Russian Federation
Vladimir S. Tikhonov	Samara State Technical University, Samara, Russian Federation
Pavel Timoshenko	Nevinnomyssk State Humanitarian-Technical Institute, Nevinnomyssk, Russian Federation

Olga V. Titova	Federal State Budget Educational Institution of Higher Education "Altai State University," Barnaul, Russian Federation
Tatiana V. Tkachenko	Moscow Aviation Institute (National Research University), Moscow, Russian Federation
Lyubov I. Vanchukhina	Ufa State Petroleum Technological University, Ufa, Russian Federation
Sergey L. Vasenev	Institute of Service Sphere and Entrepreneurship (branch) of Don State Technical University, Shakhty, Russian Federation
Larisa O. Velikanova	Federal State Budgetary Educational Institution of Higher Education "Kuban State Agrarian University named after I.T. Trubilin," Krasnodar, Russian Federation
Oksana M. Zaryankina	Federal State Budget Educational Institution of Higher Education "Smolensk State Agricultural Academy," Smolensk, Russian Federation
Aleksei G. Zeldner	Federal State Budgetary Institution Science "Institute of Economics of Russian Academy of Sciences," Moscow, Russian Federation
Yulia S. Zima	Rostov State University of Economics, Rostov- on-Don, Russian Federation
Irina M. Zurakhovskaya	Moscow Region State University, Moscow, Russian Federation