



The **Future** of **Food Business**

The **FACTS** → The **IMPACTS** → The **ACTS**

2nd Edition





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Food Business

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THE FUTURE OF FOOD BUSINESS

The Facts, The Impacts and The Acts

Second Edition

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Marcos Fava Neves describes the very complex global food chain and suggests methods and tools that can be used by companies to adjust their strategies and operational concepts in an ever rapid changing world. He discusses trends, world food crises, food chain complexity and strategic planning for food companies. It is an essential read for entrepreneurs and researchers who are active in the worldwide food chain network.

Hans Jobr — Corporate Head of Agriculture — Nestle, Switzerland

The Future of Food Business presents a comprehensive look at our challenges in food chain, combining theory with relevant examples in this space. This should be mandatory for all students and professionals that work in agribusiness.

Renato Seraphim — Business Development — Bayer, Latin America

Professor Fava Neves' knowledge and insights on the complexity of food chains is impressive. Food safety crisis is never such a big challenge to the stakeholders of the food chain in China, especially to the government authorities of various levels and agribusiness companies. *The Future of Food Business* is a valuable tool for them as well as the researchers to find practical solutions to address the tough food safety and quality problems in China.

Jiqin Han — Professor — Nanjing Agricultural University, China

I think the research and analysis done by Dr Neves leading to a rather conclusive strategy is a good reflection of his deep insight into the food value chain. The presentation style in the book makes for easy reading too.

M.D. Ramesh — CEO — OLAM, Africa

With an ever growing population and limited natural resources, *The Future of Food Business* is an extremely valuable resource for anyone interested in understanding the dynamics of the food supply chain, and what the future of food business holds, particularly at a time when we find ourselves grappling with critical issues which will have a lasting impact on natural resources, the entire food system and how it is governed.

Adil K. Sattar — Executive Director — K&N's, Pakistan

Marcos develops creative ideas based on facts that are likely to contribute to the shaping of the food sector over the next ten years. His visions are accompanied by innovating tools very helpful for entrepreneurs, young managers and government officials by doing their strategic planning in the food sector.

I fully share the epilogue of his book where he outlines the importance and the characteristics of managers that “make it happen.”

Hans Peter Baier — COB — Bongrain/Polenghi, South America

The Future of Food Business is an easy-to-read book. Each chapter presents an important issue and ends with intriguing questions for debate, which makes it particularly useful in strategic planning processes. Highly recommended.

Mary Shelman — Director — Harvard Business School, USA

The path forward to 2050 requires new innovative thought leaders in order to meet the challenges of increased food production for a growing and affluent global population. Dr. Fava Neves motivates readers to rethink how business gets done on frontlines.

Paul Jasper — CEO — Covered Logistics and Transportation, USA

In less than 35 years, Africa’s population will double to 2 billion people, approximately 25% of the global population then. Large areas are richly endowed with land and water, yet Africa remains a net importer of food. Professor Marcos Fava Neves, a very good friend of South Africa and Africa, has again shown, through *The Future of Food Business*, the way to develop globally competitive value chains that provide sustainable food security solutions and growth for the sector.

John Purchase — CEO — Agribusiness Chamber, South Africa

Marcos’ book elucidates the impending food challenge that will be a central concern for most governments in the immediate future; he puts forth innovative practical solutions to address the issue. The book is a must read for not only concerned people in the public and private enterprises but responsible citizenry all over the world. The book should be part of reference reading for most college graduates to create an awareness about the issues as they are impacted most by the food crisis.

Raj Vardhan — Vice-President — OLAM International, China

I had the opportunity to actively participate in a one day seminar of Professor Marcos Fava Neves in Saint Louis, USA, where the content of the book was presented and discussed. I am amazed about the knowledge the author has about the food industry.

Sundarajan G.B. — Suguna Foods Limited, India

I bought the book *The Future of Food Business* from Kinokuniya in Singapore. It was a very unusual literature I ever came across on a book stand and bought it immediately after glancing once. I'm in the aquaculture segment operating in Singapore, and found this book very useful for my business future planning. It opened a wider perspective of my business and truly contributed in mapping my business operation and strategic plan.

Frank Tan — Marine Life Aquaculture Pte Ltd, Singapore

Marcos is a profound analyst of global food and agribusiness issues. He has a great vision, youth behavior and sagacity to understand complex environment and translate in a simple message.

Gustavo Grobocopatel — CEO Los Grobo, Argentina

Considering all the macro-environmental changes that are affecting food companies and agribusiness, Dr. Marcos Fava shows us in a simple and clear way, what are the trends and impacts of this market in the future, and presents solutions, studies and new methods to elaborate an effective Strategic Plan. *The Future of Food Business* is required reading for students, agribusiness professionals and entrepreneurs.

Liza Rocha — Account Manager — Natural Design, Brazil

Food used to be a day-to-day task to provide for it and it is very close to everybody's imagination. However, today's society is characterized by individuals who are regarded to be a food expert but it takes people like Dr. Marcos Fava Neves who not only explains today's food supply and puts food into a global perspective but also challenges tomorrow's needs and requirements. All with an open mindset and in a stimulating and inviting style. I suggest you join and become a knowledgeable food entrepreneur as well.

Marc van Genuchten — Commercial Director — Continental Juicel Cutrale, The Netherlands

Marcos Fava Neves is a novel professor who tries to understand why some players apply certain strategies, move in different directions or work with several companies. His insights in this new book are the result of the study of food and agribusiness at theoretical and practical levels. He provides many examples and cases with strong theoretical support leveraged with his experiences as advisor of companies, networks, chains and clusters in Brazil, Argentina, Uruguay, and the US among other countries. As a result, Professor Fava Neves' book, a must for students as well as for entrepreneurs, has the makings of a best seller.

Sebastian Senesi and Hernan Palau — Professors — University of Buenos Aires, Argentina

The challenge that we have to feed the world in the next fifty years is enormous. I am very pleased that Dr. Fava Marcos is making the effort to enlighten those people not working in agriculture so that they have a better understanding of the magnitude of the efforts that are needed for us to be successful.

Jerry Moye — President Cobb — Vantress International, USA

This book provides an answer to the future of food business challenges. Really, we are living in a time when the world is more connected, and equally the challenges are more complicated as never before, furthermore society, environment and economics are interconnected more. Within this view, Marcos Fava Neves presents solutions and our future thinking to address the problems in simple and innovative manner with scientific discoveries. In addition, this book is very informative in how to fill the gaps in the world's demand for food and society responsibility during this uncertain and volatile food market.

Thank you for showing us the facts, the impacts and how to act...

Mogos Yakob Tewelmedhin — Professor — University Polytechnic of Namibia, Africa

Marcos Fava Neves has written a very intelligent book providing both expert as well as the general public stimulating insights into the intricacies of the global food business. In view of its complexities and challenges this book is a must-read.

Guy Kempfert — Director — Syngenta Basel, Switzerland

Message to the Reader

This book is very special to me for several reasons that I hope it will stimulate the reader. It shares my opinions and thoughts about the future of food business, based on 25 years of interactions with food and agribusiness companies, farmers, governments and other public and private organizations. These interactions took place during my stint as a scientist at the university, in my other professions as executive or when proposing as a planner or project manager. It all began when I entered the Agricultural Engineering School at the University of São Paulo (ESALQ) in 1987, in the city of Piracicaba, Brazil. Since then, my life has progressed through more than 150 projects, three employments, 50 books in 8 countries, 500 lectures, 250 conferences and innumerable interviews.

My grandfather was a farmer, my family continues to perform successful farming, but unfortunately, I am not a farmer. My life is dedicated to studying, reading, writing, lecturing and engaging in discussions. Moreover, my life's objective is to listen and pay attention. I try to do this in all my travels, from Brazil to New Zealand, from China to the US. I love to ask questions and listen to the answers whether it is from a South African food company, or from a small farmer in India, or from a Government official in Europe. This is the best way to learn: listen to people and then... think and write.

At an average, in the last 10 years, I have taken around 100 flights every year, so most of the ideas here were organized and written at 10.000 meters above the sea level! Travelling by air is a wonderful discipline, since airplanes confine you and isolate you, so creativity emerges. As internet and other connectivity issues become readily available, and on board entertainment increases with hundreds of movies, we will probably lose this discipline and these unique moments.

The reader will see that I have produced very small chapters, that are simple to read, with a central message, along with a tool or method and a table to fill up, ending with a question to discuss. It is an informative, but a much more working book, since you will be challenged to answer questions, by yourself, or use it in company workshops or roundtable discussions. This was my purpose, since I always finish my lectures with a "to-do list" or an agenda proposal.

The story behind this book started back in 2009, when I had a chance to speak in Beijing and toward the end, the editor of *China Daily* newspaper asked me to

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produce a small article of my speech for them to publish. Since then I have published more than 70 articles with *China Daily* newspaper. These articles have been reproduced in this book with tables and figures to help the discussions.

I use these articles in my undergraduate courses at the University of São Paulo and Purdue University, outside lectures, in my in-company MBAs, trainings, workshops and board meetings. I hope the book would be useful and contribute to developing a more efficient food industry, more efficient farms, food systems, efficient government policies, thus ensuring sustainability, inclusive growth and reducing hunger.

I also hope this book would be a useful tool in boosting your careers. I am sharing ideas that you may not agree, but at least they would add to your arguing capacity.

The following triangle resumes the book of *The Future of Food Business*. It talks about the drivers of growing consumption, the resources needed to produce and that are sources of competitive advantage and finally, the major risks.

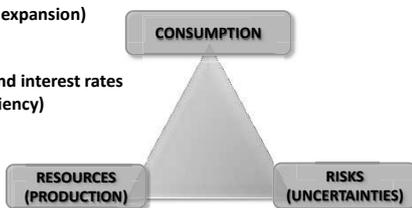
The Future of Food Business...

2023

Just one triangle!

- 1 - Land and soil (horizontal expansion)
- 2 - Water (availability and cost)
- 3 - Weather and climate change
- 4 - Labor, people and education
- 5 - Nutrients (fertilizers, lime...)
- 6 - Energy (costs and sources)
- 7 - R & D + technology (vertical expansion)
- 8 - Information - big data
- 9 - Connectivity – digital world
- 10 - Capital: credit, insurance and interest rates
- 11 - Institutions (rules and efficiency)
- 12 - Organizations (collective)
- 13 - Government (regulations)
- 14 - Storage capacity
- 15 - Transport and logistics
- 16 - Farm management
- 17 - Business sophistication (competitiveness)
- 18 - Chain coordination (transaction costs)

- 1 - Growth (9 Billion People 2050)
- 2 - Urbanization (90 million/year)
- 3 - Economic Development
- 4 - Income Availability and Distribution
- 5 - Government Programs (Food aid...)
- 6 - Bio: fuels, plastics, electricity...
- 7 - Other industries: medicine/cosmetics...
- 8 - Consumption behavior (ONG's, waste, acceptances, diet and health, preferences...)



- 1 - Political/Legal
- 2 - Economic
- 3 - Natural
- 4 - Socio-Cultural
- 5 - Technology

Source - Marcos Fava Neves: *The Future of Food Business*. Published by World Scientific, 2011, 213 p. mfaneves@usp.br

It was a pleasure to review this second edition at office 785 of Krannert Building, Purdue University, West Lafayette (Indiana, USA) during 2013. This is a special spot as I had my first job here as a paperboy of "Journal and Courier" during 1977 and 1978, when my father was doing his post-doc studies and we lived here.

So from a 10-year-old boy delivering newspapers, I found the resources to study, and ended up writing articles for newspapers some of which are packed in this book.

It is indeed a wonderful coincidence that I have successfully transformed from delivering content (paperboy) to generating content (researcher and writer) in the same city.

Finally, family and friends are the most beautiful things of this life. So, I dedicate this book to all my friends, from all over the world, and to my family, my parents, relatives and specially to my wife Camila and my three daughters, Beatriz, Julia and Cecilia.

— Marcos Fava Neves —

Foreword

When we consider food in the future, there will definitely be more questions than answers, as the subject of food is both complex and controversial. Discussions about food — including the social, economic and environmental impacts — seem to be happening everywhere today, from the classrooms of the most elite academic institutions to developing countries where people are rioting due to lack of food security.

Many heavy questions, demanding response, are weighing on the food industry and the world...

How will we meet the food demand of our growing population? What are “best practices” in agriculture and food production?

How do we increase the nutritional value of calories consumed to achieve a higher quality of life for people from all socioeconomic segments?

One thing is for certain, the answers to the questions that challenge the food industry, from the laboratory to the supermarket, will not be satisfied through one perspective alone. With this in mind, there are platforms which can have a real and positive impact on food’s future including:

- Creative partnerships through which organizations can combine resources of infrastructure and human capital to generate exponential impacts.
- Innovation frameworks based on openness, transparency and global perspective.
- Global knowledge sharing models which transfer best practices in a locally relevant manner.
- I commend Marcos for boldly addressing *The Future of the Food Business* and for the spirit of collaboration in which he approached this project.

The future is hopeful. We are living in a time when the world is more connected than has ever been before. The speed of innovation and scientific discovery is constantly accelerating, offering new solutions to “fill the gap” in the world’s demand for

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food. As a society and an industry, we have a strong sense of clarity around “what” we must accomplish. Our responsibility, as we move into the future, is to collaborate and make the contributions we can to achieving the “how.”

We at Novus, in pursuit of our vision “to help feed the world wholesome and affordable food,” commit ourselves to Marcos’ challenge everyday and we hope that after reading this book you will join us.

Thad Simons — President and CEO — Novus International Inc.

Foreword

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The right to life and well being are the most fundamental of all human rights as without them nothing else is possible. To guarantee these rights, universal and sustainable access to food and adequate nutrition are essential cornerstones for survival and development.

Science confirms that the potential exists to produce enough high quality food to ensure adequate nutrition for every person on earth. In great part the challenge seems to rest in the creating adequate structures to permit universal access. The experience of China in the new era where hundreds of millions sustainably left the ranks of the starving and formed an essential part of the foundation for the current level of economic growth and social development. Across a gap of space and time, the experience of Brazil which tackled the challenge of the undernourished with commitment and creativity shows that change is possible and that the results are impressive in human, social, environmental and economic terms.

In all of this, one of the great lessons learned or perhaps an assumption reconfirmed is the power of the concerted effort of all the involved stakeholders. To achieve the power to innovate at the level and to the extent needed to successfully address the challenges of helping all people have sustainable access to appropriate nutrition can most effectively be reached by integrating the interrelated power of all sectors: public, private, civil and academic.

This book provides a pragmatic platform for the four sectors to address the challenges and provides access to an array of valuable supports to help turn theory into practice and all relevant cases into models. The power of the book lies not so much in the book itself but in the results the leaders of government, business civil society and academic will reap from all it provokes.

*Dr. Annie S. C. Wu — Standing Member —
National Committee of Chinese People's Political Consultative Conference;
Vice Chairman — Beijing Air Catering Company Ltd.
and Board Member, World Trade Centers Association, China*



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