

FOOD AND AGRIBUSINESS IN 2030

a roadmap

Marcos Fava Neves
(coordinator)

Allan W. Gray
Flavio Runkhe Valerio
Leticia Franco Martinez
Jonny Mateus Rodrigues
Rafael Bordonal Kalaki
Vitor Nardini Marques
Vinícius Cambaúva



Wageningen Academic
Publishers

Food and agribusiness in 2030: a *roadmap*

Food and agribusiness in 2030: *a roadmap*

Marcos Fava Neves (coordinator)

Allan W. Gray

Flavio Runkhe Valerio

Leticia Franco Martinez

Jonny Mateus Rodrigues

Rafael Bordonal Kalaki

Vitor Nardini Marques

Vinícius Cambaúva



Wageningen Academic
Publishers

Buy a print copy of this book at:

www.WageningenAcademic.com/roadmap

EAN: 9789086863549

e-EAN: 9789086869077

ISBN: 978-90-8686-354-9

e-ISBN: 978-90-8686-907-7

DOI: 10.3920/978-90-8686-907-7

First published, 2020

**© Wageningen Academic Publishers
The Netherlands, 2020**

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned. Nothing from this publication may be translated, reproduced, stored in a computerised system or published in any form or in any manner, including electronic, mechanical, reprographic or photographic, without prior written permission from the publisher, Wageningen Academic Publishers, P.O. Box 220, 6700 AE Wageningen, The Netherlands, www.WageningenAcademic.com copyright@WageningenAcademic.com

The individual contributions in this publication and any liabilities arising from them remain the responsibility of the authors.

The publisher is not responsible for possible damages, which could be a result of content derived from this publication.

Table of contents

About the authors	9
Coordinator	9
Authors	10
Institutional support	12
Foreword	13
CHAPTER 1	
Creating a strategic plan for a food chain: the <i>ChainPlan</i> method (framework)	15
1.1 Introduction	16
1.2 Literature review	17
1.3 Methodology used	22
1.4 <i>ChainPlan</i> : a method for strategic planning and management of food and agribusiness chains	23
1.5 Overcoming the difficulties in implementing the <i>ChainPlan</i>	32
1.6 Managerial implications	33
1.7 Limitations of the research and the method	34
CHAPTER 2	
The new macro-environment for food, agribusiness and biofuels chains	35
2.1 Introduction	36
2.2 Socio/cultural environment – consumer movements	37
2.3 Economic and natural environments	38
2.4 Political/legal (regulatory) environment	39
2.5 Technology environment	40

CHAPTER 3

**The participants of the food chains:
characteristics and trends** 43

3.1 Introduction	44
3.2 Input suppliers	45
3.3 Distributors (dealers)	46
3.4 Farmers	47
3.5 Cooperatives	49
3.6 Trading companies	50
3.7 Food industry	52
3.8 Biofuel industry	53
3.9 Retail	54
3.10 Food service	55
3.11 Consumer	56
3.12 Associations	57
3.13 Final message and managerial implications	58

CHAPTER 4

20 trends in food and beverage marketing 59

4.1 Introduction	60
4.2 Literature review	61
4.3 Methodology	64
4.4 Key findings	64
4.5 Implications	69
4.6 Final considerations and managerial implications	71

CHAPTER 5

Building sustainability in a food chain 73

5.1 Introduction	74
5.2 Literature review	75
5.3 Methods	79
5.4 Results and discussion	80
5.5 Final considerations and managerial implications	84

CHAPTER 6

Where food consumers will be in the future? 87

- 6.1 Introduction 88
- 6.2 Topics 90
- 6.3 Final considerations and managerial implications 94

CHAPTER 7

The role of cooperatives in the new world 97

- 7.1 Introduction 98
- 7.2 Strengths and main competencies of cooperatives 99
- 7.3 Weaknesses and areas for improvement 101
- 7.4 Opportunities for cooperatives 102
- 7.5 Cooperative threats 103
- 7.6 Actions for future 105
- 7.7 Cooperatives and sustainability 106
- 7.8 Final considerations and managerial implications 108

CHAPTER 8

The world after Covid-19 109**References 113**

This page is left blank intentionally.

About the authors

Coordinator

Marcos Fava Neves is an international expert on global food, agribusiness and bioenergy strategies and a part-time professor of planning and strategy at the School of Business (FEARP) of the University of São Paulo (USP) and FGV Business School, both in Brazil. Neves is also International Visiting Professor at Purdue University (Indiana, since 2013), University of Buenos Aires (Argentina, since 2006) and University of Pretoria (South Africa, since 2020). He graduated as an agronomic engineer from ESALQ/University of São Paulo – Piracicaba in 1991, and has specialised in strategic-planning processes for companies and food chains and is a board member of more than 10 public and private organisations. He created Markestrat think-tank with other partners, employing around 60 people and implementing international projects, studies and research for more than 300 agri-food business organisations and is a shareholder of 4 start-ups. Neves has published more than 100 articles in international journals and has been author and editor of 70 books by 10 different publishers in 10 countries. He gave more than 1,300 lectures and presentations in 25 countries and is a ‘Fellow’ of the IFAMA (International Food and Agribusiness Management Association), a title received in Minneapolis in 2015. Very active on social media, his platforms at LinkedIn and Instagram have thousands of followers. Finally, in 2018 he created the www.doutoragro.com knowledge platform.



favaneves@gmail.com / www.doutoragro.com

Authors



Allan W. Gray serves as executive director of the Center for Food and Agricultural Business and director of the MS-MBA in Food and Agribusiness Management. He joined the agricultural economics faculty at Purdue University in August 1998. Allan currently holds the position of Land O'Lakes Chair in Food and Agribusiness.

As director, Allan provides strategic direction for the centre and MS-MBA in Food and Agribusiness Management, a dual-degree, online programme offered in partnership by Purdue and Indiana University. He works with food and agribusiness managers in the centre's professional development seminars and workshops, while also continuing to teach strategic agribusiness management in the undergraduate, Master's and MS-MBA programmes.

Allan's research interests are agribusiness management, strategic planning, decision-making in uncertain environments and simulation. He also works on the Large Commercial Producer Survey, conducted every five years by the centre, which explores the attitudes and buying behaviours of large commercial producers. In addition, Allan has researched the management implications of real-options thinking, the risks and returns to alternative vertical business relationships and the human capital constraints of agribusinesses.

He has won numerous awards, including the American Agricultural Economics Association's (AAEA) Distinguished Extension/Outreach Program Award, the Purdue University Dean's Team Award and the United States Distance Learning Association's Excellence in Distance Teaching Award. In 2012, he received the inaugural Early Career Leadership Award from the National Association of Agricultural Economics Administrators, a subsection of AAEA.

gray@purdue.edu



Flavio Ruhnke Valerio is a PhD student, and graduated in Business Administration at the School of Business (FEA-RP) of the University of São Paulo (USP). He is currently an associate consultant at Markestrat. He has experience in the administration area, with the emphasis on marketing and strategy, acting mainly on the following themes: strategic planning, relationship marketing, sustainability in production chains and market intelligence. Valerio is the author of several articles published in national and international journals and congresses, and has also collaborated on the development of more than 10 books on Brazilian agribusiness production chains.

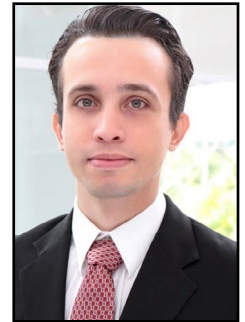
fvalerio@markestrat.com.br

Leticia Franco Martinez has conducted research in strategic marketing with the emphasis on sustainability and agribusiness. She graduated in 2016, completed a Master's degree in 2020 and is pursuing a Doctorate in Business Administration at the School of Business (FEA-RP) of the University of São Paulo. In 2015, she attended a semester of Management at the University of Coimbra, Portugal. She is a professor on the Integrated Entrepreneurial Training Programme (PICE) at the Entrepreneurs Center and in Enactus ONGariar Project at FEA-RP. Tutor in Fundace's MBA and Didactic-Pedagogical Assistant at Centro Universitário Barão de Mauá. Author of Tripé Sustentável on Instagram, content on strategic management based on the 3Ps of sustainability.



leticiafrancomartinez@gmail.com

Jonny Mateus Rodrigues is a bachelor of Applied Business Mathematics, with a Master's and PhD in Business Administration from the University of São Paulo. He was a visiting scholar at the Darden School of Business (University of Virginia), guest professor of the postgraduate courses at Fundação Getúlio Vargas and University of São Paulo. For over 10 years, he has been working on consulting projects and partnerships with multinational companies and universities, focusing on market intelligence, data processing and modelling. Rodrigues is also co-author and reviewer of articles in national and international journals and congresses, and has expertise in data management and promoting the connection between scientific analysis and data analysis technologies with R, Python, SAS and STATA programming, and increasing the performance of new products and services.



jonnymateus@usp.br

Rafael Bordonal Kalaki graduated in Agronomic Engineering from São Paulo State University (UNESP) in 2010. He also has a Master's and PhD in Business Administration from FEA-RP/USP. He was a researcher at Markestrat – Center for Research and Projects in Marketing and Strategy. He has experience in the area of agronomy, with the emphasis on agribusiness, working mainly with strategic planning, market access, business strategy, mapping and quantification of agro-industrial systems, analysis of attractiveness and socio-environmental certifications. He is currently a superintendent at Socicana (Guariba cane suppliers association) and member of the Bonsucro Members Council.



rbkalaki@gmail.com



Vitor Nardini Marques is an associated consultant at Markestrat Group with experience in projects concerning strategic planning, go-to-market, market intelligence, and business and start-up development in the agribusiness sector. He is a graduate in Agronomic Engineering from the 'Luiz de Queiroz' College of Agriculture (ESALQ-USP), specialising in areas of economics and administration and a student in the Master's programme in Business Administration at the School of Economics, Business Administration and Accounting at Ribeirão Preto (FEA-RP USP).

nmarquesvitor@gmail.com



Vinicius Cambaúva graduated in Agronomic Engineering from the College of Agricultural and Veterinary Sciences (FCAV) of the São Paulo State University (UNESP). In 2019 he participated in 'MAST International', a study and exchange programme at the University of Minnesota, in the United States. He is currently a student in the postgraduate programme in Business Administration at FEA-RP/USP, and a consultant at Markestrat Group. He has experience in the agribusiness area, having worked mainly with market access projects, strategic planning, market intelligence and new business development.

viniciuscambauva@hotmail.com

Institutional support



Foreword

Planning is an exercise of understanding how the changes happening today will shape the future of business and, if well applied, can certainly bring benefits to every organization. However, this process is extremely complex because of all the variables included and just a few can excel on this activity.

For us at Chiquita, a global company with geographic diversification, the uncertainties are even higher and planning becomes essential in order to reduce commercial and operational risks. It is important to highlight that our company does not create value for society just trying to avoid risk, but rather being prepared to take the risk of investing in new markets or business and planning is a key-component of our ability to identify these opportunities.

As a multinational company, we relied on a structured planning to develop our holistic approach to the value chain and we implemented a vision based on sustainable change: helping regions in which it invests, while providing all subsidiaries with sufficient independence to be part of the local economy. Local integration is based on the recognition that multinational enterprises have the potential to go beyond their businesses, helping the economy and life of the local community while considering the environment.

Chiquita's strategic vision and execution was a cornerstone for being today the most recognized banana brand and a company that craves the best not only for our shareholders, but all the stakeholders involved. We strive for the safety and well-being of our employees and for the sustainability and efficiency of the farms that supply the best fruits quality to all our consumers worldwide.

Biodiversity, women's empowerment and child rights are considered extremely important topics in Chiquita. We are committed to protecting and restoring forests and vital ecosystems. Good agricultural practices are also used to minimize the impact of operations on biodiversity, for example, integrating precision agriculture with pest management. The company defends women's rights and seek to eliminate wage disparities, with zero tolerance for violence, discrimination and sexual harassment.

We are currently living a crisis that has united the whole world more than ever. Socio-environmental responsibility of the agribusiness companies is extremely important for this moment. We commend the authors for the rich

content, this book contributes to a more responsible management of the business with a view of the whole. It helps managers to rethink their actions and seek more knowledge through strategic planning of the business.

We at Chiquita believe that it is vital for continuing to provide our customers with the best quality products and services, from end to end of the banana production chain. We want to work with the spirit of doing well, respecting the environment and everyone involved in our network. As leaders of the industry, we are concerned with sustainability and welfare.



Chiquita is participating in the project of this book since the company believes that the tools provided in its chapters will enhance the capacity of food and agribusiness companies to face the challenges ahead to be prepared not only to understand, but to build the future.

Chiquita

CHAPTER 1

Creating a strategic plan for a food chain: the *ChainPlan* method (framework)

Abstract

The growing global demand for food, resulting from factors such as population growth, economic development, income distribution and urbanisation, has persisted over the last ten years. However, many agribusiness chains were not prepared for this continued growth. With the aim of organising these chains and implementing a strategic planning and management process, the *ChainPlan* method was created in the early 2000s. Since then, several food and agribusiness chains in different countries have applied the updated and improved version of this method. The *ChainPlan* framework is composed of a twelve-stage process. First, it involves understanding the company history and mapping its network; in the second and third steps, the external and internal environment are analysed for setting appropriate goals in the fourth stage. In step 5, the macro strategies for the chain are designed, and from steps 6 to 10 analysis and decisions regarding products, communication, distribution, human resources and governance should be taken. During stage 11 the projects identified in the preliminary steps are prioritised and budgeting action needs to be addressed; and the twelfth step deals with the implementation and management of the plan. The method can identify opportunities for collective actions to improve the industry situation, enhance integration and efficiency in the supply chain, and identify opportunities for joint activities, thus providing the vision of an applied net chain while also leading to more sustainability-oriented results.

Keywords: planning, agribusiness, food chain, method, chain plan

Text originally published in Review of Business Management – RBGN as Neves, M., Kalaki, R., Rodrigues, J. & Gray, A. (2019). Food and agribusiness chains strategic planning and management: the *ChainPlan* method (framework). Review of Business Management 21: 628-646.
<https://doi.org/10.7819/rbgn.v21i4.4012>

1.1 Introduction

The growing global demand for food resulting from factors such as population growth, the economic development of populous nations, income distribution, and urbanisation has persisted over the last ten years. Important changes have taken place in the agribusiness sector to drive efficiency in the various global food networks. On the other hand, the dramatic rise in the global demand for biofuels continues to increase the pressure on grain and sugar production, agricultural land use, and other agribusiness functions. Consequently, many agribusiness chains are not prepared for this continued growth. To face these changes in the international business environment and increase opportunities for food and biofuels agribusiness chains, careful systematic strategic planning is essential (Neves, 2005).

Neves (2008) developed a preliminary method for strategic planning and management of food and agribusiness chains based on demands for projects starting in the early 2000s. From 2008 to 2018 (10 years), several food and agribusiness chains in different countries applied this method and in so doing provided distinct contributions thus creating the need for improvements and an update. This article describes the improved food and agribusiness chains strategic planning and management method (*ChainPlan*), based on several empirical applications, the most recent literature on agribusiness chains, and practical contributions provided by the private sector.

There is an absence in the current literature of a common theoretical framework with regard to value chains. This makes it impossible for generalisations to be made based on the different analyses and, thus, does not allow for comparisons between models (Clay & Feeney, 2019). The *ChainPlan* method seeks to help fill this gap by generating a replicable model that can be used to compare the most diverse value chains, allowing for a better understanding of the indicators needed to measure and evaluate competitiveness and performance in agribusiness chains.

The article continues in the second section with the literature review that contributed to *ChainPlan*; the third section outlines the methodology used to build the *ChainPlan* method, and the fourth section presents the *ChainPlan* sequence of steps used to build a strategic plan. Finally, the managerial implications are presented.

1.2 Literature review

1.2.1 Agribusiness systems, chains, clusters, and networks

In the agribusiness context, numerous theories from the literature contribute to the analysis of food chains: Agribusiness Systems, Clusters, Networks, Supply Chains, Inter-organisational Relationships and Netchains, Transaction Cost Economics, Institutions, Collective Actions, and others. Davis and Goldberg (1957) started the studies in agribusiness, developing the concept (business that involves agriculture) and the theory of the Commodity System Approach (CSA). In the eighties, Morvan (1985) and others advanced Davis and Goldberg's (1957) concepts and developed the theory of *Filière Agroalimentaire*.

An Agribusiness System is a macro analysis of a food product flow from suppliers (of inputs such as seeds, chemicals, and others), farmers, agro-industry, and distribution towards final consumers, comprising the following key elements for its descriptive analysis: agents, relationships between them, sectors, supporting organisations, and the institutional environment (Batalha, 2009; Zylbersztajn & Neves, 2000).

While the network comprises vertical, lateral, and horizontal relationships between independent entities, the production system emphasises vertical relationships. Ménard (2002, p. 4) explains that 'a network is a hybrid form of governance, and what is called an agribusiness system is a special case of a network.' However, Omta *et al.* (2001, p. 2) state that 'networks are seen as the total number of agents within an industry and/or between related industries, which can potentially work jointly to add value to customers.' Therefore, the theoretical model of the company's network does not consider pure self-interest as the determinant of behaviour; network theory emphasises the normative and social structures in which exchanges are embedded (Watson *et al.*, 2015).

The analysis of a network in which a focal firm operates is important in rapidly changing business environments that demand flexible, associative networks of functionally specialised firms, fused by cooperative relationships that provide access to unique knowledge and resources (Wang *et al.*, 2013).

Network theory provides an excellent framework to understand how changes in one part of the channel ecosystem affect other parts, such as the propagation of inter-firm behaviours from one channel relationship to an adjacent one (Watson *et al.*, 2015).

Lazzarini *et al.* (2001) integrate network and system concepts in an approach called netchains. The integration of these concepts enables organisational interdependencies within the network, different mechanisms of coordination (management plans, standardisation of process, and adjustments) and sources of value (operation and production optimisation, transaction cost reduction, diversity, and co-specialisation of knowledge). Within a company network, the way the industry relates to its producers and distribution channels gives rise to the concept of a strictly coordinated agribusiness subsystem that was proposed by Zylbersztajn & Farina (1999). A subsystem must offer a product that meets the final consumer's expectations. Thus, it is essential to manage the transactions between the links of the subsystem. In addition, producers can develop horizontal alliances to increase their bargaining power and explore gains from collective action, which in a subsystem become an important aspect of coordination (Zylbersztajn & Farina, 1999).

The way organisations gain and use their power and balance asymmetrical dependence determines channel structures and performance (Antia *et al.*, 2013). As social exchange theory suggests, power refers to the ability to influence channel partners to take actions they would not take otherwise (Draganska *et al.*, 2010). Power does not necessarily induce conflict; it is the nature and sources of power that can aggravate the negative effects of conflict on channel performance by increasing perceived unfairness (Samaha *et al.*, 2011).

In essence, the idea of company networks involves a level of analyses centred on one company that forms its network of distributors, suppliers, and others. Agribusiness systems and chains refer to the groups of companies that act in certain business flows. A coffee company builds its own network, and all these networks together make the coffee agribusiness system or coffee chain. The *ChainPlan* method described here focuses on the chain (or system) level for a certain region's poultry chain, coffee chain, orange juice chain, etc.

1.2.2 Transaction cost economics and contracts

Transaction cost economics (TCE) and contract theory literature contribute to the construction of the *ChainPlan* method. Coase (1937) states that a company is a nexus of contracts. Williamson (1985) also claims a company has a governance (management) mechanism that ranges from arm's length transaction markets (pricing systems) to full vertical integration. When market failures create excessive costs, companies will choose vertical integration over market transactions to source or sell (Rindfleisch & Heide, 1997). With vertical integration, the organisation owns various elements in the value chain. Different theoretical perspectives indicate distinct advantages of this strategy, but typically the benefit hinges on lowering the

costs associated with channel exchanges (Watson *et al.*, 2015). According to TCE, a vertically integrated firm may reduce costs incurred by bottlenecks in production, and increase efficiencies particularly in the presence of a market failure (Arya & Mittendorf, 2011).

Hill (1990) states that by considering economic transactions in a wider context it is possible to observe that the invisible hand of the market favours actors whose behaviours tend towards cooperation rather than opportunism. Heide *et al.* (2007) proposed examining the effects of monitoring on inter-firm relationships, and whether opportunism increases or decreases when using monitoring as a mechanism of control. Likewise, the punishment of one member in a distribution network can reduce opportunism by intermediaries who observe that punishment to be both a deterrent and a trust-building process (Wang *et al.*, 2013).

TCE recognises uncertainty as exogenous disturbances affecting transactions (Zylbersztajn, 1996). According to Farina *et al.* (1997), uncertainty creates unforeseen circumstances that cannot be covered by contracts between parties.

For Lusch & Brown (1996) and McNeil (1974), contracts are mechanisms that regulate transactions and are used to reduce risks and uncertainties in exchange processes. Within this view, contractual arrangements can solve some coordination problems but can also create others.

In agribusiness systems, coordination between input suppliers, producers, and industry is part of a vertical coordination of production, which can be improved with the design of contractual arrangements that minimise transaction and production costs between agents from inputs to the final consumer. Similarly, if there are joint action gains between agents of the same link, there may be better horizontal coordination of production, allowing the formation of associations and cooperatives to develop these actions.

For Zylbersztajn & Farina (1999), incentive mechanisms are instruments that combine the self-interest of members with the goals of the organisation: by pursuing their own goals no matter what they are, the member ends up helping the organisation to achieve its own.

Chaddad & Rodriguez-Alcalá (2010) attempted to analyse inter-organisational relationships in agri-food systems from a TCE perspective and their efficiency relative to alternative forms of organisation, in particular, markets and hierarchies (internal organisation).

However, recent TCE-based research has expanded the scope of related constructs to include not just opportunism (Jap *et al.*, 2013; Wang *et al.*, 2013) but also contexts (Kim *et al.*, 2011), culture (Steenkamp & Geyskens, 2012), and online business environments (Chintagunta *et al.*, 2012).

Over the past 30 years, transaction cost economics and contract theory have proven to be very useful to agribusiness systems/chains. These theories have a strong influence on the *ChainPlan* method described here.

1.2.3 Collective actions in agribusiness systems

Collective action theory is an important component of the *ChainPlan* method. Collective actions are social interactions that involve a group of individuals who pursue common interests that require joint actions, performed collectively rather than individually (Nassar & Zylbersztajn, 2004). Thus, individuals have common needs that can only be met through joint actions.

Olson (1999) was the first author to establish an economic explanation for social group formation. With respect to collective action, the author states that groups provide collective goods and their existence is undermined due to the presence of free riders. Cook and Iliopoulos (2016) also addressed free riders in their study and state that the tendency for free-riding has created significant challenges for continued joint collaboration between and among member patrons.

Contemporary research also examines the role of internet-based communication systems that promote cooperation among employees or help to build relational capital in inter-firm distribution networks (Spralls *et al.*, 2011). Communication systems can build networks that are more integrated by increasing trust and communication quality, which in turn helps to facilitate collective action and drive exchange performance. By examining only one dyadic channel partnership one can miss the influence of the overall network of relational ties in which that dyad is embedded (Wang *et al.*, 2013).

For Sacomano & Truzzi (2004), the relationships rely on trust, reciprocity, and cooperation between members. Involved organisations can be influenced by collective actions in many aspects such as changes in the system, in the structure, and even in the organisational culture. Trust is vital for successful collective actions.

Buzzell & Ortmeyer (1995) claim it is essential that agents who seek to succeed in their collective actions share resources and that top management commits to the consequences and demands of integration. This provides

resources that are often valuable, rare, and imperfectly imitable and can be leveraged to create sustainable competitive advantages (Kozlenkova *et al.*, 2014). The resource-based theory can inform various collective actions of the chain, including the adoption of a valuable new sales channel, distributor acquisitions of rare information (Guo & Iyer, 2010), inimitable supply chain service technologies (Richey *et al.*, 2010), and the augmentation of organisational capabilities by using retail category captains (Nijs *et al.*, 2013). Agents of an agribusiness system have a multitude of strategic opportunities to use collective actions to create vertical chains with superior performance.

Low levels of conflict potentially increase performance, whereas increasing conflict can hasten the demise of the relationship and damage channel performance. In particular, it undermines cooperative actions and prompts the damaged party to seek other trade partners (Watson *et al.*, 2015). Unsurprisingly, research on channel conflict, its outcomes, how it arises and how it can be mitigated has been of longstanding interest to marketing channels strategy (Krafft *et al.*, 2015). The velocity or rate and direction of change of a relationship commitment have a strong and significant impact on performance, going beyond the impact of any static level of commitment (Palmatier *et al.*, 2013). Agents of an agribusiness system must be aware of the potential for conflicts among chain participants and have a clear conflict management plan.

Collective actions are present in agribusiness system activities in several forms such as associations, cooperatives, alliances, among others; and even building a strategic plan for a whole system/chain is a process of collective action. The *ChainPlan*, in essence, is a collective action.

1.2.4 Strategic management methods, strategic planning, and marketing plans

Several definitions and concepts of strategy exist in the literature, some with complementary views and others with divergent views. In this regard, Besanko *et al.* (2000) state that many definitions have common phrases such as 'long-term goals and policies,' which suggests that strategy is related to the decisions that a company makes and the consequences of their success or failure. There are also other contributions in this field from the studies by Andrews (1987), Ansoff (1965), Chandler (1962), Digman (1990), Henderson (1984), Mintzberg *et al.* (1988), Moore (1993), and Pearce & Robinson (2014).

Over time, several authors have proposed methods that organisations can adopt to perform their strategic and marketing planning. In this study, we conducted a review of nine different methodological proposals for strategic planning in order to develop the method proposed. The studies include: Campomar (1982), Gilligan & Wilson (2003), Jain (2000), Kotler (2000),

Lambin (2012), Las Casas (1999), Oliveira (2006), Pearce & Robinson (2014), Silva & Batalha (2010), Soriano *et al.* (2010), Westwood (1995), Wood (2004), and Wright *et al.* (2000). Since *ChainPlan* is a strategic planning method, these theories are fundamental to the method. We incorporate contributions from these authors throughout the *ChainPlan* method.

1.3 Methodology used

We employ several research methodologies to develop the *ChainPlan* method. The theory (literature review) provided the basis on which to build a preliminary framework for the Strategic Planning and Management of Agribusiness Systems/Chains ten years ago. Then, empirical application of the initial method provided insights regarding necessary additions to and subtractions from the original method. These insights, combined with continued research on advances in the theories highlighted in the literature review, contributed to the further development of the *ChainPlan* methodology.

The starting point for creating a chain-planning methodology originated from the demand at the beginning of this century to build a plan for the orange juice chain in Brazil, established by the Brazilian Association of Citrus Exporters (Abecitrus). After the success of this first empirical study, demands from other agents and organisations from different food and agribusiness systems/chains emerged. In total, 9 chains have empirically tested the *ChainPlan* method, including: the orange chain (2004, 2007, and 2010), wheat chain (2005), milk chain (2007), sugar cane chain (2009 and 2014), beef chain (2011), cotton chain (2011, 2013, and 2017), flower chain (2014), pork chain (2015), and vegetables chain (2017).

In each of these applications, new insights were obtained and the preliminary method became more sophisticated. In addition to the Brazilian chains, the method has been applied in the wheat chain in Uruguay (2007) and milk, soybean, and beef chains in Argentina (2007, 2010, and 2014). In addition, others beyond the initial creators have applied the method, including applications in South Africa and other countries. The authors received valuable feedback from these international users and incorporated their insights to make the method more internationally robust. The new *ChainPlan* method presented in the next session is very different from its original sequence and is now the result of applications in several different businesses and environments. Throughout the remainder of the paper, the term chain is synonymous with systems.

1.4 ChainPlan: a method for strategic planning and management of food and agribusiness chains

The strategic planning in a chain starts with a participant taking the initiative to develop a plan. It can derive from a demand from existing sectorial organisations, together with the government, universities, and research institutes willing to organise a planning process and a future vision for the chain.

The *ChainPlan* method (framework) is composed of a twelve-stage process, described in the following parts (Figure 1.1).

Next, we provide analysis suggestions and proposals for each of the 12 steps of the *ChainPlan* methodology. These suggestions will lead to strategic projects being executed by chain participants to fulfil the resulting strategic plan.

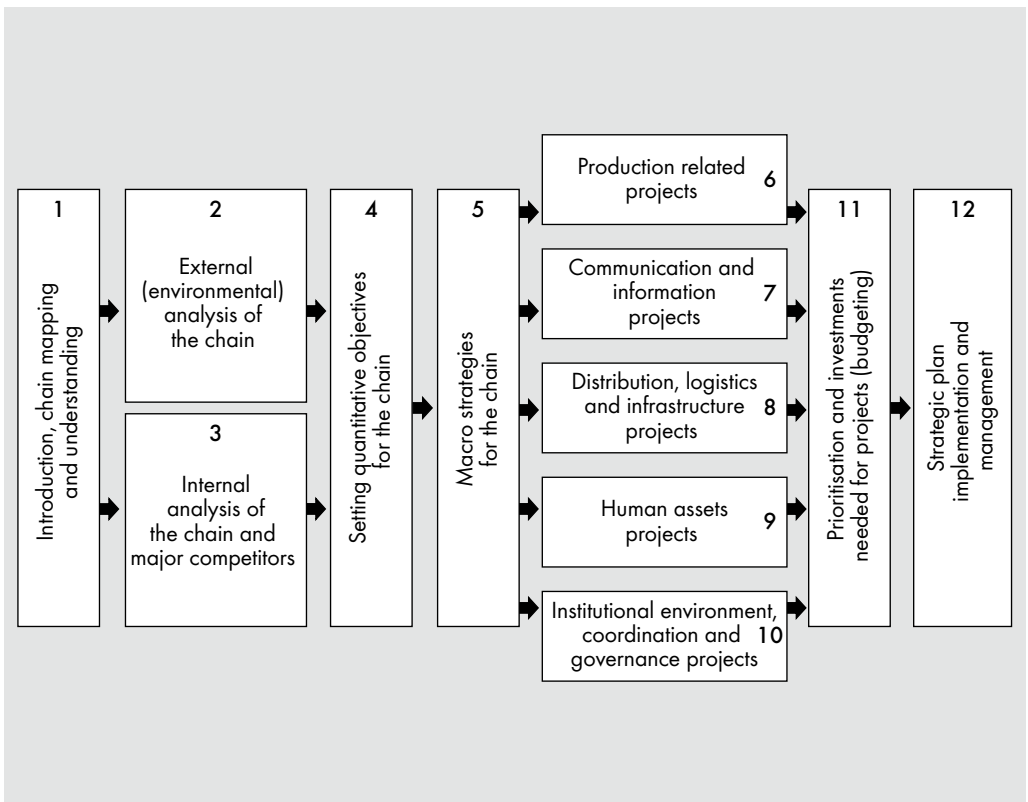


Figure 1.1. *ChainPlan*: stages for the strategic planning and management of food and agribusiness chains.

Stage 1 – Introduction, chain mapping and understanding

Stage 1 begins with initial contact with the principals of the agribusiness chain. Several steps should be pursued at this stage:

- Build the team that will participate in the planning process.
- Identify any previously developed plans for the chain and study them. Alternatively, interview the participants to understand their current chain planning process. In the case of an existing sophisticated planning process, an examination of how *ChainPlan* can enhance the existing model and a plan for adapting it gradually to the proposed system should be considered.
- Search for plans drawn up for similar agribusiness chains in other countries.
- Search for research organisation, government, and private sector materials and publications on important topics related to the chain.
- Identify the main specialists in the production chain.
- Elaborate a first description (design) of the chain using boxes, reflecting the flow of products from inputs until the final consumer. With this first version of the description, carry out in-depth interviews with executives of companies operating in the sector and other specialists (researchers, sector leaders, and others) to adjust the proposed design. Also, conduct a careful bibliographic review of recent dissertations and theses, in addition to articles in academic magazines and papers, or other general publications.
- Try to measure the size of the chain, searching for data about all the industries involved in order to find out, among other things, its size, contribution to GDP, to employment, and to tax collection. Interviews with specialists will contribute significantly to these measures. At this point, all data obtained are processed to come to an estimate of the size of the chain in the previous year. Then data can be sent to participating companies to validate and give comments and contributions.

Stage 2 – External (environmental) analysis of the chain

According to Lambin (2012), for long-term success, an organisation must focus on the ability to anticipate market changes and adapt to these changes. It is therefore critical to analyse the organisation's external environment. The second stage of *ChainPlan* focuses on developing a deep understanding of the macro-environment of the chain. The following analyses are suggested:

- Examine market data and trends for the chain's products (production, consumption, exports, imports, trade, prices, and others).
- Build a chain information system, looking for national and international quantitative and qualitative data.
- Understand the main competitors and their strategies.
- Understand the trade barriers (tariff and non-tariff) and check collective actions to reduce them.
- Analyse consumer behaviour, buying decision processes, and trends.
- Identify the threats and opportunities arising from uncontrollable variables (possible changes in political/legal, economic, natural, socio-cultural, and technological environments), both in domestic and international markets, including labour, technology, innovation, consumers, and others.
- Develop a scenario matrix combining the most important factors from the opportunity and threat analysis to develop a series of possible industry outcomes over the next ten years.

Stage 3 – Internal analysis of the chain and major competitors

A critical analysis of the chain is a fundamental factor in the strategic planning process, since among other advantages it allows for the identification of strengths and weaknesses and proposes actions to leverage strengths and mitigate weaknesses. For this third stage, we suggest the following activities:

- Identify the main producing regions for the core product, including particularities and trends.
- Map the contracts and existing forms of coordination.
- Map, analyse, and understand possible substitute products.
- Evaluate public policies and incentives in the chain.
- Describe existing governance structures and the characteristics of transactions.
- Analyse the competitiveness of the chains. Use tools such as Porter's five forces analysis, Porter's diamond analysis, and key success points.
- Analyse chain value creation and resource skills.
- Analyse critical success factors of the chain.
- Select, among other countries' chains (that may or may not be competitors), sources of benchmarks.
- Identify all the strengths and weaknesses of the chain (consider topics that appear in stages 6 to 10 as well).

Stage 4 – Setting quantitative objectives for the chain

According to Neves (2008), the proposed objectives must be clear and quantifiable, so that agents of the chain can monitor the results obtained. Thus, after analysing the external and internal environment, the main quantitative objectives for the next ten years should be developed. Suggestions for objectives include: production, consumption, exports, imports, sales, GDP generated, costs, employment created, taxes collected, and others. A table with numbers for the next ten years would be the output at this stage. Ideally, this table will factor in the scenario analysis and include expected, worst, and best cases.

Stage 5 – Macro strategies for the chain

In this stage, it is suggested that a list is made of the main strategies (actions) to be used to achieve the objectives proposed in stage 4, in terms of leadership, positioning, value capture, and market segmentation. Traditional authors and theories can contribute, such as Porter's (1980) generic strategies, concepts of the resource-based view from Wernerfelt (1984), Prahalad & Hamel's (1990) core competencies, the BSC view from Kaplan & Norton (1992), Lafley & Martin (2013), and other authors dealing with general strategies. We address details of these general strategies in stages 6 to 10.

Stage 6 – Production-related projects

Stage 6 focuses on production-related strategies. For projects related to production, the following areas are suggested:

- Analysing production processes and production capacities.
- Mapping and planning production risks (sanitary and others).
- Areas for expanding production.
- Smart production concepts.
- Circular economy concepts and integrated production systems.
- Financing of investments (public credit, role of capital markets, private sources such as barter, or other forms of financing) and special lines for smallholders.
- Insurance (income, environmental issues, and other risks) and price policies (minimum prices and other discussions).
- Irrigation incentives and policies.
- Adopting a vision of continuous product improvement.
- Products and product lines as well as complementary product lines for expansion decisions and added value opportunities.
- Identifying innovation opportunities in the chain, stimulating start-ups and other forms.

- Research and development issues and ideas, partnerships with universities, research institutes, and other organisations (role of public sector).
- Analysing partnerships for complementary solutions.
- Services that are being and will be offered.
- Brands, country of origin, labelling, logos, and others.
- Sustainability, renewable sources of energy, and certification processes (carbon, water, and other ‘footprints’), climate-related issues, payment for environmental services, and biodiversity-related issues.
- Long-term analysis and competitiveness of inputs (crop protection, fertilisers, lime, machinery, genetics, equipment, software, and others).
- Adapting products to standards and institutional environment.
- Packaging (labels, materials, and design).

Stage 7 – Communication and information projects

Stage 7 focuses on strategic communication and information plans. For projects related to information and communication, the following actions are suggested:

- Build a chain information system, establishing information that will be collected and distributed to enhance chain transparency.
- Build the information distribution systems using appropriate media platforms.
- Address connectivity and access to digital services.
- Build a chain communication plan, identifying the target audiences that will receive the communication (messages); develop the desired goals for this communication (product knowledge, product reminders, persuasion, among others); try to achieve positioning and convey message of products generated by the chain; set the content of communication that will be used, i.e. define the advertising plans, public relations and publicity, sales promotion, among others.
- Establish a benchmark of films and international materials used by other agribusiness systems.
- Indicate how communication results will be measured so that the system can learn to use the best tools and achieve return on investment; tell the story.
- Establish a chain identity, brand, and image.
- Create joint symbols and certifications.
- Create institutional communication material for the chain (including benefits, contributions, advantages, strengths).
- Create specific communication campaigns for the foreign market, direct consumers, influencers, facilitators, and the general public.

- Communicate the benefits of the chain in terms of sustainable inclusion, tax generation, and other contributions (e.g. impact on GDP and employment).
- Establish relationship programmes with NGOs and other chain influencers (medical and nutritional areas, the media, and young people, among others).
- Consider the role of government agencies in promoting communication activities.

Stage 8 – Distribution, logistics and infrastructure projects

Stage 8 focuses on distribution, logistics, and infrastructure projects needed to strengthen the chain's physical connections between participants. For projects related to distribution and logistics, the following actions are suggested:

- Analyse the logistics of the entire chain and possibilities for improvement (modal integration, rural roads, logistical hubs, and others).
- Analyse storage capacities and needs.
- Analyse the distribution channels of products and seek new ones, setting distribution objectives such as presence in markets, type and number of points of sale, services to be offered, market information, product promotion, and incentives.
- Identify the possible wishes of international distributors and consumers to adapt the services provided.
- Search for improvements in infrastructure.
- Examine concepts of the sharing economy (models like Uber) that could be used by the chain.
- Identify collective actions that could be carried out in international markets.
- Identify synergies with other food chains.
- Design international strategies for exports such as franchising, joint ventures, or other contractual forms, or even vertical integration.
- Consider the critical role of governments in logistics (financing, data management, governmental structures, privatisation, public private partnerships, and others) and in promoting competition and free markets for transport services.
- Leverage favourable government agencies to promote access to international markets (agreements, trade zones, and others).

Stage 9 – Human assets projects

The resource-based view of strategy makes a compelling argument that strategic success correlates strongly to human capital. Similarly, a chain's success relies on human capital. This is the focus of stage 9 of the *ChainPlan* method. For projects related to human resources, the following actions are suggested:

- Examine critical labour issues, labour laws, rural labour retirement programmes, and potential improvements.
- Conduct an analysis of educational needs, incorporating a holistic view of educational needs and offerings at all levels (municipal, state, and federal).
- Design training strategies for production, manufacturing, quality, safety, sustainability, and management for participants in the agribusiness chain to gain efficiency and enhance innovation.
- Identify programmes for rural schools.
- Develop a chain education platform, with topics, institutions, and responsibilities.
- Promote extension services and programmes.
- Leverage the role of universities and technical schools.
- Develop distance education programmes.
- Leverage the role of associations, cooperatives, federations, and other organisations.
- Create communication plans to increase awareness of employment opportunities in the chain, attract and retain talent in the industry, and create public support for human capital in the industry.

Stage 10 – Institutional environment, coordination and governance projects

Michael Porter's work on external analysis suggests that industry incumbents do not have to passively accept the external environment they face. There are opportunities to act to affect change in the industry environment. He acknowledges that this strategy is often most successful when there is collective action by participants in the industry. Stage 10 of *ChainPlan* addresses the collective actions needed to create the best possible external environment for the chain. For projects related to this topic, the following areas for action are suggested:

- Public and private credit projects.
- The role of government, agencies, and other public institutions.
- The role of cooperatives, associations, and other collective organisations.

- Taxes, policies, and incentives.
- Regulatory issues (harmonisation, natural resources, safety, product registration, environment, licenses, forestry codes, water resources and protection, storage, land acquisition, and others).
- Security and crime-related topics.
- Land ownership, land rights, and issues linked to minorities.
- Chain code of conduct and chain dispute resolution mechanisms.
- Reducing bureaucracy.
- Projects to increase consumption.
- Sanitary and certification issues.
- Project for tax reduction in the agribusiness system.
- Projects for trade and investment.
- Equipment imports incentives.
- Trade policies and negotiations.
- Standardisation of products and product names.
- Modernisation and transparency in legislation.
- Public and private conflict resolution systems with proposals for coordination and contracts.
- Public services driven by needs of the private sector.

Stage 11 – Prioritisation and investments needed for the strategic projects (budgeting)

In this stage, all projects generated in stages 6 to 10 need formal project descriptions including an analysis and description of objectives, actions, implementation suggestions, performance indicators, inter-relations, teams, deadlines, budgets, and forms of management.

After the projects are drawn up in detail, it is necessary to prioritise them. According to Nieto-Rodriguez (2016), the difference between the success and failure of an organisation lies in strategic and operational prioritisation. Prioritisation increases the success rate because it increases the focus of the team, builds an execution mentality, and signals what matters.

Prioritisation can be done in a chain workshop, in order to reach a democratic decision, using the criteria of urgency (should be done immediately, related to time), relevance (related to the potential positive impacts), relatedness (related to how projects are connected to and reinforce impacts), and investment (related to the amount of resources needed). The ones that receive the highest ratings for relevance, urgency, and relatedness, combined with the lowest investment required, receive the highest priority.

Having prioritised the set of projects, budgets should be prepared for all of the projects along with the total budget of the strategic plan to decide what projects to execute. Here it is suggested that the prioritised projects are executed in waves, allowing the most urgent ones to be executed first while securing funds for the next wave of projects.

Stage 12 – Strategic plan implementation and management

An effective strategic planning process is one that is appropriate for the organisation and the situation in which the organisation finds itself. When implemented correctly, with the right leadership, motivation, policy, and management, the strategic results are highly successful (Klag & Langley, 2014). Implementation is at least as important as building the strategic plan for the chain; in other words, success comes when the chain makes it happen rather than when it develops the plan. To implement a strategic plan, some authors such as Backer (2003), Rigby & Bilodeau (2015), David (2002), Grant (2010), Guerreiro & Souza (2015), Kaplan & Norton (1997, 2004, 2008), Mintzberg (1994), and Thompson & Strickland (2000) have proposed various actions. In addition to these actions and the previous applications of the methods, we suggest the following for strategic plan implementation:

- Develop a governance structure and an implementation process.
- Evaluate and adapt the resources.
- Involve different levels and agents in the execution process to achieve alignment across agents in the chain.
- Build and motivate the teams for the strategic projects.
- Define goals and objectives for people.
- Build a committee to discuss specific issues and solve problems.
- Seek public-private partnerships.
- Communicate the plan to the different organisations and agents involved.
- Review the *ChainPlan* constantly.

Typically, agribusiness chains present some horizontal associations (such as associations of farmers, processing industries, etc.) that play important roles in the *ChainPlan*. It is hard to find a vertical organisation (uniting different stages of the chain) that involves all agents. A vertical organisation can help implement the *ChainPlan*, but existing applications of *ChainPlan* have not all resulted in the development of a vertical organisation. Nonetheless, a vertical organising unit could help in many important ways, including:

- Organising, collecting, storing, and exchanging information.
- Organising and planning forums for discussing strategies.
- Creating flexibility to capture and use resources that individual agents in the chain might not have.

- Facilitating a unified voice in the agribusiness chain and representation in institutions.
- Guiding a positive agenda for the chain.
- Building and implementing plans.

Recent research also addresses actions within vertical relationships, such as multilateral bargaining across channel intermediaries (Guo & Iyer, 2013) or retailer-driven bundling and its effect on upstream channel members (Bhargava, 2012); so these may be useful for a modern concept of vertical structures to facilitate stronger governance of the chain. As more firms move to hybrid structures to deliver offerings to end users, research has followed suit and examined partially integrated vertical channels (Kim *et al.*, 2011), which could also be an option for chains. Neves (2008) proposed a sequence for creating a vertical organisation in agribusiness chains that fits and may help in the implementation. The method includes six phases for creating a vertical organisation: propose the idea of a vertical organisation, establish the organisation formally, define the organisation's funding mechanisms, form the board and set the operational structure, permanently increase the number of associates, and measure performance.

1.5 Overcoming the difficulties in implementing the *ChainPlan*

Several authors have studied factors that have led to the non-implementation of plans, such as Beer & Eisenstat (2000), Charan & Colvin (1999), David (2002), Giraldi & Campomar (2005), Klag & Langley (2014), Kaplan & Norton (1997, 2001, 2004, 2008), O'Regan & Ghobadian (2002), and Wessel (1993).

Ten years of experience in designing chain plans and facilitating implementation has led to several observations regarding the speed and success of implementation, including:

- A lack of participant understanding of planning and strategy concepts.
- Not anticipating problems and conflicting priorities.
- Finding key volunteer leaders that are motivated.
- Inadequate leadership ability among the leaders.
- A lack of discipline/motivation of members and organisations.
- Political and cultural issues among participants.
- Poor team integration.
- Different agents seeking their own objectives.
- Allowing some to believe they are owners of the collective.
- A lack of understanding and clarity of goals and objectives.

- A lack of established indicators to be monitored.
- A lack of standards for implementation.
- Not creating a simplified version of the detailed plan that is communicated in an executive manner.

Addressing these points in advance, perhaps as part of stage 12, would enable *ChainPlan* and its strategic projects to make progress.

1.6 Managerial implications

The *ChainPlan* method addresses the strategic planning and management of food and agribusiness chains. The method focuses on the general concern about the direction of a particular chain in the long term, the development of a viable and sustainable structure, the overall direction required to match its organisation and development, the definition of objectives and collective actions, and evaluation metrics, from an overall perspective.

The *ChainPlan* method involves a number of advantages and opportunities, challenges, and additional difficulties for agents that intend to organise themselves in order to develop and implement a strategic planning and management process for a chain.

Among the possible advantages, it describes values and philosophies of the leaders of the chain, to guide a common future vision. The method also allows for the sharing of information and experience among agents. *ChainPlan* can identify opportunities for collective actions to improve the industry situation, enhance integration and efficiency in the supply chain, and identify opportunities for joint research activities, thus providing the vision of an applied net chain. The facilitation process can serve as an instrument for coordination, cooperation, integration, and enthusiasm in addressing common problems. Developing a strategic plan for the chain can create more flexibility in the face of unexpected changes and a more rigorous and professional collective chain regarding standards, budgets, the division of responsibilities, and schedules. Finally, the method can lead to social, environmental, and economic results that are more interesting for the chain as a whole.

The *ChainPlan* method is a theoretical-empirical method, built on the basis of academic literature and perfected over the years through its application in several productive chains. In each method application, new insights have emerged and are now incorporated in the version presented in this paper. The method seeks to address the theoretical gap relating to the strategic planning applied to agribusiness chains and especially the lack of a tool for applying strategic planning in this context. As discussed in this paper's literature

review, many authors have proposed a method to build strategic plans in organisations, but when the subject involves planning agribusiness chains, the academic discussion revolves around agribusiness chain coordination and analyses to be applied in this sector. Therefore, this article seeks to fill this theoretical gap and propose a tool, which is a specific strategic planning method for application in agribusiness chains.

1.7 Limitations of the research and the method

The updated method is a simplification of the processes involved in the strategic planning and management of organisations. Additional important stages may have been missed in the method. In addition, the list of analyses provided in each stage are suggestions based on the authors' experiences in executing these stages; certainly, other analyses could be added to each stage. Despite our best efforts, the literature review may have missed important methods of strategic planning and management of chains. Finally, the simplicity with which we treat many of the subjects and the bias towards theory built on application are other limiting factors of this method.

The *ChainPlan* method introduced here provides a rich platform for future studies. For example, there are many opportunities to develop and refine the analysis methods in many of the stages of the model. There is an opportunity to revisit the previously developed plans and rigorously measure the successes and shortcomings of their implementation. Finally, application of the method to additional chains in different countries and environments around the world would provide opportunities to continue to enhance the method while also benefitting the organisations and agents in those chains.

CHAPTER 2

The new macro-environment for food, agribusiness and biofuels chains

Abstract

The coronavirus crisis has profoundly affected the world, with unprecedented effects in the recent history of civilisation, chiefly loss of life and the paralysis of economic activity. Perspectives on global GDP growth have been thoroughly revised with disastrous consequences predicted, forcing companies to recalibrate rapidly and decisively. At all times, the macro-environment affects day-to-day activities in food/ag/biofuels chains, influencing the flow of products, services & communications from upstream to downstream and the flow of information & payments from downstream to upstream; a post-pandemic macro-environment changes the situation completely, creating unforeseen challenges and opportunities, and forcing instantaneous adjustment and adaptation. The purpose of this article is to summarise what is going on in the food and agribusiness industry during the global crisis and lockdown, to understand the facts and to anticipate their possible impacts, in order to contribute to effective decision-making. The list contains major topics in the political/regulatory environment; the economic/natural environment; the socio-cultural environment; and the technological environment. A deep analysis of the items listed can help us to understand the reasons for the various impacts and to foresee future impacts on agri-food chains. How can organisations use the lists above? This chapters also presents the FIA matrix (facts, impacts and acts) to help decision-makers in food, agribusiness and biofuel chains as they adapt and adjust to our post-pandemic world.

Keywords: pandemic, macro-environment, food chain, agribusiness

2.1 Introduction

Imagine this scene in December 2019: we are moderating a three-day strategic planning workshop for a client in a nice hotel. At the end of the first day, we raise a scenario that considers the implications of two simultaneous events: a virus proliferates worldwide, forcing humanity to isolate at home; and oil prices plummet. What would happen? We certainly wouldn't be invited back on the second day to continue the strategic planning discussions.

We are facing a surreal moment in our lives, previously only seen in the movies. In nearly 30 years working with strategic planning applied to food chains, we have never seen so much change in so short a time. The 3V's have happened: 'variables varying violently', and the result is roughly ten years of transformation in 60 days.

As in a tsunami, the coronavirus crisis has affected the world profoundly with effects unprecedented in the recent history of civilisation: chiefly, loss of life and the paralysis of economic activity. Perspectives on global GDP growth have been thoroughly revised with disastrous consequences predicted, forcing companies to recalibrate rapidly and decisively.

At all times, the macro-environment affects day-to-day activities in food/agri/biofuels chains, influencing the flow of products, services & communications from upstream to downstream and the flow of information & payments from downstream to upstream; a post-pandemic macro-environment changes the situation utterly, creating unforeseen challenges and opportunities, and forcing instantaneous adjustment and adaptation.

The macro-environment can best be understood as an aggregate of four major areas: the political/regulatory environment; the economic/natural environment; the socio-cultural environment; and the technological environment (Figure 2.1).

While analysis of the four aspects of the macro-environment has always been a basic managerial task, as we enter 'the new normal', there is a radical shift in the challenges and opportunities that present themselves, and there is much more than the traditional items to consider as organisations strive for relevance and viability.

The purpose of this article is to summarise what is going on in the food and agribusiness arena during the global crisis and lockdown, to understand the facts, and to anticipate their possible impacts in order to contribute to effective decision-making. Our goal here is to share our post-pandemic list of items to be considered by companies at a moment when all strategies are being brought back to the table for discussion.

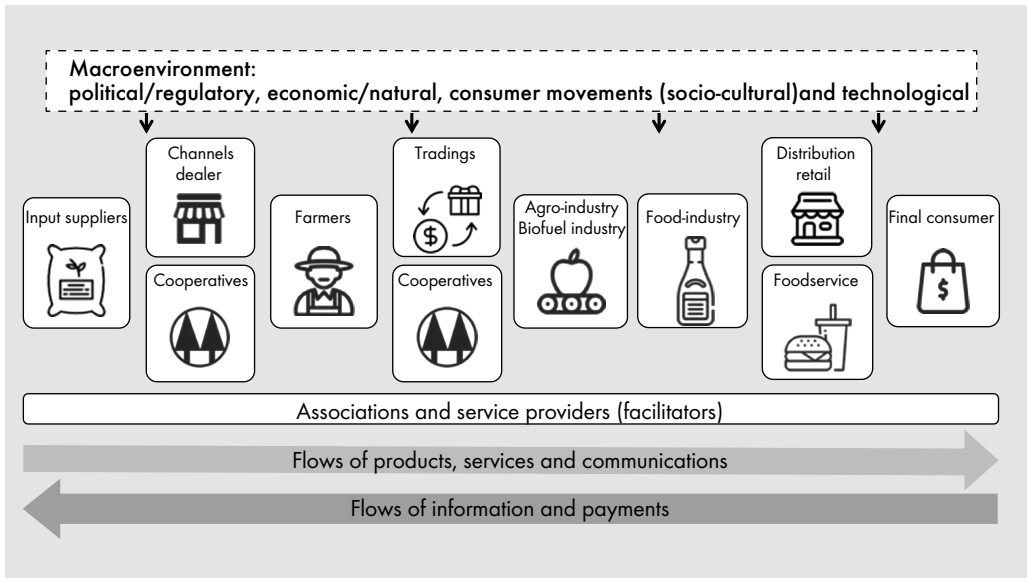


Figure 2.1. Food, agribusiness and biofuels chains.

In each of the environments we list what we consider the most relevant issues.

2.2 Socio/cultural environment – consumer movements

- Concern about food waste, recycling, reusing, increasing value to circular economy.
- Concern about inclusion and social innovation (smallholders).
- Food miles movement empowering 'buy local' and other regional initiatives.
- Increasing demand for image and country of origin denomination.
- Ethnic foods, artisanal products (home-made), organic and other experiences.
- Authenticity, simplicity, ethics and openness to dialogue.
- Slow-food movement (eating and enjoying).
- Positive attitudes toward direct 'farmers-to-consumers' channels (farmers' markets).
- Multicultural approach: cultures differ in markets and so do consumers' behaviour, diets, lifestyles, and insights.

- Increasing purchasing power of consumers and possibilities of increased choices.
- Land use issues (preservation) and animal welfare (free range and others); greater social pressure in relation to the scarcity of resources; increasing engagement of Millennials in sustainability topics.
- Climate change and climate-related issues; concern about carbon measurement and management (carbon footprint); climate- and planet-friendly behaviour.
- Simplicity lifestyle; time-saving movements (buying time, learning how to use time, etc).
- Older population issues (+65 will double by 2030).
- Gender roles and related food products.
- New role of influencers with consumers.
- Growth of online buying behaviour (also households growing own fruits and vegetables).
- Increasing collectivism and engagement approach.
- Increasing appreciation of small and local businesses.
- Increase in sanitising, hygiene care and greater knowledge of virology.
- Increasing appreciation for certification; demanding more security and traceable products.
- Paying more attention to diet (feeling good, healthy, well-being, nutrition).
- Increasing curiosity and acceptance of alternative and sustainable ingredients sources (lab meat, other plant-based products, insect protein).
- Greater interest in the origin, sources, reliability of news.
- Increasing confidence in science and agriculture.
- Increasing value to 'made in ... my country'.
- Increasing activist approach and engagement; increasing connectivity of food consumers.
- Appreciation of moments with family, (cooking, eating together).
- Expansion of Asian culture and influence (food and others).
- Others.

2.3 Economic and natural environments

- Asian and emerging nation-driven world (70% of world GDP in 2030) and their fast recovery from the crisis.
- GDP/demand growth and diet changes.
- Pandemic and its impacts on global economic growth and development.
- Exchange rates, interest rates and inflation.
- Economic borders (agreements and trade).
- More transparent income and profit allocation and distribution; searching for inequalities, solutions to poverty, hunger.

- Growth of bio-economy (mass, plastic, fuel, electricity)-based chains.
- Natural resources scarcity.
- Different world regions productivity levels and gaps.
- New types of insurances & other risk management tools.
- Circular economy (using by-products as inputs).
- Industries consolidation and growth of Chinese influence.
- Global investors and faster capital flows (credit), with new currencies.
- Terrorism risks for food stocks, food transport.
- Volatility in world food prices.
- Increasing value of biodiversity.
- Education as a basic source for competitiveness.
- Sharing economy (Uber models).
- The food bridge: from the Americas (food production) to Asia (food consumption).
- New labour forms, work models (at home, during commute, part time and others).
- Increase in home offices and simplification of processes, resulting in less need for workers and physical space.
- New sources of protectionism.
- Precarity: job and income insecurity.
- Public (government) debt.
- Health risks in food production industrial units and other stages of the chains.
- Private companies providing more micro credit plans and fintechs.
- Crowd-funding movements.
- Restaurants trending toward the delivery model.
- Increase in raw material stocks.
- Natural disasters.
- Diseases and plagues.
- Effects of climate change in producing areas.
- Possible water shortages, flooding, and weather events.

2.4 Political/legal (regulatory) environment

- Governmental/public policies interventions and regulations.
- The evolving role of NGOs (non-governmental organisations) and pressure groups as influencers.
- Labour legislation and trade unions.
- Environmental legislation.
- Tariff barriers.
- Agricultural subsidies policies.
- Certification laws.
- Investments incentive programmes.
- International trade regulations.
- Tax policies.

- Crisis-related interest rate cuts; liquidity injection; credit lines; tax relief; and suppression of some regulatory obstacles; vouchers for informal workers.
- Governments going 'online'.
- Increase in health budget and regulation.
- Increase in budgets for public R&D.
- Prohibition of trade of exotic products and increased 'wet market' regulations.
- Policies for local production incentives.
- Product labelling and traceability requirements.
- Data and information protection.
- Changes in labour safety laws.
- Restrictions on freedom and individual movements.
- Interruption of some production and distribution chains, prices and tax regulations.
- Embargo over some products due to shortages and international political conflicts.
- Problems of stability and political crisis.
- Labour restrictions and shortages for agricultural activities (handpicked and others).
- Increase in food safety regulations.
- Increase in food self-sufficiency policies after the Coronavirus event.
- Regulations for pollution, plastic and other types.

2.5 Technology environment

- Increasing data generation, ownership and usage.
- Increasing information flows, transparency, traceability and identity preservation.
- Increasing levels of security (data, quality assurance, zero contaminations).
- Allowing consumer communication tools (from in-person to digital platforms).
- Digital contracts.
- Higher levels of innovation and entrepreneurship in food chains.
- Increasing gaps among users and non-users.
- Smart farms and precision agriculture: digital farming everywhere with GPS-guided equipment, data-driven drones, analytics software, advanced equipment.
- Convergence of industries (food and medicine, food and cosmetics).
- Gene editing: resistance, resource usage, productivity and consumers; increasing biotech, genomics, traits; fungi, bacteria and drought-resistant crops.
- Enhancing intellectual property.

- Natural lab-produced food substitutes (food coming from different sources); increase in meat substitutes (plant-based).
- Organics and yields.
- Increasing number of start-ups.
- Increasing amplitude of tablets/phones and their services.
- Artificial intelligence (robots).
- 3D printing (seeds, etc.).
- Energy sources (solar power and others much more accessible); energy generation technologies expected to become cheaper.
- Increasing tech innovations related to services, experiences, and relationship marketing.
- Tech-driven diversification toward complete solutions: a chemical company to a seed company, to precision planting, to climate monitoring and high-tech services.
- Greater use of digital and mobile, with an increase in online meetings for socialising and business.
- Expansion of support areas to the digital environment.
- Increase in online commercial platforms (marketplaces).
- Aerospace technology, nanotechnology and others.
- New tech-inspired forms of marketing (the use of 'lives', etc).
- Tech and metropolitan agriculture.
- Super plants and superfood (with high level of proteins, minerals, etc).
- Regenerative agriculture.
- Bioplastics and all other bio developments.
- Accelerating R&D and robotics (mainly for harvesting).
- Increasing technology and data in retailing.
- Apps in several activities of food production.

These are the items we have considered during three months at home analysing the pandemic and its seismic impact on the chains in this 2020 period that will *definitely* show up in our history books.

To date, we have seen chains that made gains during the pandemic, chains that stayed the same and chains that lost. Varied impacts were seen in soybeans, corn, cotton, orange juice, coffee, wheat, eggs, and meats: a deep analysis of the items listed above can help us to understand the reasons for the various impacts and to foresee future impacts.

How can organisations use the lists above? Since simplicity is one of the new rules of the game going forward, we have developed a very simple tool that allows for effective assessment. we call it the FIA Matrix: Facts, Impacts and Acts.

Any organisation can grasp the Facts listed above in the four major environments. These Facts will carry Impacts for individual organisations, which can represent challenges and opportunities. Finally, Acts are what an organisation can do to meet challenges, to maximise opportunity and to minimise threats (Figure 2.2).

The second half of 2020 will see businesses dissolving and businesses emerging, traditional companies failing and newcomers thriving, and a huge amount of assets changing hands. The companies that flourish in a post-pandemic world will be those companies that pay attention to the Facts, are quick to understand or even anticipate Impacts, and that can implement Acts that will generate positive change.

We are sharing the FIA Matrix tool to help decision-makers in food, agribusiness and biofuels chains as you adapt and adjust to our post-pandemic world. Your homework now, and you may already be too late, is to return to the table of topics and fill in the FIA Matrix for your organisation and, also, for your life.

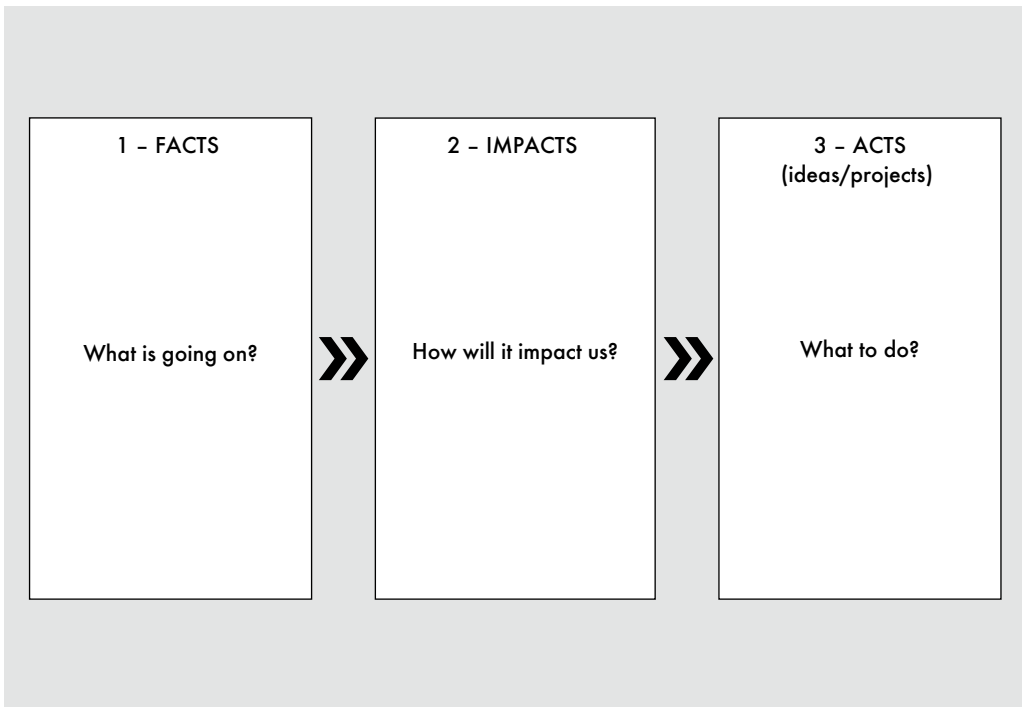


Figure 2.2. Planning method: FIA matrix - facts, impacts and acts.

CHAPTER 3

The participants of the food chains: characteristics and trends

Abstract

In agro-industrial systems, the agri-product chains (food, biofuel, fibre and others) are composed of different agents with specific characteristics and roles regarding the flow of products, services, communications, payments and information. Because of this, these agents are exposed to changes and transformations related to the macro-environment (political-legal, socio-cultural, economic-natural and technological), which can directly affect the dynamics of consumption, distribution and commercial relations of the organisations. In this sense, a careful observation of the facts and transformations related to each one of these agents becomes essential for providing improvements to business models, ensuring their levels of efficiency and results. This chapter presents the main categories and characteristics of the agents that form agri-product chains, and indicates a vision of the main trends related to each of them, based on the literature and market materials, and on the vast experience of the authors in agribusiness consulting projects. As a result, there is a valuable contribution to these agents, which can use this content to review their processes, activities and strategic plans. Since we are improving their efficiency, we are also contributing to ensuring global food security.

Keywords: agro-industrial systems, food chains, agribusiness, food agents, macroenvironment

3.1 Introduction

Agro-industrial systems or chains reveal the flows of products, services, communications, payments and information throughout the production or transformation process of a certain agri-product (food, biofuel, fibre or other), starting with the supply of the necessary inputs for its production until its distribution to the final consumer (Neves, 2014b). Thus, the chains of food, biofuels and other agri-products are formed by agents that play specific roles, following a logical sequential order of activities and processes, in order to guarantee the flow to the final link, the consumer.

The agents that compose an agri-food chain are described in Figure 3.1, so we can find each one of them, their respective positions, as well as the flows that are performed by each one of them. It is important to take into account that not all the chains will have all of these agents in their configuration, because some intermediaries can be excluded.

All agents that make up the food, agribusiness and biofuels chains are exposed to macro-environmental factors that can directly affect their businesses. These factors are classified into four major categories: the political-legal environment, the socio-cultural environment, the economic-natural environment and the technological environment. In Chapter 2 we discuss the main implications and trends regarding the ‘new macro-environment’ and its implications for agribusiness chains in a generic way. However, each agent of the chain will respond differently to these changes and may be more

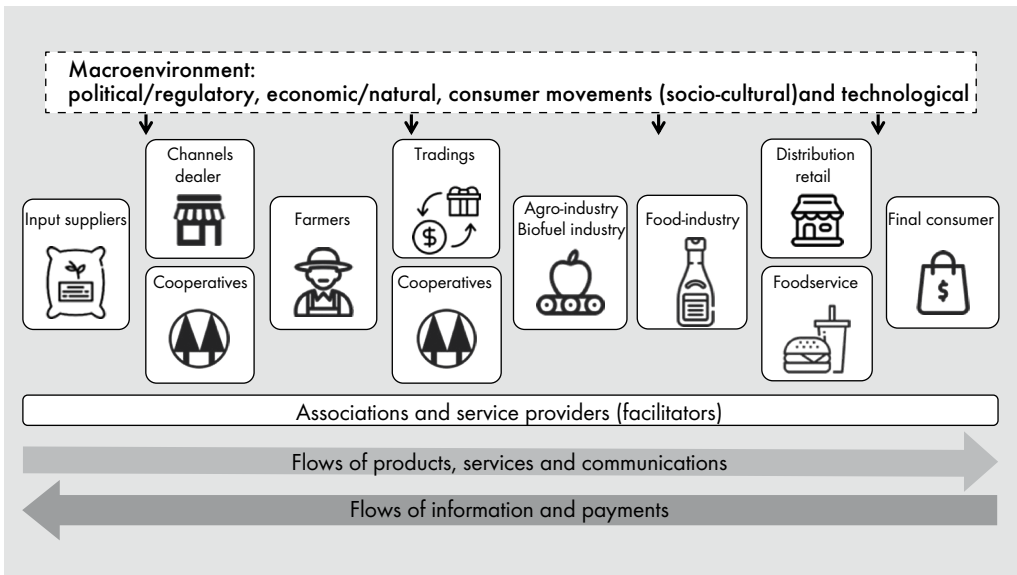


Figure 3.1. Major agents of food, agribusiness and biofuel chains.

or less impacted by them; also, the competitive environment of each agent is completely different, with particularities that need to be highlighted for its correct diagnosis.

Thus, our objective in this chapter is to clarify the roles of each agent in the agri-food chain and to point out the main trends that are guiding each one, from observations in the literature and in the market, to our experience in consulting projects in the sector. Such analyses allow for a greater conjunctural understanding of agricultural chains and reveal attention points that companies and organisations need to monitor (facts), in order to measure the levels of opportunities and threats (impacts) and define projects, strategies and action plans (acts) to deal with it, as presented in the FIA matrix. From now on, we will analyse the role of each agent and what is going on in their macro-environmental scenario in a synthetic and objective way.

3.2 Input suppliers

Input suppliers are appointed as the first agents in the food, agribusiness and biofuel chains (Figure 3.1). The main function of these agents is to provide technologies and inputs that enable and improve the production process along the chain, with farmers and agricultural production as the main targets for their solutions. Most of these organisations are positioned to supply products and technologies in the following segments: crop protection (biological or chemical origin), fertilisers, seeds and seedlings, agricultural machines and implements, among others.

In recent years, these agents have increasingly attempted to deliver quality and efficiency to farmers (Cónsoli *et al.*, 2011), through the development of innovative solutions with a high technological profile, which allows greater profitability in the field, and better use of land and other productive resources. In addition, these companies have enhanced the relationship with other agents in the chain (such as distributors, cooperatives and trading companies), diversifying the range of alternatives for the development of solutions that improve the production process, and reducing the gaps in services, since the suppliers of the inputs alone are unable to satisfy the farmers' total service needs, whereas distributors and cooperatives, by working locally, are able to meet this demand.

A current characteristic among these agents is the concentration of technologies and patents in the hands of a few organisations, controlled mainly by large multinational companies, and this process has been intensified with the constant mergers and acquisitions in the sector.

The recent (and significant) changes in the world economic model, in the behaviour of consumers (intermediary and final) and in the patterns of relationship, combined with the factors mentioned above, stimulated some reactions in this market. Therefore, we point out some of the main facts and trends for input suppliers:

- Higher concentration of players.
- Stronger presence of China and India players.
- Increasing competition from generic companies.
- Dealers and cooperatives creating own brands.
- Merging industries towards seeds, crop protection and biological products (complete solution providers).
- Presence of renewable production inputs that replace non-renewable ones, like today's fertilisers.
- Growth of biological products (bio-control, bio-fertilisers and bio-stimulants).
- Reuse of resources and the use of by-products, in order to reduce pollution and costs.
- Use of big data, satellites and drones to acquire information.
- Machines with greater efficiency and cheaper maintenance.
- Better asset usage with the sharing economy ('Uber').
- Lower residual effects of the chemical products.
- Genetically modified varieties in order to increase yields with traits of protection towards plagues and diseases, droughts and climate.
- Better grain-to-protein (animal) and sun-to-energy (plant) conversion.
- Technologies for precocity (saving time).
- Biotechnology and natural control in order to use fewer chemical products.
- Reducing losses on input transport and application.
- Use of open innovation to complement value delivery.
- Diversification towards complete solutions based on tech: from chemical company to a seed company, to precision planting, to climate corporation and high-tech services.
- Growth of direct sales to farmers or pools.

3.3 Distributors (dealers)

Distributors or resellers represent the organisations involved in the process of making productive inputs and services available (mainly agronomic and financial) to farmers (Coughlan *et al.*, 2002). They represent the link between the suppliers of inputs and the farmers, since the former do not have the physical and commercial capacity to assist all sizes of farms in a specific region. In this way, the role of distributors comes into play, as by having local operations, they can make products and services available, with huge importance in pulverised markets.

The main role of these agents is to facilitate traditional marketing flows towards the consumer (solutions for farmers), and the flow of information, demand and payments in the opposite direction (Kotler, 2000), directed at input suppliers.

In a chain of food, agribusiness and biofuels, distributors are represented by agricultural input stores, which supply farmers through different channels, such as internal commercial teams, large company resellers, representatives, online channels, among others (Castro and Neves, 2007). Cooperatives and small individual resellers can also play the role of distributor, depending on the characteristics of local production.

Many of these agents have diversified their businesses in recent years, through the creation of different types of solution package offers, and exchange and financing mechanisms. The issue of offering credit has become a key role for distributors, in order to generate liquidity for farmers.

The main facts and trends that we point out to distributors are:

- High concentration of players in emerging markets.
- Geographical diversification, working with several agricultural producers.
- Growth in grains origination and trading.
- Growth in credit facilities for farmers.
- Growth in farm management services.
- Growth in own areas and shareholders areas.
- Excellency in relationships and CRM programmes.
- Possible big data managers.
- Coordination of a strong contractual network of service providers.
- Intense competition with trading companies and cooperatives.
- Working with own brands.
- Higher percentage of generic products.
- Higher bargain power with input suppliers.
- Consolidated and known regional and national brands.
- Multinational managerial standards and governance.
- Strong interpersonal relationships.
- Pressure on business margins.
- Rising wave of online sale of inputs through marketplaces or omnichannel.

3.4 Farmers

With the growth of the world population and the demand for food and biofuels, concomitant with the request for preserving the environment and adopting sustainable practices, agricultural production has become

increasingly efficient in terms of the use of land, resources and inputs. In this sense, farmers have played an even more important and active role within the production process, with the constant search for information, technologies, traceability and professionalisation (Cônsoli *et al.*, 2011).

Agricultural production is a relatively complex activity and requires knowledge of technical, market, environmental and human resource factors (Zylbersztajn & Neves, 2000). Traditionally, farmers are supported by different professionals and agents to meet their demands, but this has changed constantly, especially with the arrival of new generations, more likely to adopt digital technologies to monitor their business.

Because of this, farmers are starting to present an active profile when taking decision about their farms. The compilation, processing and interpretation of data in the field should be further intensified, enabling farmers to use more precise practices (square metre farming), optimising the use of resources and enhancing the productivity of crops (greater production and less use of land). On the other hand, farmers must position themselves as environmental defenders, not only through the adoption of sustainable practices, but mainly in compliance with environmental laws and in supporting the fight against environmental crimes.

In addition to traditional farmers, agricultural companies of different sizes are also part of the production link. Agricultural businesses are large-scale producers, with field teams, focused on productive efficiency and commercialisation. The strategies are diverse, with some of them venturing into the ownership of assets (land, machinery, trucks, among others), while others opt for a low asset strategy.

However, the view of agricultural production must be broad and precise in terms of its actions and performance. Therefore, we point out the following facts and trends that are and will continue to influence agricultural agents in the coming years:

- Environmental and labour regulations.
- Large farm companies listed on the stock exchange.
- Production transparency.
- Growth of circular economy and integration of crop, pasture, forestry.
- Integration with neighbours.
- Sharing economy.
- High concentration in land management.
- More informed and more linked (internet farmers).
- Increasing professionalisation.
- Increasing gap between the 'best' and the 'worst'.
- Square metre management.
- Strong sustainability, conservation and animal welfare standards.

- Measurement of all activities, water, carbon and derived certifications.
- Traceability and identification by consumers.
- Certifications.
- New generation assuming the business management.
- Use of aerial imaging (satellites, airplanes and drones).
- Big data and data analysis.
- More accountability imposed by supply chain.
- Vertical farming and others closed productive systems.
- Smart farms and precision agriculture: digital farming everywhere with GPS guided equipment, data-driven drones, analytics software, advanced equipment.
- Regenerative agriculture.
- Improving the biological health of soils.
- Accelerating R&D and robotics (mainly for harvesting).

3.5 Cooperatives

Agricultural cooperatives are organisations formed by farmers whose main objective is to provide services and products that enable and support agricultural production. Most of them are created by a group of farmers interested in stimulating their crop production or agricultural activity, and tend to attract an unlimited number of members interested in the benefits that it offers.

The main role of an agricultural cooperative is to provide technologies, capital, training and other resources to its cooperative members (Guo, 2010), in a more accessible and advantageous way. These resources are made available by the fact that the high number of cooperative members allows a sufficient amount for investments and partnerships that make these conditions possible. In addition, cooperatives still function as channels for the outflow of agricultural production (crops) from their members, which guarantees the necessary agri-food security (Guo, 2010), and the possibilities for negotiations with large companies.

In this sense, these agents have become essential for guaranteeing the competition and maintenance of the activities of small farmers, since acting individually, they face many challenges in relation to large farms and agricultural groups (Altman, 2015), in addition to being able to access technologies that would not be available with their financial and investment capabilities.

The entire financial amount collected by cooperatives is reinvested in their members, whether in the form of better conditions of access to products and services or even in the construction and development of new business units. In this sense, many cooperatives have verticalised their activities and

transformed themselves into true agro-industries, which transform the agricultural production of their members into products that will be made available to the final consumer. This has also led many of them to expand their geographic area and portfolio of products and services.

The trends observed for cooperatives are:

- Professional management, strong governance.
- Concentration and internationalisation towards agribusiness countries.
- Buying and selling alliances (joint ventures).
- Demand-driven vision and activities.
- Increased inter-cooperation.
- Increased data collection and sharing.
- Cooperatives with own brands.
- Constant technological development.
- Bring agriculture 4.0 to small and medium farmers.
- Credit as source of competitive advantage.
- Credit cooperatives gaining more and more space in the rural credit market.
- Very visible by parts of society.
- Part will focus on consumer goods and own brands with national presence competing in food markets.
- Owners of supermarkets and other retail formats.
- Coordinator of a collection of services offered by a contractual network of suppliers.
- Transparency.
- Origin identity appreciation.
- Vertical integration of businesses.
- Greater dissemination of knowledge to members through digital platforms.
- Adoption of technologies and sharing of service costs.

3.6 Trading companies

Trading companies usually present a more complex business model, covering different links in the agri-food chains, but with the core business oriented for the origination and commercialisation of grains, either in the domestic market or for exports and imports, often being the link between farmers and industries of food, biofuels and other bio-products. The vast majority of them adopted verticalisation strategies in the agricultural chains, having businesses in the supply of inputs, distribution of inputs, agricultural production, transportation, storage and processing of grains, food industry

or even consumer brands. It is also common for these companies to act as shareholders in businesses related to the production of bioenergy and biofuels.

Some of the trading companies are well known by the final consumer, as they have a strong focus on brands present in homes around all the world, such as Cargill and Bunge. As these companies have global operations, they need to source grains to serve their operations in other countries. Other companies have activities or partnerships in the supply of inputs, in order to optimise the exchange operations, such as bartering. Trading companies use barter operations as an alternative for crop financing, offering agriculture inputs (such as fertiliser, crop protection and seed) to farmers in exchange for agricultural products (usually traded in bags). In addition, as pointed out by De Vita (2015), they also use contracts for anticipating the purchase of grains (green soybean contract, for example) as a mechanism to generate credit and liquidity for farmers and the market.

As with other agents, trading companies have been experiencing a strong wave of mergers and business diversification. More than that, other players in the chains such as distributors, agro-industries and grain producers have also verticalised their operations to depend less on trading companies, generating greater competitiveness on a broad level. But the trading companies still have considerable competitive advantages due to the predominance of the chains at a global level, since the majority are multinationals operating in several countries.

What we observe from facts and trends at the trading level are summarised in the following points:

- Concentration/consolidation of players.
- Stronger Chinese presence.
- International logistics expertise as competitive advantage and value capturing.
- Control of information loses power as a source of competitive advantage.
- More scale.
- From buying and selling to high vertical integration and domination of origination (grain supply).
- Stronger presence in the input suppliers' market as an origination strategy.
- Global presence (geographical diversification) to minimise risks (default and others) and manage cash flow.
- Strong traceability and product identity.
- Increase in participation in biofuel and bioenergy business.

- Some will focus on trading and others will advance as strong competitors of the food industry.
- Credit as source of competitive advantage (international sources).
- Increase in participation in input distribution market through mergers and acquisitions.

3.7 Food industry

The food and beverage industries are responsible for processing the raw material, converting it into the final product that will be distributed to consumers, consisting of the link between farmers/trading companies/cooperatives to the wholesale/retail sector. These industries need to present a strong brand image to ensure their competitiveness on retail shelves and in consumers' memories.

It is one of the productive links that most needs to monitor and pay attention to consumer trends and behaviours, in order to adapt its portfolio, communication, and distribution channels, among others. We have reserved Chapter 4 of this book precisely to address the trends, arguments and opportunities within this market and the implications of these on their business model.

On the one hand, the food and beverage industries are being affected by changes in consumption habits, which have created new niche markets (vegetarians, vegans, flexitarians), have generated acceptance of alternative ingredients and demand for healthier and traceable products; on the other hand, they have increased pressure on their suppliers to offer more quality, reliability and traceability. It is also important to note that the sector has also been pressured by distributors, whose negotiating power has increased due to the high degree of consolidation and collective purchasing groups. In addition, retailers are adopting strategies to reduce inventory and prioritise products with more margin and turnover. As a result, industries have less shelf space for product displays, making slotting fees more expensive, and less warehouse space, increasing complexity and logistics costs (Neves *et al.*, 2015).

The other facts and trends that should guide food industry players are listed below:

- More concentration/consolidation of players.
- Global competitors × local and specialised companies.
- Squeezed by retailers buying power and buying groups.
- Strong sustainability package, from ecological packages, use of by-products, water consumption, carbon emissions.

- Diversification/merging with other industries (nutraceutics and nutricosmetics).
- Trend for nutrition and consumer experience.
- Channels optimisation (gate-to-gate and others).
- Strong cost control over all processes.
- Attractive to the youth and global talents.
- Space for gourmet, premium and hand-made products.
- Circular economy and chain integration (by-products).
- Alternative sources of ingredients (plant-based, meat substitutes, insects, algae, hemp and others).
- Small brands empowerment.
- 4.0 Industry.
- Growth of niche products (to vegetarian, allergics and other groups with dietary restrictions).
- Growth in the supply of superfoods (with high level of proteins, mineral, etc).

3.8 Biofuel industry

The biofuel industries are responsible for the production of fuels using vegetable products and/or other fermentable biological waste. They have a fundamental role to play in the decarbonisation of the global energy matrix, due to their potential to replace fossil fuels. The main products of this segment are ethanol, which can be produced from sugar cane, beets and starch grains; biodiesel produced from animal fat or plant oil of species such as soybean, palm, sunflower, babassu and peanuts; and biomethane, a gaseous product obtained through the processing of biogas, the latter being formed by the anaerobic digestion of organic material (agricultural waste, animal manure, domestic sewage and solid urban waste) (ANP, 2020).

The biofuel chain is similar to the agri-food chains in its initial links, with changes only in the final agents, since, in some countries, after processing, the biofuel needs to be taken to distributors, which are generally specialised in storage and transportation, and responsible for taking the fuel to the service stations, and so to the final consumer.

Biofuels are in evidence all over the world, with mandates, national programmes and international agreements for decarbonisation and, consequently, for the reduction of greenhouse gases. However, they still need to challenge the argument that they can cause a lack of food supply in certain regions and also win over fossil fuel lobbies. The facts and trends for these agents that need to be monitored are:

- Growth of bio-economy (mass, plastic, fuel, electricity) chains.
- Energy sources (solar power and others much more accessible). Energy generation technologies are expected to become cheaper.
- Integration of biofuel production industries with different sources (sugar cane mills making ethanol and biogas).
- Public policies for decarbonisation.
- Payment for environmental services.

3.9 Retail

Retail is the great connecting link between the food industries and the final consumer, being responsible for making products available on their shelves so that consumers can make decisions about which products they will take home.

The concentration of retail players is a worldwide process aiming at the control of distribution channels and greater operational efficiency, as well as ensuring greater bargaining power for large networks due to the high volume of purchases and dependence on these channels. Together, the top five retail chains made \$ 1.03 trillion in 2018, of which 67.56% was from food sales. Also, large and small retailers are integrating buying groups or pools to ensure lower prices and competitiveness.

There has been a slowdown in the opening of new physical stores around the world, with steeper declines in developed markets. In addition, the average revenue per square metre of these stores has also been decreasing and will continue to decrease in the coming years, due to the loss of space for alternative channels (Planet Retail, 2017). Thus, online commerce has gained the trust of consumers, supplying much of the new needs and trends such as convenience and time optimisation.

Nevertheless, online retailers are confused about the changes in distribution and, despite the trend to reduce physical retail outlets, they are still opening brick-and-mortar stores. There is, however, an explanation for this. First, there are costs associated with online operations, and second, because of brand strengthening and channel diversification, they want to cater for those 'suspicious' consumers who prefer to choose their own fresh food, but with all the technological input to enhance the customer experience.

China's Freshippo supermarket, owned by the giant online retailer Alibaba, is an example of an experimental store embedded in digital technology to meet this demand. Consumers can track product information via their smartphones by reading QR codes and they can also pay via smartphones without having to go through checkout queues or use physical money. And if they prefer, they can order via an app, in their homes, and just wait for

the delivery. In addition, the store has fresh products that can be prepared on time to bring more convenience to the consumer. Amazon has also introduced similar models in the United States, embracing the digital revolution to make life easier for consumers.

So, what are the facts and trends associated with food retailing?

- Concentration of groups.
- More information about consumer.
- Offer ambience.
- Express checkouts.
- Complete solutions.
- Digital retail (e-commerce) and delivery strategies.
- Home meal replacement.
- Tasting/trying.
- Relationship programmes.
- Buying groups.
- Price comparisons (price transparency).
- Private labels.
- Sustainable strategies and sourcing.
- Ethnic food.
- Franchises.
- Internationalisation.
- Food service brands gaining space on retail shelves.
- Physical stores with embedded technology.
- Store concept of 'on the go'.
- Green footprint and attention to sustainable suppliers.
- Buy-local movement and communication.
- Low cost/hard discount models.
- Propensity to bulk.

3.10 Food service

The food service sector covers the food market, with the preparation of meals or snacks outside the home, including restaurants, cafeterias, bars, bakeries, food machines and others that aim to bring convenience to buyers. The strategies for these businesses to access final consumers involve both physical structures, such as physical stores, drive-thru and take-home systems, and delivery structures, which have increased their scope and representativeness in business with the advent of delivery apps.

Like retail, the food service sector has incorporated technology to improve the consumer experience, whether through apps and delivery sites or even digitising menus, automation and service robotisation, among others. What else is going on regarding food service?

- ‘Gourmetisation’ and dishes signed by influencers.
- ‘On the go’ concepts for restaurants, events, food machines and kiosk.
- Function robotisation and automation.
- New online channels for delivering.
- Physical stores with embedded technology.

3.11 Consumer

The consumer is the sovereign agent of the food, biofuel and other agri-product chains, and is also the centre of convergence of the entire process. The efforts of members of the chains will be in vain or wasted if the consumer does not see value in that offer, and this can dismantle and disrupt the entire chain.

Thus, the consumer is the main source of information supporting the entire chain. Based on their buying behaviour, companies prioritise products, communication and distribution channels, among others.

As previously mentioned in the food industries section, in Chapter 4 of this book we will detail the main changes in consumer habits, as well as their implications for industries, distribution channels, food service and others. In this chapter we will stick with a more objective list of facts and trends in the consumer link:

- Concern about water and carbon footprint.
- Buy-local behaviour.
- Farm to markets (direct flows).
- Food on the go and convenience.
- Multicultural approach.
- Fun and food.
- Slow food movement (eating and enjoying).
- Home cooking.
- Food waste, recycling and reuse.
- Food miles.
- Inclusion and valuing people.
- Wealth distribution.
- Fair trade.
- Certification and traceability
- Increasing number of NGOs.
- Online buying behaviour (also growing own fruits and vegetables) and food delivery.
- Attention to diets (feel good, healthy, well-being, nutrition, longevity).
- Vegetarians, vegans and flexitarian emergence.
- Demand for green products (preservation and animal welfare).
- Adventurer behaviour.

- Connection with food (more knowledge about foods and ingredients).
- Indulgence and food as a gift.
- Longer living and older population.
- Digital detox.
- Appreciation of flavour and sensorial aspects.
- Increasing collectivism and engagement approach.
- Increasing appreciation of small and local businesses.
- Increase in hygiene care and greater knowledge of virology.
- Increasing perception of certification; demanding more security and traceable products.
- Increasing acceptance of and curiosity about alternative and sustainable ingredient sources (lab meat, other plant-based products, insect protein).
- Greater interest in the origins and sources of news.
- Increasing confidence in science and agriculture.
- Increasing value of local food 'made in ... my country'
- Increasing activist approach and engagement.
- Increasing connectivity of food consumers.
- Appreciation of moments with family, such as cooking together.

3.12 Associations

Associations are the only agent that do not position themselves sequentially in the food, agribusiness and biofuels chains, precisely because they can participate in practically the entire process. They are non-profit organisations that represent the collective interests of their members, usually farmers, ahead of other agents in the value chain.

In agribusiness, the associations have an important economic function such as the provision of collective goods, minimisation of transaction costs for members, changes in the structure of institutions for the benefit of their associates, economies of scale, conflict resolution, defence of members' interests, the role of coordinator between companies, and representation and communication (Castro *et al.*, 2015; Nassar, 2001; Saes, 2000). Moreover, the associations are linked directly to the increase in productivity and efficiency of the associates (Neves *et al.*, 2017).

In recent years, agricultural associations have occupied an increasingly broad space in the government spheres, actively participating in discussions and positioning themselves as essential agents in supporting public authorities for the development of sector policies. For this reason, associations should gain even more space in the coming years, and it is necessary to pay attention to some essential points to ensure that they achieve the final goal.

Below, we highlight our opinions regarding the main trends for these agents:

- Increasing participation in well-managed associations, cooperatives, syndicates and others (collective actions).
- Clashes of interest between farmers and industry.
- Increase in transparency of chain information.
- Increased efforts among companies to improve the visibility of sectors.
- Increased importance in promoting and transferring technology.
- Important role in training farmers.
- Coordinator of sustainability among farmers.
- Search for modern public policies for agribusiness.
- Coordinators of partnerships and initiatives involving different links in the agro-industrial system.

3.13 Final message and managerial implications

The global pandemic caused by Covid-19 in 2020 was far more than a series of health crises. It was also the driver of several transformations in human relations. In a very short period of time, changes in the forms of consumption, in the food distribution channels, in the teaching models and in economic relations, have brought about a true revolution in the way we live and relate.

In this sense, it is essential to look at a food, agribusiness and biofuel chain and understand how these changes can impact the agents that compose them. The complexity of the changes observed in 2020 should lead to significant changes in the business model and performance of these organisations, and it is our role to be attentive and adapt to these processes.

In this chapter, we have tried to give our view on the facts and trends that are likely to occur in the coming years and, with this, contribute to the development of the agents involved, of the related economic sectors and, consequently, of food security for the world population.

CHAPTER 4

20 trends in food and beverage marketing

Abstract

In recent years, we have been witnessing a big revolution in terms of consumer behaviour in several sectors. It is no different for the food and beverage industry. Consumers are becoming increasingly aware and concerned about issues related to the environment, health and quality of life. On the other hand, innovation and technology allow for easy access to information, connections and new experiences. All of these factors have contributed to transforming people's perceptions, habits and behaviour in relation to food and beverage consumption. In that sense, this material provides an overview of trends and opportunities in food and beverage marketing for the coming years. Based on the literature on consumer behaviour, reports from world-renowned institutions, and interviews conducted with food companies and consumers, a list has been constructed of the main trends, opportunities and arguments that have strongly guided the food and beverage industry. Companies must be aware of consumer trends in order to adapt their portfolios, communication, channels and other strategies, to meet the demands of the market, as well as the new consumer's profile, which has emerged in this new time in which we live.

Keywords: food, beverage, food marketing, consumer behaviour, trends

4.1 Introduction

Today, in all economic sectors, there is a growing demand for products and services that meet specific consumers' needs, with adherence to their different styles and philosophies of living. In agribusiness, it is no different.

Monitoring and understanding the consumer profile and its demands is an essential task for food and beverage companies because, with this information in hand, the organisation can adjust its positioning, and take advantage of consumer trends. Consequently, changes in positioning must reflect adaptations in the portfolio, product lines, communication, distribution channels, among other decisions.

The profile of consumers has changed dramatically in recent years, due to changes in the macro-environmental scenario, with an emphasis on the democratisation of internet access and digitalisation; greater concern for health and well-being; a greater search for convenience due to over-busy lives; and greater concern about social and environmental responsibility due to awareness of the production systems exhausting our resources and labour exploitation. Organisations need to follow these movements, adapting their strategies and offers, which is not a simple task, due to the need for changes in the production process, supply chain, distribution, and communication, among others. Although difficult, such adaptations are necessary to keep a company in the 'market game'.

Considering this, the purpose of this article is to answer the following question: what are the major trends, opportunities, and arguments in evidence in the food and beverage market that can assist companies in their marketing positioning? Thus, this paper aims to summarise these trends in a simple list that can be used by executives to rethink their business and strategies, following the social, technological, and environmental changes of the 21st century. To accomplish this objective, we analysed different sources of market reports, articles, and papers. We also conducted open interviews with food industries, channels, and consumers to identify the most relevant trends. After this survey, trends were validated and prioritised in consumer focus groups. We arrived at a list of 20 main trends, opportunities, and arguments that can help food businesses to adapt their strategies, following the demand-driven philosophy or can foster the creation of new business, by encompassing the trends and especially the new niche markets.

4.2 Literature review

4.2.1 Marketing and market orientation

The concept of marketing emerged in the 1950s, placing the consumer as the focus of the business, to meet current and future needs (Keith 1960). From this philosophy, the market orientation countered the sales orientation, which was focused on the needs of the seller and not on the consumer's needs (Jaworski & Kohli, 1993; Keith, 1960; Levit, 1960). With this in mind, marketing can be considered as a process aimed at satisfying the agents that perform the exchange.

In the contemporary view, Kotler (2000, p. 4) define marketing as 'a social process by which individuals and groups obtain what they need and desire through the creation, offer, and the free exchange of value products.' As synthesised by Neves (2000), marketing is used to understand the needs of final consumers and intermediaries – through a research process – analysing the behaviour of consumers and markets to define which segments can be satisfied, which targets the company will explore, which kind of differentiation can be provided, the correct strategies of price, and how to make products available to consumers through channels.

Drucker (1954) points out that companies have two fundamental functions – marketing and innovation – which must interact constantly with other activities. The objective of marketing is to make selling superfluous, understanding consumers' needs so well that products and services sell on their own. On the other hand, innovation must provide economic satisfaction, resulting in low prices, higher quality, convenience, or a definition of a new desire. Other authors, such as Traill & Grunert (1997), point to the relationship between marketing and innovation, stating that, to be innovative a company should be market-oriented. Companies that adopt the philosophy of market orientation tend to be more successful in responding to environmental changes and to have a greater capacity for innovation (Atuahene-Gima, 1996).

Marketing planning involves several different steps, taking into account the analysis of suppliers, competitors, industry, resources, and capabilities, and finally, customers (Neves, 2013). As the philosophy of marketing is focused on the consumer's needs, special attention should be paid to the final link of agri-food chains, to predict patterns and anticipate trends. Consumers are influenced by four categories of factors: cultural, social, personal, and psychological. Cultural factors include the consumer ecosystem and values; social factors are related to reference groups such as friends and family, among others, that exert influence on their behaviour; under personal factors, the most important ones are age, life-cycle, profession, economic

circumstances and lifestyle; and finally, the psychological factor is related to motivation, learning process, and attitudes (Kotler, 2000). With this in mind, monitoring the consumer is essential for determining the strategies of marketing stimulation – product characteristics, price, place and promotion strategies (Neves, 2014a).

The macro-environment can influence consumer behaviour. Food industries must be aware of what is happening in the external environment, which they cannot control, including economic and natural factors, political and legal factors, social and cultural factors, and technological factors. In so doing, they can identify the facts that are occurring and shaping the environment, measure the impacts of each one of them and how the company will be influenced, and finally, analyse opportunities and threats, and set up the action plans (Neves, 2014a).

4.2.2 Transformation in the environment and consumer behaviour

As stated by Neves (2014), food and beverage industries, retailers, and other food channels are facing critical changes in their external environment, resulting in changes in the final consumer choices. From the 1980s to 1990s, markets started to become global, reducing regulation and increasing competition, reaching a high level of global transactions with greater interdependence of nations and standardisation of product quality and safety (Sheth, 1986). The opening of the economy, the deregulation of markets, the crisis of traditional forms of state intervention, and the formation of economic alliances were the main structural changes that made globalisation possible and, with this, generated the need to increase competitiveness in different sectors, including agri-food chains. Because of this conjuncture, nations, companies, and individuals needed to adapt to the broader competitive environment, identifying sustainable competitive advantages (Jank and Nassar, 2000).

According to McKinsey (2019), the world's economic centre of gravity is shifting back to Asia, especially due to the Chinese market economy and opportunities from the perspective of population growth, increased urbanisation, and internationalisation of companies. Neves and Trombin (2017) expect that the food and juice markets will grow strongly in what they called 'food booming markets', countries such as China, India, Bangladesh, Vietnam, Pakistan and others, most of them on the Asian continent, with some common characteristics: growing population, young population, fast urbanisation, growing income generation and distribution, lack of production resources, with resources of value being exported, regulations that favour food and juice imports, among others.

With the advance of digitalisation and technology in today's scenario, socio-cultural change has accelerated, and the information and communication flows move faster from end to end of the agri-food chains. So, the digital world has become increasingly accessible and integrative, breaking down physical, institutional, and biological barriers. Internet and information access have created a new consumer profile with a desire for personalisation, instantaneity, transparency and less dependency on third parties (Kumar & Kapoor, 2017; Manning, 2016; Manning *et al.*, 2007; Planet Retail, 2017).

On the other hand, instead of globalisation and global competitiveness, there is a growing movement valuing local food production, based on the idea of production transparency, traceability and quality assured due to location. Moreover, in local production, it is easier to monitor environmental aspects, animal health and responsible production (De-Magistris *et al.*, 2017; Planet Retail, 2017; Woo & Kim, 2018).

Sustainability, as well as responsible consumption, waste awareness, animal welfare, and respect for the environment throughout the entire production chain have become recurring consumer concerns. In addition, they have been changing their concepts of time, in order to set their own limits by selecting their activities to have a more enjoyable life (Giampietri *et al.*, 2015). Also, there is a greater awareness among consumers about what they are eating: whether it is of natural origin, authentic, nutritious, full of fibre and protein (De-Magistris *et al.*, 2017; Hedin, 2019; McCarthy *et al.*, 2016).

Besides that, the current media have enabled greater consumer empowerment. Everyone can be an 'expert' with quick information at hand, and with a 'compulsive' need to share this information. Through public evaluation, consumers can enhance or destroy the reputation of companies, products and services based on their experience, which is part of the sharing economy in which we are living (Hedin, 2019; Kumar & Kapoor, 2017).

Consumers are looking for immediate experiences that suit their lifestyle, allowing them to spend more time on their work or social life. In addition, they are getting tired of generic products. Today there is an increasing appreciation of quality and differentiation that transmits a certain level of 'status'. Good user data management conveying public confidence in access to information is a key factor in meeting this need for uniqueness and personalisation (Heide & Olsen, 2018; Angus & Westbrook, 2019).

Brands that emerge in this context of practical and sustainable products, discover an unmet need and focus on the consumer, tend to show rapid evolution, due to the dynamism of the market. In addition, packaging has become very important to reinforce brand positioning, providing

information to highlight products on the shelves. Another effort in the scope of packaging is to adapt to the demands of reusing materials, zero waste and recycling (Mascaraque, 2019).

4.3 Methodology

This paper examines data from fieldwork observations, in-depth, open-ended interviews, and written documents, based on a qualitative research method approach. We conducted some of the interviews with food industries, distributors and consumers at the ANUGA Food Fair that took place in Cologne, Germany on 5-9 October, 2019.

The main idea of this study is to synthesise the concepts related to food megatrends in a systematic way. To reach this objective, first we conducted a literature search in the main journals involving the theme of marketing and food and beverage trends, focusing on the last 5 years of publications, but without discarding publications considered representative to this study. In addition, we analysed several market reports also focused on the past few years. To complement the findings of the literature observations, we conducted open interviews with food industries, distribution channels and consumers during ANUGA Food Fair. With this preliminary analysis, we came up with a list of major trends, opportunities and arguments that are guiding the food and beverage marketing. Finally, we conducted three focus groups with food and beverage consumers to validate and prioritise a final list.

The main conclusions of this process are presented in this paper. As a result of real and current associations, we present a list of 20 main trends, opportunities and arguments identified and their definitions, according to the contributions of the literature, interviews and focus group.

4.4 Key findings

Based on the field observations and group discussions, we drew up a list of 20 trends, opportunities and arguments that are guiding the food and beverage market, shown in Table 4.1, as well as a short description of each of them. Below the table, each of them is discussed.

Consumers are getting tired of generic products and increasingly value aspects of quality and differentiation that convey a certain level of 'status' (Angus & Westbrook, 2019; Heide & Olsen, 2018). In line with these statements, trend number 1 'Adventure consumer', 15 'Gourmet, premium

Table 4.1. List of 20 food marketing opportunities.

20 top trends, opportunities and arguments for food marketing	Description	Authors related
1. Adventurer consumer	Consumers want to explore products, try exotic ingredients and have great experiences related to taste, flavour and ambiance. As traditional products do not catch their attention, products must stimulate the discovery of senses.	Angus & Westbrook (2019); Brecic <i>et al.</i> (2017).
2. Diversification of ingredients sources (plant-based, meat substitutes, insects, algae, hemp and others), 'direct from nature' arguments	With the growth of niche markets, such as vegans and vegetarians, and concerns about meat production due to animal welfare, gas emissions and use of resources, alternative ingredients are gaining space in order to substitute or complement diets. Plant-based hamburgers and sausages, and insect-based foods are examples that can already be found in some supermarkets.	Brecic <i>et al.</i> (2017); Hedin (2019); McCarthy <i>et al.</i> (2016).
3. Green products movement, 'footprint' (reduce waste and pollution), animal welfare and free-range, and sustainable suppliers	Sustainability, animal and environmental care are important decision criteria for consumers, embracing the idea of guaranteeing resources and food for future generations. We observe an appreciation for certifications related to sustainable production, respect for the environment and 'humanised' breeding.	De-Magistris <i>et al.</i> (2017); Giampietri <i>et al.</i> (2015); Hedin (2019); Mascaraque (2019); McCarthy <i>et al.</i> (2016); Woo & Kim (2018).
4. Healthy snacks and food 'on the go'	Due to a busy routine, time is limited, and people have less time for meals, needing convenience without giving up on healthiness. So, vegetable snacks, nuts, dry fruits and small portions of juices are becoming important to meet this demand. Also, the food must be consumer-driven, facilitating access and even the buying process, through technologies that reduce the time spent in store queues.	Angus & Westbrook (2019); De-Magistris <i>et al.</i> (2017); McCarthy <i>et al.</i> (2016).
5. Attention to diets (feel good, healthy, well-being, nutrition, fibres, protein, collagen). Emergence of the flexitarians (partial reduction of intakes)	Consumers are paying attention to the number of calories and the nutritional value of what they eat or drink. High-fibre products are becoming important due to their functional properties. Also, feeling good through food habits is synonymous with vitality, mainly associated with lifestyle.	Angus & Westbrook (2019); Asioli <i>et al.</i> (2017); De-Magistris <i>et al.</i> (2017); McCarthy <i>et al.</i> (2016).
6. Smallholder brands and promotion of inclusion and job creation. Social responsibility of companies	Brands with social appeal are also gaining importance for consumers, because they offer a quality of life to those involved in the process and generate opportunities, creating value for social aspects of groups and communities.	Giampietri <i>et al.</i> (2015); Hedin (2019); Mascaraque (2019); Woo & Kim (2018).
7. Consumer connected to the plate (digital, more knowledge of foods and ingredients and transparency)	As technology advances, consumers have more access to information about what they eat or drink. The agri-food chains are becoming more transparent and, with blockchain and IoT (Internet of Things), all kinds of food information will be available on the consumer's smartphone, such as where the products came from, what inputs were used to produce them, how they were transported, among other relevant information.	Hedin (2019); Kumar & Kapoor (2017); Regattieri <i>et al.</i> (2007).
8. Products free of ... (lactose, gluten, sugar, etc.) and other dietary restrictions	Due to food intolerances and restrictions, products free of lactose, sugar, gluten and others are gaining space on supermarkets shelves.	Asioli <i>et al.</i> (2017); Hedin (2019); McCarthy <i>et al.</i> (2016).
9. Indulgence - 'my gift'	Many consumers use food as a reward when they have accomplished a task.	Batat <i>et al.</i> (2018); Belk (1975); Boniface (2016).

>>>

Table 4.1. Continued.

20 top trends, opportunities and arguments for food marketing	Description	Authors related
10. Flavours and sensory aspects (textures, smell, colours), knowledge about food ingredient characteristics	For some kinds of new consumers, the complete experience comes from combining the sensory aspects – colour, texture, flavour, smell and sometimes the ambiance.	Batat <i>et al.</i> (2018); Belk (1975); Brecic <i>et al.</i> (2017); Jaeger <i>et al.</i> (2017).
11. Origin of products, ingredients and traceability (for security and knowledge)	Consumers are becoming increasingly concerned about food and beverage origin and how they were produced. Knowing exactly where they come from and how they arrived on the supermarket shelf generates greater trust and relationship. Blockchain allowing better tracing.	Manning (2016); Manning <i>et al.</i> (2007); Planet Retail (2017).
12. Authenticity and simplicity	The ‘more is less’ philosophy has also arrived in the food and beverage market. Cleaner brands, simple packages and simple products fit this philosophy.	Belk (1975); Kumar & Kapoor (2017); Youn & Kim (2017).
13. Family and tradition	Approaching the consumer through company history and tradition, promoting a family spirit, increasing empathy and security. ‘From my family to yours’.	Belk (1975); Kumar & Kapoor (2017); Manning (2016); Manning <i>et al.</i> (2007).
14. Buy local, made locally and ‘direct from farms’ argument	In the reverse wave of the globalisation of markets, some consumers are migrating to the ‘buy local and made locally’ philosophy, which brings with it appreciation and pride of local products. ‘Appreciating our community’.	Adams & Salois (2010); Belk (1975); Kumar & Kapoor (2017).
15. Gourmet, premium and hand-made (artisanal) products	Gourmet, premium, hand-made are products with a higher standard, proclaiming a more elaborate cuisine to consumers willing to pay for the best.	Angus & Westbrook (2019); Heide & Olsen (2018); Youn & Kim (2017).
16. Desire for storytelling, sharing information among users and the role of food influencers	In today’s economy, consumers share their experiences, which are valued by other users. Also, consumers become more engaged if they know the story behind the product/brand and identify with it. Growing importance of influencers on social media.	Mossberg & Eide (2017); Planet Retail (2017); Zhao & Zhang (2017).
17. Make your own products or foods (cooking experience)	Inclination to make their own products or foods with mixtures of different ingredient origins.	Angus & Westbrook (2019); Heide & Olsen (2018).
18. Propensity to buy bulk and concentrated products	In order to reduce packaging and plastic use, consumers are valuing bulk and concentrated products.	Giampietri <i>et al.</i> (2015); Hedin (2019); Mascaraque (2019); Woo & Kim (2018).
19. Longer living – practicality, small portions	The number of people living alone has grown dramatically in recent years. This market demands practical products and small individual portions for a one-person meal or snack.	Angus & Westbrook (2019); Belk (1975).
20. Pleasure of logging out (joy of missing out – JOMO)	Consumers are valuing their disconnect moments so as to devote more time to their hobbies and pleasures.	Angus & Westbrook (2019); McCarthy <i>et al.</i> (2016).

and hand-made (artisanal) products' and 17 'Make your own products or foods (cooking experience)' are directly related to this consumer category 'tired of conventional'. As traditional products no longer attract their attention, they look for great experiences and discoveries or prefer to make their own food. Boniface (2016) indicates that in today's society, food and beverage are used not only as a means of sustenance, but also as a form of celebration and ritual, with pleasure and indulgence, as pointed out in trend 9 'Indulgence – 'my gift'.

For McCarthy *et al.* (2016) and Hedin (2019), today's consumers are more aware of what they are eating, thinking about the origin of the products, the authenticity and the nutritional aspects of that food (amount of fibre, protein, calories among others). Alternative ingredient sources have also gained acceptance, due to the growth of the segments of vegetarians, vegans, consumers with an activist profile regarding environmental issues and animal health and well-being, in addition to those with dietary restrictions such as allergic and intolerant. Trends number 2 'Diversification of ingredients sources (plant-based, meat substitutes, insects, algae, hemp and others)', 'direct from nature' arguments' and number 8 'Products free from lactose or gluten and other dietary restrictions' summarise the behaviours listed above. Moreover, Asioli *et al.* (2017) point out that some food components are considered 'unhealthy' and 'unfamiliar' (such as artificial additives), leading the industry to report whether or not this specific ingredient or additive is present or if the method used to produce it is the most natural. This phenomenon is referred to as 'clean label' and is associated mainly with trend number 8 'Products free from lactose or gluten and other dietary restrictions'.

Sustainability is an important issue to be observed in the purchasing process, being indispensable for a particular type of consumer concerned with the utilisation and availability of natural resources, generation and correct disposal of waste, animal welfare, respect for the environment throughout the whole production chain and valuing people involved in the production process (Hedin, 2019; Woo and Kim, 2018). Packaging has become very important for communicating sustainability, providing information, and highlighting products on the shelves. Besides that, food companies need to be adapted to the demands of reusing materials, zero waste and recycling (Mascaraque, 2019). Trend number 3 'Green products movement, 'footprint' (reduce waste and pollution), animal welfare and free-range, and sustainable suppliers' and number 6 'Smallholder brands and promotion of inclusion and job creation. Social responsibility of companies' and number 18 'Propensity to buy bulk and concentrated products' follow these ideas.

Consumers are looking for immediate experiences to suit their lifestyles, allowing them to spend more time focussing on what is important, whether in their social or professional lives (Angus & Westbrook, 2019; De-Magistris

et al., 2017; McCarthy *et al.*, 2016). Trends number 4 'Healthy snacks and food 'on the go'', number 5 'Attention to diets (feel good, healthy, well-being, nutrition, fibre, protein, collagen). Emergence of the flexitarians (partial reduction of intakes)' and number 20 'Pleasure to log out (joy of missing out – JOMO)' meet these needs. Time has become the scarcest and the most precious resource, so making the most of it is the great goal of current generations. With such a tight routine, they have less time to prepare meals, requiring more convenience in their food and snacks, but without giving up healthiness and nutrition. The moments of disconnection also became part of the routine, with time dedicated to hobbies and pleasurable activities such as physical exercises.

Also, according to Angus and Westbrook (2019), the number of people living longer has increased dramatically in recent years: baby boomer generations have experienced the highest divorce rates, while many members of the younger generation have rejected marriages and even cohabitation altogether. The implications of this are related to trend number 19 'Longer living – practicality, small portions', with a growing demand for small individual portions for one-person meals or snacks.

The democratisation of the internet and information access has made consumers 'experts' on food issues, as they can consult information wherever they are, just using their smartphones. More than that, customers can share experiences with other users through social networks or specific platforms, which can benefit or damage the reputation of products and brands (Hedin, 2019; Kumar & Kapoor, 2017). Zhao & Zhang (2017) point out that the information available on social media is an important factor in the decision-making process, especially in nutrition and health. Based on this, it is important to use this easy access to information on food and beverage companies, by monitoring feedback and responding quickly to criticism, in order to avoid the creation of a negative image on sharing platforms. In addition, much useful information can be made available to consumers, such as the transparency of the production process or the best way to consume the product. Trend number 7 'Consumer connected to the plate (digital, more knowledge of foods and ingredients and transparency)' represents this idea and serves this type of consumer.

According to Belk (1975), Brecic *et al.* (2017) and Kumar & Kapoor (2017), purchasing behaviour is affected by individual characteristics (personality, gender, race, and intellect) and situational characteristics (physical and social environment, time perspective, task definition, and antecedent states). The first one is more stable and the second one is more transitory. Trends number 9 'Indulgence – 'my gift'', 10 'Flavours and sensory aspects (textures, smell, colours), knowledge about food ingredients characteristics' and 12 'Authenticity and simplicity', mainly involve individual characteristics, as they reflect elements valued by consumers, such as the view of food as a reward

for some sacrifice or goal achieved, appreciation and pleasure of the sensory elements of food and a view of the simplicity of 'less is more.' Trends number 13 'Family and tradition' and 14 'Buy local, made locally and 'direct from farms' argument' mainly involve situational characteristics, including culture and social customs. In the abovementioned trends, we have the generation of empathy, trust, and demonstration of 'affection' in food production in the first case, while in the second one, the local origin is valued due to its characteristics, and can be attested by geographical indications, such as Protected Designation of Origin and Protected Geographical Indication, proving the quality and authenticity of what is produced in the region.

The idea of transparency, traceability and quality assurance has grown in recent years. In local value chains, it is easier to monitor the production; however, when dealing with global chains, it becomes much more difficult to establish monitoring measures and metrics (Kumar & Kapoor, 2017; Manning, 2016; Manning *et al.*, 2007; Planet Retail, 2017). Because of this, the local valorisation and storytelling aspect counteracts the uncertainty of globalisation, generating security and credibility for production in certain regions, as reflected in trend number 11 'Origin of products, ingredients and traceability (for security and knowledge)' and 16 'Desire for storytelling, sharing information among users and the role of food influencers.' Adams & Salois (2010) found a significant shift towards local products, mainly due to concerns about industrialised organic agriculture and greater consumption of fresh products, while Mossberg & Eide (2017) address business success stories that have adhered to the storytelling strategy and increased visitor numbers, collaboration between businesses and media attention. In addition, it is important to note that the clear role of influencers, who can be used to promote products and brands that adhere to their lifestyle.

4.5 Implications

The food market has undergone several transformations with major trends changing consumer behaviour. Concerns such as food origin and traceability, respect for the environment, animal welfare, social inclusion, healthiness, well-being, and food experiences have become recurring and important drivers of consumers' food and beverage choices. With this in mind, we can see a growing demand for more natural products, organics, no GMOs, functionals, products with alternative ingredients (plant-based, insect-based and flowers), as well as more nutritional food, locally produced and with a good backstory. It is important to highlight that, in our busy world, we have less time for meals and less time to go to physical stores, so 'snackification', convenience and food 'on the go' are also important trends that fit with the 21-century consumer's daily routine.

Food and beverage industries must be aware of the changes in consumer habits and reinvent their business in order to meet the emerging demands, following the guidelines of the market orientation philosophy. There are several sources that can help companies to gather information and understand the current food trends better. These include reports, food fairs and events, web sharing platforms, as well as primary surveys with consumers, distribution channels, competitors and other stakeholders.

The final list of trends, opportunities, and arguments for marketing strategies in the food and beverages market presented in this article is the result of an exploratory study with stages of validation and prioritisation. Thus, we have consolidated some trends identified in the market, which is not an exhaustive study of the subject and does not end the discussions about the list, which must be permanently reassessed and updated. For now, companies can use the insights above in executive discussions and workshops to evaluate (or re-evaluate) whether their positioning and marketing strategies are in line with the new consumer philosophies.

The practical applications of this study are diverse, with potential impacts on the decisions of the organisations' marketing mix. Companies can use the concepts above to diversify their portfolio, launching new products and also new product lines to reach different market niches or even create new brands; in communication strategies, in order to adapt messages on labels, packaging and even on social media, in order to capture the attention of consumers; in distribution channel strategies, in order to optimise and create new alternatives that offer the best purchasing experience for buyers, such as online shopping, subscription clubs and other direct initiatives that promote engagement; in salesforce strategies, in order to train and develop the team to deal with the new consumer and intermediary profile; and also in other initiatives with stakeholders and society.

Niche market segments are on the increase, as the number of vegans, vegetarians, flexitarians, and intolerants (to lactose and gluten, for example) grows worldwide. Another prominent group is those who live alone, whether elderly or young adults. These are markets with great potential that can be explored by food and beverage companies, as many of the needs and desires of these segments, in particular, have not yet been fully satisfied.

It is also important to understand that each segment of the food and beverages market has its particularities, and for these reasons, they may be in different stages of maturity regarding the abovementioned trends. Therefore, companies need to understand which trends make more sense in their segment and which make more sense for their business model (current or intended), prioritising those that are most suitable. Some of the trends

listed reflect opposite positions and cannot be worked on in parallel, so the organisation needs to evaluate all opportunities and risks of following each alternative and prioritise the ones that will yield more results.

4.6 Final considerations and managerial implications

This document provides an overview of the main trends that should guide food and beverage marketing in the coming years. We contribute to the field of research in food and beverages, summarising the main trends, opportunities and arguments found in the literature and the market, and the factors behind each of those, following the idea that companies driven by these demands have a high chance of success in the food and beverage business. Also, our list can be used by the food and beverage industries, retailers, farmers, cooperatives and associations and other food distribution channels to plan and reinvent their businesses, focusing on new market demands, which will turn into new products, product lines, brands, packaging, customers, formats, and new business models.

This page is left blank intentionally.

CHAPTER 5

Building sustainability in a food chain

Abstract

Society has recently become acutely interested in important topics such as the protection of the environment and natural resources; the production of enough food and energy to meet global demand and ensure food security; and the economic development of countries with social problems, hunger and poverty. In fact, these themes illustrate some of the issues that result from the failure of countries and organisations to plan and develop a sustainable system. For agribusiness, sustainability is an essential direction for the agents that comprise the food chains. The concept, which is based on the 3P's (people, profit and planet), has been the model used in order to identify the improvement points, according to different areas of these chains. In this context, the chapter presents a tool with a list of topics to be used by food chain agents when discussing the sustainable development of the industry. In addition, it contains a list with different points of attention (production; communication; logistics and infrastructure; human resources; and environment and corporate governance), composed of several questions that these agents and organisations can use to prepare strategic plans, so that they can respond to the increase in global demand, while protecting resources, the economy and people.

Keywords: sustainability, agribusiness, food chains, sustainable development, agro-industrial systems

5.1 Introduction

Traditionally, economic theory deals with the behaviour of agents individually. This type of approach generates the criticism that the economic sector can't be analysed in isolation. It is therefore necessary to remember the importance of defining 'which' and 'how' are the relations between these agents (Neves, 2008).

Over time, science has moved from the idea of fragmentation of the parts, a simple perspective, towards systemic thinking, considering more complex, unstable and subjective environment. In this sense, we cannot ignore the important fact that objects are not isolated and we must consider that 'everything' is greater than the sum of its 'parts' (Von Bertalanffy, 1972).

Agriculture is composed of interconnected agents and processes that result in products for final consumers, transforming inputs through organisations that integrate the production chains. The systemic view advanced studies within this segment, allowing agriculture to be considered as agribusiness (Castro, 2001).

The results from agribusiness can bring economic prosperity, but they can also cause several socio-environmental problems. To avoid this kind of problem, the sector must overcome the pressures concerning food supply; it is necessary to develop production chains through efficient strategic management aligned with Sustainable Development.

The term Sustainable Development emerged from studies developed by the United Nations (UN) on climate change, when the world was going through a period of social and environmental crisis, in the second half of the 20th century. During the World Commission on Environment and Development (WCED), a report was developed focusing on the preservation of natural resources, in line with sustainability objectives, the Brundtland Report or 'Our Common Future' (WCED, 1987). Sustainable Development was described as 'one that meets the needs of the present without compromising the possibilities for future generations to meet their own needs.'

The application of this concept at the organisational level is called Corporate Sustainability. Elkington (1998), who argued that companies, in order to maintain a balance, could not dissociate from three dimensions, developed a classic view on corporate sustainability: the social, the environmental and the economic. This principle was called the Triple Bottom Line (TBL) and aimed at corporate responsibilities towards society and the environment (Jamali, 2015).

Strategic planning is indispensable for making decisions; according to Porter (1991), it is a process of formulating strategies that ensures that the policies and, possibly, the actions of the organisation's departments are organised and directed in pursuit of common goals. In order to find this balance, decision-makers need to understand the existing tensions in the relationships that involve their business, recognising the need to combine different desires with regard to sustainability (Hahn *et al.*, 2014).

For this, rounds of discussions and development of sustainable initiatives can be a good start, so this work brings a survey of the main topics of sustainability, based on the reality of agri-food chains. These topics must be addressed in strategic meetings of companies in the sector.

5.2 Literature review

5.2.1 Agro-industrial systems and the analysis of the production chain

The development of the term 'productive chain' started to be used around 1950 based on systems theory and associated with the term 'holistic'. Castro (2001) distinguishes between the terms 'production chain' and 'production system'. The production chain is a set of components that interact with each other; these components can be suppliers, services, processing industries, distributors and commercialisation right up to the final consumers. The production system is a subsystem of the production chain, responsible for activities referred to as 'inside the gate'; it involves several interactive components to produce food, fibre, energy drinks and other raw materials of animal and vegetable origin.

Materials and information go back and forth along the production chain and its management seeks to integrate these activities, through good relationships, generating competitive advantage in a sustainable way (Seuring & Müller, 2008).

The flow of goods through the chain is what keeps the modern world alive; the demand defines how organisations meet their expectations and justify how they will adapt their operations so that this occurs (New, 1997).

Applied to the reality of agribusiness, an agro-industrial system represents a sequence of vertical productive activities, starting with production and ending with the final consumer, covering agents, sectors and the relationships between them, the institutional environment and agribusiness support organisations (Zylbersztajn, 1995).

A focal company creates its relationships and forms its network of distributors and suppliers, among others. In the case of a coffee company, for example, it builds its relationships and the set of these relationship networks forms an agro-industrial system for coffee. The network comprises relationships on all sides, whether vertical, horizontal or lateral. The production system emphasises vertical relationships and the agro-industrial system can be a special case of network (Neves *et al.*, 2019).

The great contribution of studies on agro-industrial chains is the fact that they directly or indirectly influence the development of public policies and the development of organisational strategies (Zylbersztajn, 1995).

A comprehensive view of the production chain is interesting for strategists to understand the whole and to be able to assess the impacts that competition could cause in the operational environment. This adds value to strategic analysis, making the organisation more competitive (Castro & Neves, 2007).

5.2.2 Corporate sustainability and the 3Ps (people, profit and planet)

The concept of sustainability stems from a long historical process in line with the maturing of human consciousness in the face of the rapid speed of technological development in contrast to (not-so-rare) environmental disasters (Guimarães, 2010).

Sustainability is the 'capacity of a system to maintain its productivity even in adverse situations' and, over time, it has assumed a position of environmental relevance, where economic, social and cultural criteria are included gradually (Munck & Souza, 2009).

Companies have an important role in sustainability, as they represent the productive resources of the economy (Bansal, 2002), however, these organisations will not be sustainable individually, as they contribute to a much larger system where the sustainability may or may not exist (Jennings & Zandbergen, 1995).

Corporate sustainability is defined as the search to meet the needs of a company's stakeholders, such as shareholders, employees, suppliers, customers, community, among others, without compromising the ability to meet future needs (Dyllick & Hockerts, 2002).

A classic view was developed by Elkington (1998) who argued that companies cannot dissociate from three dimensions: social, environmental and economic. If one of the dimensions is impaired, the other two will have problems developing as a consequence. The three pillars of sustainability gave

rise to the well-known Triple Bottom Line (TBL), an approach concerning the responsibilities of companies and with the purpose of measuring organisational performance based on defined parameters, always looking for balance (Jamali, 2015).

More specifically, the environmental pillar refers to 'conservation and management of natural resources', while the social pillar refers to 'achieving equality and the participation of all social groups in building and maintaining the balance of the system through sharing of rights and responsibilities' (Munck *et al.*, 2008).

Elkington (1998) also emphasised the importance of interaction and cooperation between different agents in a sector such as private companies, government, community: that is, they must follow a common rhythm that reaches a certain balance related to profitability and sustainability, in a relationship of dependence.

Neves (2017) proposed a framework that collaborates with sustainability discussions within agribusiness organisations, applying the concept of the 'Three Ps of Sustainability' (People, Profit and Planet) in systems and production chains. The author presents several directions for each of the dimensions:

- *People*: Good working conditions (safety, health, water, housing and sanitation infrastructure); strict adherence to labour laws; adequate salaries and sharing early results in performance programmes; good health and well-being for all stakeholders; gender equity and women empowerment; elimination of child labour; provision of sources of community improvement; ethics and integrity (rights, safety, efficiency, support, human resources, infrastructure, eliminate work incidents, improve health programmes, and implement a programme to respect differences); build a supplier's code of conduct regarding people; helping to develop skills and improving labour; investing in educational programmes; improve usage of local people source for workforce; improve partnerships with public sector towards social projects; stimulate smallholders inclusion; disabled inclusion programmes.
- *Profit*: promoting economic development; targeting social equity; promoting opportunities (amount of salaries paid and other contributions); providing a respectful product or service to the consumer; taking good care of all stakeholders and increasing stakeholders' engagement process; providing improvements in infrastructure (e.g. rural roads and others); adequate pricing of products; when possible offering long-term purchase agreements for suppliers; buying in the community (measuring how much is spent in the region); working with transparency, ethics and integrity;

supporting smallholders with technology; improve technology usage for the company and its suppliers; amount of sales, taxes paid and contribution to local GDP; measure the economic situation before and after the investment (number of companies, and others); permanent search for efficiency gains; stimulating the sharing economy.

- *Planet*: How to produce with efficiency and responsibility towards the environment; follow environmental rules; protect biodiversity; protect forests/reduce deforestation and increase the recovery of degraded areas (total of trees planted); improve soil quality/reduce degradation; use sustainable sources of energy, increasing shares of renewable energy; improve the self-generation of energy; waste reduction; recycling; coordinate the environmental protection efforts of the suppliers of the company; increase water use efficiency in direct operations and supply chains and water discharge quality; measure water, carbon, energy (for an item) footprint; reduce vulnerability to climate risk in the supply chain; taking care to lessen the impact of chemicals, etc, and improving natural methods of pest control; stimulating 'circular economy'.

Sustainable organisations are always renewing their processes and paying attention to the need for adaptation. Being open to change is indispensable when you are looking to be sustainable. It is a long path of learning and continuous evolution (Jamali, 2015).

It is important to remember that organisational sustainability doesn't just mean good corporate citizenship practices (reducing toxic gas emissions or offering benefits to employees). Nor is it just an ethical or philanthropic issue (Munck *et al.*, 2008). Organisational sustainability is configured as a series of policies connected by an organisation's operations and decision-making processes. It aims to maximise the positive impacts of its actions on society (Jamali, 2015). Being a sustainable company means committing to the social and the environmental, with attitudes that prove the commitment to the precepts of sustainable development (Hahn *et al.*, 2014; Munck & Souza, 2009).

Based on the Theory of Competition, Farina (1999) defines competitiveness as the ability to survive in a sustainable way, growing in competing markets or in new markets. Sustainability also involves profits, considering that they are not negative and can be a measure of company performance (Farina, 1999).

The broader premise of productive chains in search of competitiveness is that they look for cheap and manufactured goods from developing countries, due to the low cost of production they offer, when compared to developed countries. This context can result in a 'demonised' image of the international system, that exploits poor farmers and concentrates economic power (New, 1997).

In order not to follow this ‘villain’ path, the strategy depends on the cooperative work between ‘rivals’, suppliers and distributors, mainly in the technology area to increase efficiency gains. Vertical and horizontal coordination and cooperation are important for competitiveness; provision of public goods, associations and unions are examples of aid that can be fundamental in this context (Farina, 1999).

An ideal supply chain includes low costs, more effective technologies and time savings. In addition, it is efficient, as it does the best with the same amount of resources (or even less) and investments (New, 1997).

Three aspects can be considered as barriers to sustainability in supply chains: (1) high costs; (2) a lack of coordination effort; and (3) a lack of communication. Many studies comment that pressure from interest groups is the central trigger for the implementation of sustainable management systems. More often, companies are afraid that consumers will be able to boycott their products if the environment and the social behaviour does not match the ideals of sustainability that clients have (Seuring & Müller, 2008).

The best way to motivate companies to use specific standards has been to use legislative power (Beske *et al.*, 2008). By implementing these standards (such as ISO 14000), companies can address social issues and yet they are complying with obligatory legal requirements. It is common for decision-makers not to engage in strategies if they do not have something to induce them to do so (Galaskiewicz & Wasserman, 1989).

5.3 Methods

The objective of this paper is to present clear and objective information about the current situation of Sustainability in Food Chains. The desire is to develop discussion points on organisational sustainability to create opportunities for improvement to all participants while increasing productivity in food chains. The development of this chapter consisted of three steps:

1. In the first step, we discussed agribusiness production chains and corporate sustainability. We sought to understand the Agro-industrial Systems and the ‘Triple Bottom Line’ or 3Ps of Sustainability (People, Profit, and Planet).
2. The second step was to conduct a series of in-depth interviews with experts in food production chains, in order to elaborate more and current topics on sustainability for the sector. Among the experts interviewed, the following deserve a mention: the directors of state departments; President and producer of the Association of Soybean Producers (APROSOJA); and the Acting General Director of the

Brazilian Agricultural Research Corporation (EMBRAPA). We also discussed the main initiatives in sustainability in agribusiness that have been carried out recently.

3. The third stage involved compiling the results obtained in the interviews, in order to systematise the information and prepare a table with the topics of discussion on sustainability in the food chains.

5.4 Results and discussion

This study resulted in an inventory of topics that, in general, reaches the food chains in each of the three Ps of sustainability; it is a tool for discussions on sustainability in agribusiness developed with the collaboration of the interviewed specialists, aiming to expand the first proposal made by Neves (2017). The complete inventory is presented in Table 5.1.

During the interviews, it was clear that there are many initiatives related to sustainability; however, the main motivation identified by the specialists is still the institutional regulations and the company motivation for economic progress.

Experts commented that the topic is being increasingly discussed and that sustainable practices are indispensable for the success of any production chain. They understand that, in future, there will be a stronger connection between sustainability and agribusiness.

5.4.1 Attention points

From the discussions held with the experts, we were able to list the main points of attention in each of the dimensions of sustainability. The main highlights of the Economic pillar that need to be closely explored in strategic agribusiness discussions were:

- Increasing demand for arable land and the opening of new agricultural frontiers.
- Low productivity of smaller chains that have untapped potential.
- Communication to society of what is being done as regards sustainability.

The main highlights in the Social pillar that need to be closely explored in strategic agribusiness discussions were:

Table 5.1. Inventory of sustainability topics for food chains.

Economic	Social	Environmental
<ul style="list-style-type: none"> • Connectivity • Public and private research • Access to public technical assistance agents • Facilitation of eligibility criteria for credit lines • Partnerships with educational institutions (veterinary medicine, zootechnics, agronomy) • Development of the processing industry • Review export fees • Grain processing cooperatives • Recognition of feed factories • Viability of corn ethanol plants • Niches for adding value to the raw material • Multimodal integration • Storage inside the farm • Toll processing • Hydro-agricultural projects • Regulatory stocks • Product tariff: minimum and maximum price • Consideration of exotic species • Certified seeds for productivity • Improvement of access roads to production, refrigeration and distribution • Events, business roundtables and fairs: relationship • Small industries in the processing of regional products 	<ul style="list-style-type: none"> • Tax incentives for inclusion attitudes • Integrated performance management • Formation of leaders • Scientific research and teaching activities on cooperatives and associations • Simplifying access to credit by cooperatives • Cooperative consulting and training • International cooperative missions • Producer and agribusiness partnerships • Reduction of dependencies on trading by producers • Sharing livestock management tools • Production chain promotion agency • Opportunities to obtain equipment and structure for smallholders • Infrastructure for industrial districts • Network for sharing chain information on a single basis • Vertical organisation for collective actions • Economic and financial management of the producer • Negotiation through trade associations • Alignment of internal interests with the interests of stakeholders • Promotion of optimal occupational health and safety conditions • Legislation to simplify and regularise farms • Promotion of knowledge of social legislation 	<ul style="list-style-type: none"> • Credit lines for environmental sustainability • Mapping of degraded areas • Mechanised harvest • Selection and training of suppliers for responsible attitudes • Use of less harmful pesticides • Alternative forms of fertilisation • Biological control • Reuse of hot water in the boiler • Investments in recycling stations • Effluent Treatment (ETEs) • Life cycle • Reuse of lower quality grains • Chain traceability • ILPF success stories • Precision agriculture • Biodigester and energy cogeneration • GSCM (Green Supply Chain Management)

- Lack of knowledge of good sustainable living practices by rural producers.
- Lack of cultural identity of the farmer during technical visits to model farms.

The main highlights in the Environmental pillar that need to be closely explored in strategic agribusiness discussions were:

- Use of fire.
- Information on correct land use.

One interesting solution that was suggested is the integration of chains. For example, dairy cattle need feed from grain production chains, and it can be integrated into the forest. A sustainability project increases productivity in harmony with the environment.

In relation to the lack of cultural identification regarding practices presented in technical visits, the solution pointed out by one of the specialists is the presentation of successful cases, but adapted to the reality of the region.

Cooperativism also proves to be an interesting solution to the problems presented. Since one of the principles related to this type of activity is the concern for the community in which it is involved, that is why they have several activities and projects in this area.

5.4.2 Facilitating issues

In addition to the inventory of topics, some questions were developed that can help agribusiness organisations in the formulation of an agenda for strategic meetings to discuss the theme of sustainability applied to their production chain.

These are facilitating questions that guide decision-makers and raise possible points of attention. They were divided into five dimensions applied to the parts of the organisational process: (1) production (Table 5.2); (2) communication (Table 5.3); (3) logistics and infrastructure (Table 5.4); (4) human resources (Table 5.5); and (5) environment and corporate governance (Table 5.6).

The topics discussed and the questions about the current situation of the organisation presented in this chapter will allow for the harmonisation of sustainability and agribusiness in a productive and responsible manner.

Table 5.2. Questions for discussions about production.

- What are the most current technologies in food production? Is there a need to change our machinery? What is the feasibility?
- What are multiplication technologies?
- Does our equipment follow the correct parameters and meet our needs? Can we see this type of information?
- How to deal with tensions? Is it possible to consider the spatial issue, separating it in places, or the temporal one, alternating how they occur in crop rotation?
- Is it possible to attract processing industries to the region?
- Do we follow a cultivation standard that is in line with sustainability and its quality management regulations?
- What is the probability of accessing credit? How can I stand out to facilitate this access? Are there any programmes in this area?
- Is there a price list to avoid problems with feasibility or bad faith?
- Do we use connectivity technologies to increase productivity?
- Are there alternative products for our business or exotic species that adapt to increase the portfolio?
- Is it possible to invest in certifications that add value to the product?
- What are the disease control techniques that improve our productivity within our budget?
- Is it possible to use alternative pesticides with less of a harmful impact and obtain positive results in production?
- Is it possible to avoid using fire?
- Are there alternatives for fertilisation and soil care?
- Is it possible to reuse water in other parts of the production chain?

Table 5.3. Questions for discussions about communication.

- Which organisations are successful in communication? How do they perform their activities?
- What are the public and private institutions that make sense for our business? How to access them?
- What public resources are available today for our business? Is technical assistance accessible?
- What is the possibility of investing in a specific market niche?
- Who are our main trading partners? How to deal with them?
- Is there a technology park? What innovations are under development?
- What are the main events on this year's calendar? Which open space for exchanging experiences in my professional field?
- Which regions are ahead so that we can find out about their initiatives?
- Is it possible to share information within the production chain itself?
- How are my suppliers acting on sustainability?
- How to attract new investors to the region?

Table 5.4. Questions for discussions about logistics and infrastructure.

- Is the technology used for storage or processing the most up to date? What is the biggest benefit of this update? Does it make sense to change?
- Are the access roads in need of improvement? Who should we turn to first?
- Is there an opportunity to create new processing plants in this region?
- How is the current infrastructure of our organisation? Is it possible to reuse some equipment?
- How are the refrigerated transfer areas in that region? Is it possible to invest in improvements?

Table 5.5. Questions for discussions about human resources.

- What relationship channels do we have today? How open are we to our employees?
- Is our infrastructure suitable for people with special needs? How many of our employees are disabled?
- How often do we carry out training and leadership update activities?
- How is the selection of employees made? Does it allow inclusion?
- How does our organisation act towards the producer in terms of inclusion, offering help?
- What and how many cultural programmes do we have for the community?
- Do we follow occupational health and safety regulations? Which ones need to be strengthened?
- Do suppliers have an interesting level of sustainability that aligns with our interests? How can we empower them?
- Are cooperatives and associations connected with our business?
- Do we have enough know-how on legislation? What are the references for us to evaluate?

Table 5.6. Questions for discussions about environment and governance.

- How can we be more tax-compliant?
- What innovation projects have we promoted?
- How do we act in relation to the energy surplus? How to take advantage?
- What are the tax incentive benefits?
- How to improve relationships for export agreements?
- How is the regional development plan?
- How to simplify bureaucracies of access to credit, facilitating and accelerating the process?
- How are the collective actions? How to organise them and align expectations?
- How to reward good skills in productive quality?
- What sustainability tools can I apply to my business? How does the Sustainable Balanced Scored Card work? Which indicators are relevant to my business?
- Is it possible to create a group or committee of experts focused on sustainability issues?
- What are the positive and negative impacts of my chain?
- What are the alternatives to maintaining harmony with the actors in the context in which we find ourselves?
- What is the water availability in this region? How to deal with this situation, especially in times of drought?
- What are the criteria for selecting suppliers? Do we have parameters for relating only to suppliers with the same principles?
- How are the regulations in my sector, what is the level of clandestine operations? How to deal with this?
- How is the quality of production?
- How is the care for animals? What are the techniques, intensity and care?

5.5 Final considerations and managerial implications

Based on this study, it was possible to achieve the main objective of this research to broaden the vision of sustainability of agribusiness organisations, as an inventory of relevant information was proposed that should be

considered in each of the sustainability pillars (economic, social and environmental) and be discussed at strategic meetings.

The information was transformed into categorised topics and ensured that the Triple Bottom Line is still strong, even in the long term. This framework allows a clear visualisation that the organisational activities are constantly working in these three dimensions, even with the barriers that appear on the road to sustainability. Munck & Souza (2009) comment that sustainability is about the 'capacity of a system to maintain its productivity even in adverse situations' and, over time, assume a position of environmental relevance, where economic, social and cultural criteria are included gradually.

Through the analysis of the results and conversations with specialists, it was possible to observe that the great motivation is regulation. Thus, the delivery of products and services by organisations ends up leading to positive results, but the main aim is to avoid problems and follow the rules in agribusiness.

Suppliers have been regularly analysed to ensure a responsible production chain, following the concepts of the Green Supply Chain. Many companies have evaluations for suppliers that involve socio-environmental criteria and evaluations on how they deal with topics related to sustainability (Bowen *et al.*, 2001).

Each topic of the inventory addresses different production chains and their specificities; it is important to consider that each place in the world has its unique characteristics, including climate, vegetation, access to resources, technology and access to credit, among other specifics that directly influence all the processes that take place within an agro-industrial system.

The leaders of agribusiness organisations are increasingly prepared for the growing demands of society and regulatory institutions. The most important thing at this time is to raise awareness, from smallholders to the final consumer (who still does not understand that he or she is also part of the production chain). It is an immense system, in continuous change, with countless connections that will always demand research and innovation.

Sustainability must be seen as something definitive and highly necessary for the success of the strategic organisational plan; it cannot be seen as something simple, futile or temporary. It is all about survival and balance.

This page is left blank intentionally.

CHAPTER 6

Where food consumers will be in the future?

Abstract

Several factors have influenced the increasing demand for food in different countries, including variables related to the capacity of production and others linked to the demand of its inhabitants. The main goal of agribusiness in this scenario has been to produce more efficiently, reducing the social and environmental impacts, and ensuring that people can have access to food in the short and long term, while preserving natural resources, such as land and water. Many countries that could share the responsibility to feed the world – especially in Asia, such as China and India – suffer from a shortage of production resources and are becoming food-importing countries. Therefore, in this chapter, we will discuss ten topics that we believe to be the main sources that impact the food trade balance of countries. Understanding these critical factors that affect food supply and demand and identifying in which countries it will be bigger, represents a significant step towards improving food security and lowering prices for agricultural commodities. The majority of the ten topics are related to demographic, economic and resource availability issues. However, the social factor is gaining importance; after all, there is no use working on all the other issues if agribusiness is not oriented towards final consumers and their preferences for food, fibre, and fuel. In this chapter, the discussions of each of the 10 variables will be supported by some examples of countries over- or under-performing in these subjects.

Keywords: food, markets, trade, food security, agribusiness

6.1 Introduction

Projections about the demand for food in the world seem to point to an increase over the next few years. Several factors have influenced this growth of food needs in each country, including some related to the capacity of production and others linked to the demand of its inhabitants.

On the demand side, we can observe several factors contributing to enhancing the world's appetite for food (Neves, 2014b), such as:

- Population growth, rising per capita incomes and urbanisation rates.
- Diversification of diets is increasing protein consumption.
- High income and food distribution programmes in the world are increasing demand.
- Growth of the food market in several countries.
- Biofuel awareness resulting from pressure to be sustainable is becoming huge.

We have to consider all the agribusiness industry challenges in production. The main goal is how to produce more efficiently, reducing the social and environmental impacts, and ensure that people can have access to food in the short and long term, despite the need for natural resources, such as land and water.

The importance and necessity of increased productivity were higher than many expect in the last decade (OECD/FAO, 2019). Many countries that could share the responsibility to feed the world – especially in Asia, such as China and India – suffer from a shortage of productive resources and are becoming food-importing countries.

For OECD/FAO (2019), it is in developing regions that the demand for agricultural products has grown most in the last ten years (Figure 6.1). The authors of the study report that Asian economies include the main participants in this increase, together with Africa.

Since a high increase in Asia's food imports continues to occur, there will be major impacts on shortages of supply across the world and, consequently, on prices (Otsuka, 2013). In general, the predicted trade volumes of the majority of agricultural commodities will expand during the coming years (OECD-FAO, 2019). Thus, understanding the critical factors that affect food demand and identifying in which countries it will be bigger, is a substantial step towards food security and lower prices for agricultural commodities.

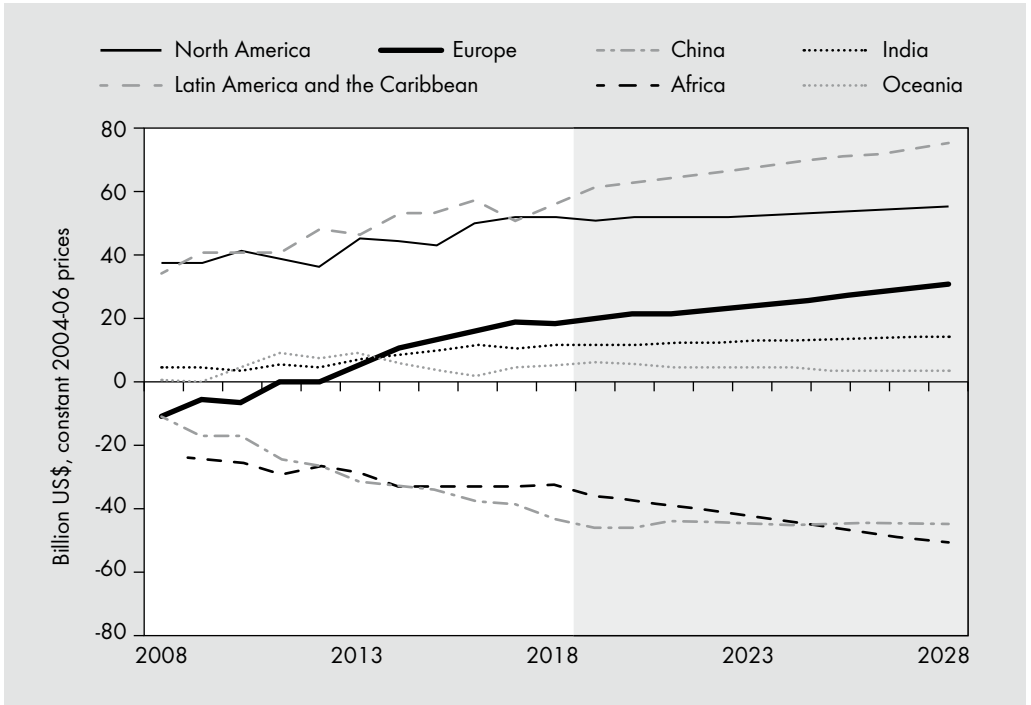


Figure 6.1. World trade balance by continent (OECD/FAO, 2019).

Therefore, in this chapter, we will discuss ten topics that we believe to be the main reason for countries having a negative food trade balance (Figure 6.2). This analysis is interesting because it shows the regions in which the pressure for food security will be higher, and it helps governments and markets to better prepare for this situation in the future.

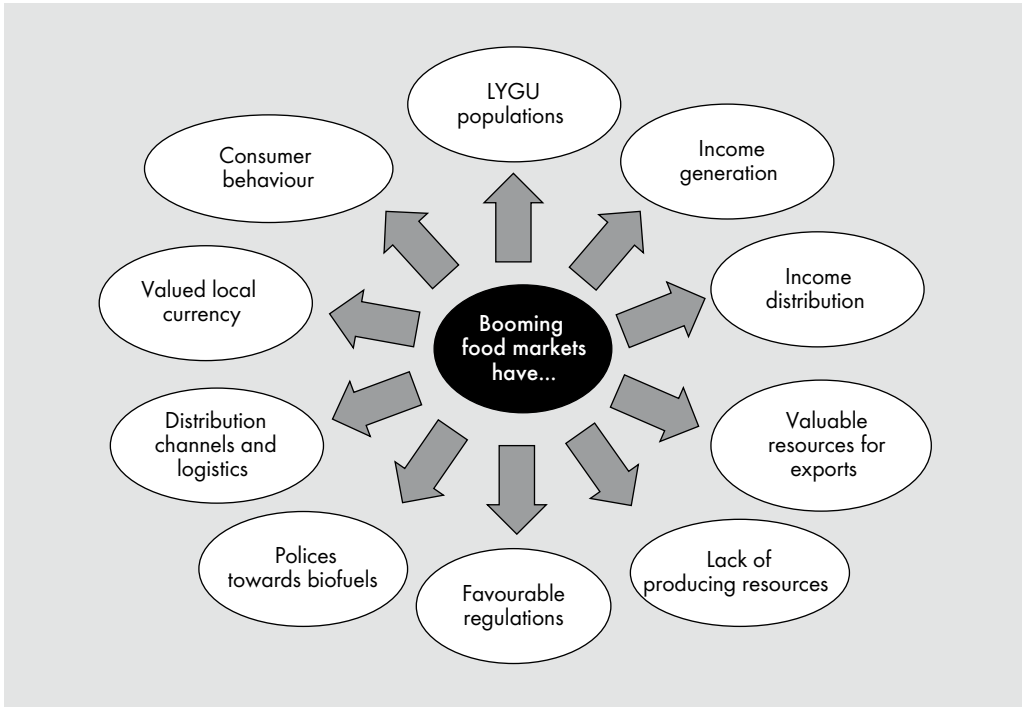


Figure 6.2. Factors influencing booming food markets (based on Neves, 2014a).

6.2 Topics

6.2.1 LYGU populations

LYGU is an acronym for ‘Large, Young, Growing, and Urban’, since these are the four main characteristics that will define to what extent the population of a determined area or country will demand agricultural products. Large and growing populations are an obvious cause of increasing demand because when you have more people – and the prospect for the future is that the population growth will increase over time – you will certainly have more consumers of food, fuel, fibre, etc. China and India (the two largest populations in the world) are clear examples of countries that have a great ‘appetite’, because of the dense and numerous populations. These countries have the potential to grow further in the next few years.

At the same time, a high percentage of the young population shows the potential of the country to keep growing in the future (Neves, 2014a), and it is yet more evidence of the probability of the territory being a Booming Food Market. Russia, for example, has a large population that has recently

stabilised and is older; with these factors, compared to developing countries like Ethiopia and Nigeria, it has a smaller chance of being a food importer region in the future.

The last letter of the acronym, which stands for Urban, is relevant because urbanisation particularly affects the demand by raising the number of people that have more available income to spend, thus creating a market for food (both in volume and diversity). High urban populations also impact the demand for food because of the decrease in the number of people that produce food. Since urbanisation will continue to grow for some time yet, it is essential to monitor this trend (Godfray *et al.*, 2010). We can highlight Mexico as a country whose food demand is now driven, in part, by the urban population: in 2018 only 20% of its inhabitants lived in farm areas (World Bank, 2020).

6.2.2 Income generation

The widely known concept of food security involves having access to (a volume and quality of) food that is affordable. So, an important part of this is related to generating income, part of which can be allocated to buying enough food for individuals. From a regional perspective, the development of the country's income can also generate a high value of imports because of the greater purchasing power of the population (Huchet-Bourdon & Korinek, 2011). In this sense, even if the territory is not producing food, the income obtained by the population is crucial for gaining access to agricultural products. China's appetite is not only due to its huge populations; the country is also one of the largest economies in the world and has financial resources to provide enough food for the population. Despite being a necessary condition, income generation does not mean much if it is not distributed fairly between inhabitants (see Section 6.2.3).

6.2.3 Income distribution

Income distribution follows the same logic of income generation. However, there are some other issues to be observed: rising per capita income, income distribution and urbanisation, not only stimulate consumption but also change diets and behaviours (OECD-FAO, 2015). As soon as undernourished people obtain access to more calories, they start eating more food. However, in the second phase, people start making changes in their diets (Godfray *et al.*, 2010). These are the core reasons for considering income distribution when trying to predict food consumption. This statement is supported by Lignani *et al.* (2010) who showed that the Brazilian programme of income distribution called 'Bolsa Família' (which is directed at poor families) raised the consumption of all food groups among the sample.

6.2.4 Valued resources

A similar argument that was used earlier to show that countries with a wealthier population have more access to food can once again be applied for the fourth characteristic of Booming Food Markets. If a country has valued resources in its territory, these can be used as an exchange currency for obtaining food supplies. In the case of Russia, Venezuela and several Middle East countries, because of the high number of oil reserves in their territories, they have a major revenue source for importing the products that are needed. It is not only oil that can be considered a valuable resource; we can also include iron, copper, coal and wood as other strategic assets for a country.

6.2.5 Lack of production resources

If having valuable resources is a variable that fosters the demand for agricultural products, the absence of production resources has the same effect. There are two ways in which a specific area can gain access to food: it can either be bought from a producing region or it can be produced inside the territory. The lack of production resources has an impact on the second alternative because, for any agricultural activity, there are conditions that need to be fulfilled.

If a country has no or few available resources for agriculture production, such as water (Ericksen, 2008) and land (OECD-FAO, 2015), it has a greater chance of being a food importer nation. It is also a mistake to think that those vast territories usually have an advantage concerning these criteria, because even large countries such as Russia face huge problems in agricultural production because they lack other production resources. Besides natural resources, there are also great financial resources for production. The increase in investments in agribusiness is one of the main strategies to increase production and reduce food insecurity (OECD-FAO, 2015).

6.2.6 Regulations that favour food imports

Our sixth theme, regulations that favour food imports, is better developed in countries like the Philippines and Indonesia, but it is a very particular topic, since in Asia too, we can find other countries with a lot of barriers to imports, like China and Pakistan. There are a lot of variables, such as food import taxation, trade barriers and the stability of governments, and the institutional environment.

Food trade agreement is a topic that still needs further research but there are some indications that liberalisation in an international exchange of agricultural products increases the consumption of some types of food (Kearney, 2010). The author also affirms that liberalisation policies can enable foreign investment and the development of the food retail industry (both important indicators of a country's potential to import food).

6.2.7 Adoption of policies that blend biofuels with petrol

Increasing pressure for sustainability all over the world has had significant implications for the demand for agricultural products, and one of the most relevant causes is the move towards substituting oil-based fuels with cleaner fuels produced from renewable sources: the biofuels.

Even just blending biofuels with traditional fuels, influences the potential demand for agribusiness products because the majority of biofuels are developed with food crops like corn or sugarcane. According to OECD-FAO (2015), 'the introduction of policies aimed at improving energy security and environmental sustainability incentivised the production of biofuels, expanding the demand for the feedstock used in its production'. The biofuel demand consumed 25% of corn production of the USA in 2007 (Headey & Fan, 2008).

6.2.8 Import distribution channels and feasible logistics

The expansion of the retail sector and food distribution is currently on the rise (Ericksen, 2008) because of market globalisation and improvements in transportation routes and infrastructure. All of this is enabling the growth of the food trade around the world. Another advantage of improved distribution is that products reach more people thus lowering the cost, and expanding the potential market for food, fibre, fuels, among others. In addition, there are some kinds of products, highly perishable ones for instance, that it would not have been possible to commercialise between countries without the recent developments in logistics due to long distances across which they need to be transported.

6.2.9 Valued local currency

One of the issues related to import value and volume is a nation's currency rate. Huchet-Bourdon and Korinek (2011) quoted the J-curve effect in their study to explain this: the theory affirms that a depreciation of the currency in a country initially causes a decrease in the trade balance and then an improvement. This happens because of contracts or future transactions

between countries that cannot be changed quickly and, only after a certain period, when it becomes possible to change the supply strategy and internal production, have time to adapt to the demand and produce more (Huchet-Bourdon & Korinek, 2011).

Furthermore, regarding the exchange rates, a devaluation of the currency has an immediate effect on reducing the import volume, since the price paid is higher than in the past. This condition is more true of agriculture than any other industry (Huchet-Bourdon & Korinek, 2011). On the other hand, in order to afford sufficient food imports, a nation needs to have money available and one of the options is exporting products valued by exchange rates (Neves, 2014a).

6.2.10 Consumer behaviour

The last topic we want to address is the behavioural part of the equation, since diets and food consumption are very much related to consumer preferences. Some countries consume a greater volume of industrialised products, while others demand more agricultural commodities. Also, the calorie intake is not only related to the purchasing power of the population but also to a country's characteristics, like culture for instance. There are all sorts of influences in this issue that need to be highlighted: for instance, where the meals are consumed can also impact the amount of food the country needs, since the level of wastage in home-cooking and restaurants can be different.

Recently, another important impact that consumer behaviour has had on agricultural products is related to sustainability. There is no doubt that in countries where there is more of a trend towards 'green initiatives' there are major differences in the population's food habits; these initiatives also affect the way and amount that they will buy in terms of clothes, fuel and a lot of other agribusiness products.

6.3 Final considerations and managerial implications

One of the biggest challenges for humanity in this century will be to ensure that agricultural production can keep up with the global demand for food, without harming the environment, while improving social conditions. If this is to happen, acquiring knowledge about the evolution of this appetite for food and knowing where it will be more significant are critical starting points.

Agribusiness has an important role to perform at this moment. The first and most obvious one is to develop techniques and technologies that will be able to supply the necessary volume and quality of food that the world population will require. The second, which we will take a look at here, is fostering income generation and distribution. Agribusiness is not the only, but certainly one of the greatest chances a country has to promote its economic development, through efficient agricultural production complemented by value-added activities that employ and provide opportunities for millions of people.

Both of the roles have to be fulfilled while trying to reduce our use of productive resources to maintain a balanced environment. Research and technology will be great allies in this mission to mitigate the impacts and to create opportunities so that nations with low available resources will also be able to contribute to the world supply of nutritious food. In order to do this, private and public companies will have to partner together to invest and promote the development of infrastructure and logistics and also work on policies that favour both industry and the nation.

Our final remark is related to consumers. There is no use fulfilling all these roles if agribusiness is not targeted towards final consumers and their preferences for food, fibre, and fuel. They will dictate what, how, when, where, and especially why we are producing.

Paying attention to these points and seeking effective actions for the development of agribusiness are the daily challenges of many countries in the search for food security and quality, as well as to guarantee all the other resources that the world demands.

This page is left blank intentionally.

CHAPTER 7

The role of cooperatives in the new world

Abstract

Cooperatives are changing, becoming more professional and therefore taking on an important role in the new world. In order to develop agriculture and livestock production while positioning smallholders in the productive chains, knowledge and understanding of the main strengths, weaknesses, opportunities and threats that cooperatives face in the competitive environment are extremely important. This chapter aims to understand more about the role and future of cooperatives through their own lenses in order to enhance the sustainable inclusion of farmers in agriculture. Some of the most interesting findings of this chapter are that despite their credibility, financial strength and portfolio, cooperatives are struggling with competition from all sorts of players and their competitive advantage is currently in danger. An alternative for cooperatives' sustainability over the next few years is to improve what, in their opinion, is the predominant weakness: management. Even though cooperatives have several alternative strategic pathways and do not usually have a formal process of planning, our results showed that these organisations are being assertive in their choices and seeking to implement actions that will indeed contribute to their established goals. They are also aware of and responding to the society's growing demand for sustainable initiatives, and the cooperatives' new role is to stay competitive while fostering social and environmental issues and keeping smallholders in agriculture.

Keywords: cooperatives, food, agriculture, agribusiness, association

7.1 Introduction

Cooperativism is an excellent collective action strategy to bring competitiveness to rural organisations and producers. There are several opportunities to be better explored by cooperatives in agribusiness, such as inter-cooperation (cooperation between cooperatives), which can play the leading role in coordination for sustainability, among others. Cooperatives are changing, becoming more professional and therefore have an important role in the new world.

In this chapter we are going to conduct a brief discussion about competencies, opportunities, and the role of cooperatives in this new world. Let's start with some definitions and the characteristics of cooperativism and cooperatives.

Cooperatives are organisations that can provide social and financial benefits to members through associated work and mutual aid, whereby they become important to agribusiness worldwide (Gimenes & Gimenes, 2006). Some of the benefits that farmers have access to are: added value to their commodity by industrialisation, better prices for their products, and better conditions for the purchase of inputs (Bialoskorski Neto, 2012). And in addition to the commercial aspect, some of the most common services include the offer of loans and training to its members (Spielman *et al.*, 2010).

The activity of cooperatives has seven guiding principles: voluntary and open membership; democratic management; economical participation of members; autonomy and independence; education and information; inter-cooperation; and concern for the community (OCB, 2017). Liang & Hendrikse (2016) add that the equal treatment of the members of a cooperative is traditionally strong, with all of them having equal voting rights.

These organisations are an alternative to keep small farmers in business when faced with large farms in a competitive environment, because producers can develop economies and efficiency while maintaining their independence (Altman, 2015). Cooperatives in some countries, besides all the services they provide to farmers, have an important role in including smallholders in the adoption of technical innovations, in the competitive market and in promoting industry development (Zulian *et al.*, 2013). These organisations are also one of the main ways that small and/or independent farmers are able to obtain economies of scale and bargaining power in relation to large input companies or even their buyers (Tortia *et al.*, 2013).

In order to develop agriculture and livestock production while inserting smallholders into the productive chains, knowledge and understanding of the main strengths, weaknesses, opportunities and threats that cooperatives face in the competitive environment are important insights that should be pursued. Another interesting issue is 'where do cooperatives want to be in the

future and how do they intend to get there.' As one of the important agents in agribusiness, knowing their aspirations and their plans can help to identify where the industry is heading and what the rising trends are in management. On the basis of these questions, this chapter aims to understand more about the role and the future of cooperatives through their own lenses in order to enhance the sustainable inclusion of farmers in agriculture.

A study conducted by Valério & Neves (2018) with 154 managers or directors of 10 different cooperatives sought to answer five questions related to the strategic plans and the future of cooperatives:

1. What are the main competencies of the cooperative (this question is similar to strengths)?
2. What are the issues that bother you most in the cooperative (things that we should improve in the corporate or in business units)?
3. What are the opportunities available to the cooperative (answer regarding the external environment of the cooperative)?
4. In the external environment of the cooperative, what are the most important threats that we perceive (focus on the outside of the cooperative because the inside was already dealt with in question 2)?
5. What are the main actions (projects) that needs to be carried out to achieve the cooperative goals? List 5 to 10 big actions (projects), in your opinion.

In this chapter we would like to take advantage of these five issues and discuss the new role of cooperatives in global agribusiness and add a new topic to the role of cooperatives in sustainability.

7.2 Strengths and main competencies of cooperatives

For the first question, 'What are the main competencies of the cooperative (this question is similar to strengths)?' the answers (Figure 7.1) show us that Credibility is definitely the main competency of the cooperatives in the sample. Credibility and trust are cornerstones in the relationship between members and their cooperatives and are the reason why farmers remain associated and continue doing business within these organisations (Jensen-Auermann *et al.*, 2018).

It is important to remember that cooperatives are non-profit organisations; in addition, the board of directors is composed of farmers as stated by (Cechin *et al.*, 2012). So, these two competencies can explain the trust that members of the cooperative have in the activities and services provided.

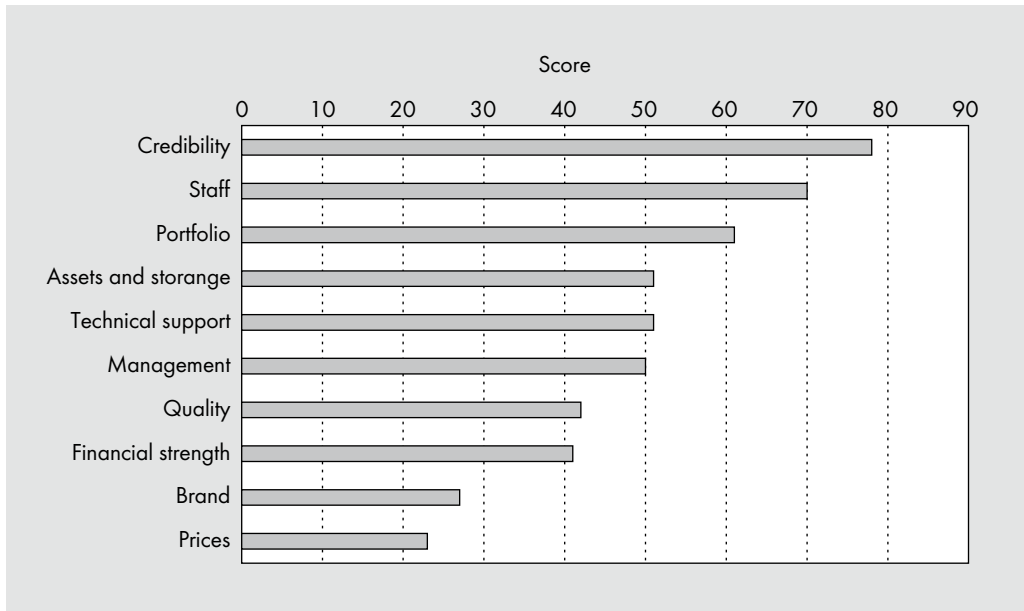


Figure 7.1. Question 1: strengths and competencies.

However, there are also disadvantages to this uniqueness: cooperatives can have difficulties staying competitive on quality in some market conditions because the structure of members and owners may negatively affect the capacity to constantly push themselves to provide better services (Cechin *et al.*, 2012), and may be the reason why Quality is not presented as one of the top categories.

Also, the employees (Staff) of the cooperative were considered another strong asset; they were described as being committed and dedicated, lean, efficient and in some cooperatives well prepared and qualified for their jobs.

Regarding Technical Support, it is important that cooperatives actually offer a quality service because, as pointed out by Abate *et al.* (2014), there is a significant difference between farmers that are cooperative members and farmers that are not, when analysing their technical efficiency. Additionally, the better the quality of the services offered, the greater the trust in the relationship (an important construct) (Jensen-Auvermann *et al.*, 2018).

7.3 Weaknesses and areas for improvement

Regarding the weaknesses of the organisations that were highlighted in question 2, it seems strange at first that the staff (ranked second in the strengths) was ranked as the number 1 problem in the cooperatives in Figure 7.2. However, that happened because there are different motives for the team being evaluated in two different ways. In this question, the main motives were the need for developing training, job description, career planning and other HR management issues. Furthermore, it was said that these investments can help address a constant complaint from the cooperatives: the high turnover of employees. Much of the strength of the cooperative teams is in the vision and the communion of the cooperative’s values, the search for and care of workers. On the other hand, with the professionalisation and the increasingly competitive scenario in which the cooperatives are working, more professional teams are needed, with high capacity and availability of learning, a propensity for rapid change and a desire to adapt to dynamic environments.

A high turnover index can be a huge problem for cooperatives, as the recruitment process of people interested in working in agribusiness is also a major challenge for managers within this industry (Lyons & Connolly, 2012). These motives are also reinforced when we analyse the next two weaknesses: management: due to the lack of well-structured processes, strategic planning

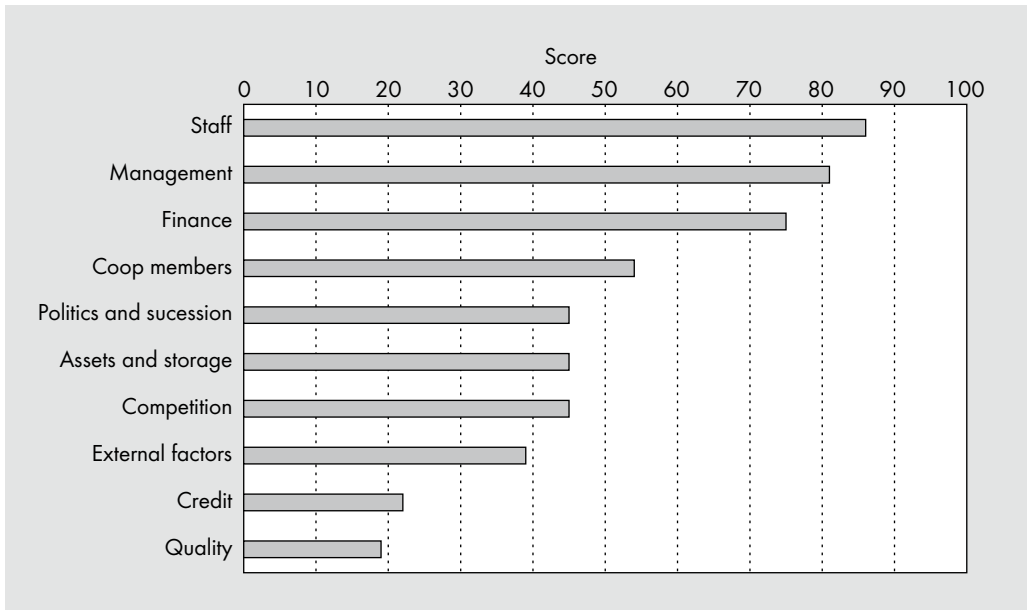


Figure 7.2. Question 2: weaknesses.

and the allocation of resources; and finance: because of high costs and working capital availability. All of them are closely related to management and process.

Something that is also present in the results and directly affects the expected role of cooperatives in the new world is Succession (5th weakness). Older generations of farmers are leaving the business because of their age, and one of the main issues they are facing is that their sons and daughters are not interested in agriculture and/or are moving to the cities. The few that stay are not seeing the same added value that their parents did when joining a cooperative in the past. If cooperatives want to maintain their relevance, they will have to work on motivation and education for these younger generations, while also creating and communicating their value to a new generation of farmers.

It is also important to highlight that the 8th most cited weak point of cooperatives in the sample 'External Factor' should be considered a threat, since we grouped together climate factors, economy and other issues here that are all uncontrollable factors for the cooperatives.

7.4 Opportunities for cooperatives

Scoring 95 out of a maximum of 100 points, Expansion is the biggest opportunity identified by the cooperatives of the sample. This shows that they are relying on the current market situation and they trust in the ability to expand to new locations, thus augmenting their radius of action. However, this expansion comes with a risk of loss of trust among members. This is due to the fact that new geographical regions may be managed by farmers that are younger and/or do not have enough time to build up a relationship with the cooperatives, and do not see the cooperative as a credible organisation (Jensen-Auvermann *et al.*, 2018).

There are several considerations concerning the results shown in Figure 7.3:

- New crops – cooperatives that placed this category in a higher position are not necessarily focused on providing assistance for one or a few crops. The main factor affecting this opportunity is probably the crops most suited for each region in which cooperatives are installed.
- Adding value – for some cooperatives that do not have processing industries it is clear that a great opportunity to add value to their products and services is by installing plants.
- New business – cooperatives that have only three or fewer businesses also pointed out the opportunity to diversify their business.

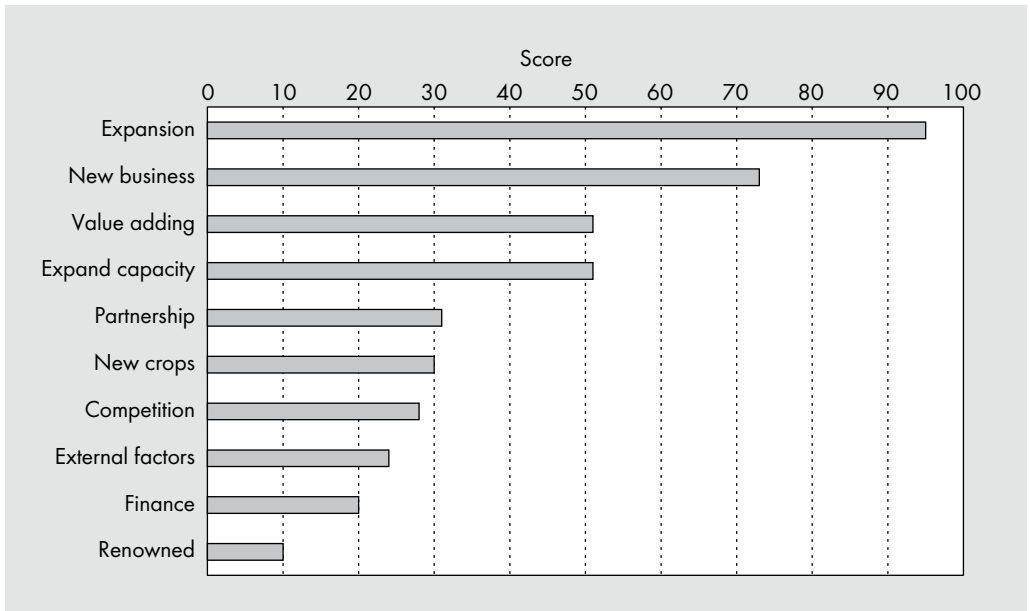


Figure 7.3. Question 3: opportunities.

It is also worth mentioning that two of these important categories, New Business and New Crops, are seen as an opportunity in part because they generate economies of scale; and because when the cooperative differentiates its business, it places small farms that are co-operating alongside large farms in the sense that they have the opportunity, structure and everything else to be diversified that they would not have if they were not cooperating (Altman, 2015).

7.5 Cooperative threats

Many of the threats that a cooperative faces relate to uncontrollable factors. For some of them though, cooperatives can take a series of actions in order to predict the effects and calculate the impact on business and develop a contingency plan to mitigate these threats and maintain competitiveness.

Again, there was almost a consensus among the cooperatives interviewed about the number 1 threat. Cooperatives are worried about competitors: cooperatives originally from other regions that are expanding, and big players like trade companies, dealers and chemical companies. This can be menacing for cooperatives since the main challenge for them is to maintain themselves as competitive organisations and be capable of prospering in an environment

with big multinational companies. At the same time they must stay oriented and fulfil the needs of their associates (Gimenes & Gimenes, 2006). Also, it is not enough for cooperatives to focus purely on their members; cooperatives also should monitor and screen consumer preferences and trends in order to transmit this information to their associates and be able to respond and adapt to it (Macedo *et al.*, 2014).

Another expected result is the placement of Economy, Politics and Legislation, and Taxes and Bureaucracy in top positions (Figure 7.4) due to political and economic instability that the country has been facing in recent years, and the fact that the agribusiness industry usually quotes these issues as important (Valerio & Neves, 2015). This is a clear challenge that cooperatives are able to overcome through inter-cooperation, and planning collective initiatives that would benefit the entire industry, such as joint lobbying.

It is also worth noting that the access to financial resources are a key factor for maintaining competitiveness in the agribusiness industry (Buainain *et al.*, 2014). So, we can see that Economy category issues will remain important for a while or even increase in the next few years.

The external environment influences the entire production chain, from the acquisition of inputs by the farmers via the commercialisation of production to the final consumers (Lopes, 2012). The author complements this, saying that agriculture and livestock also has three characteristics

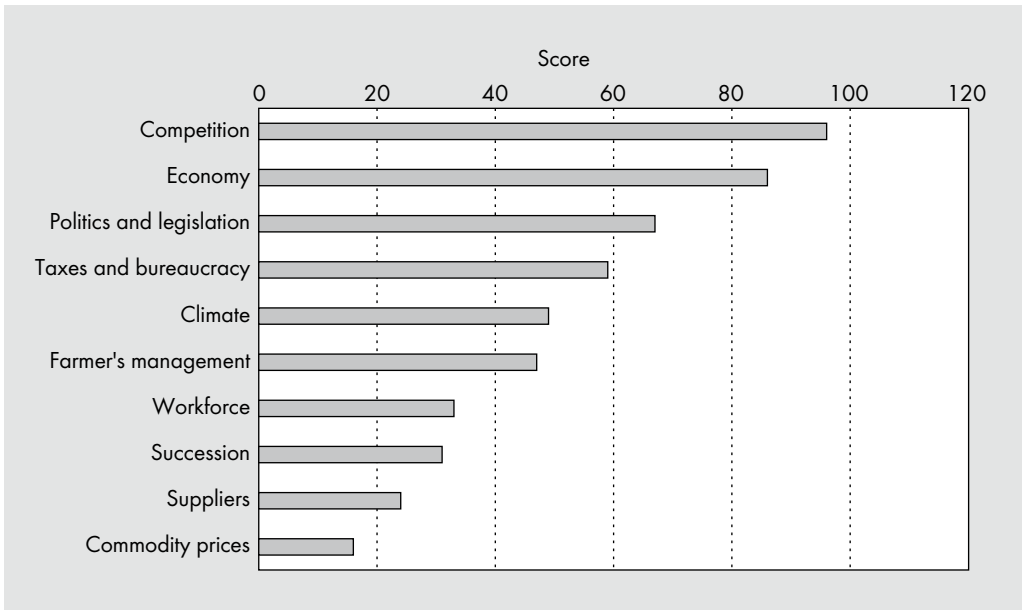


Figure 7.4. Question 4: threats.

that makes the industry unique: high susceptibility to climate variables (5th threat); perishability; and seasonality of products (influence in 10th threat – Commodity Prices).

7.6 Actions for future

The last question was about the projects to be implemented in the coming years in order to achieve the goals set by the organisations. As should be the case, cooperatives prioritised categories of projects aligned specifically with their weaknesses and opportunities presented earlier.

Management came first, and involves cost reduction, developing a structured strategic plan, better efficiency and agility in decisions, working capital availability, and establishment of processes, among others (Figure 7.5). With only two points between them, People Management was listed as the second most needed project in the cooperatives to try to address an important weakness, i.e. the lack of training and qualifications, and the high turnover of employees.

In the literature, we can also find several emerging themes in the management of cooperatives and these include people management, stating that some issues are related to cooperatives performance (Perdonsini *et al.*, 2015).

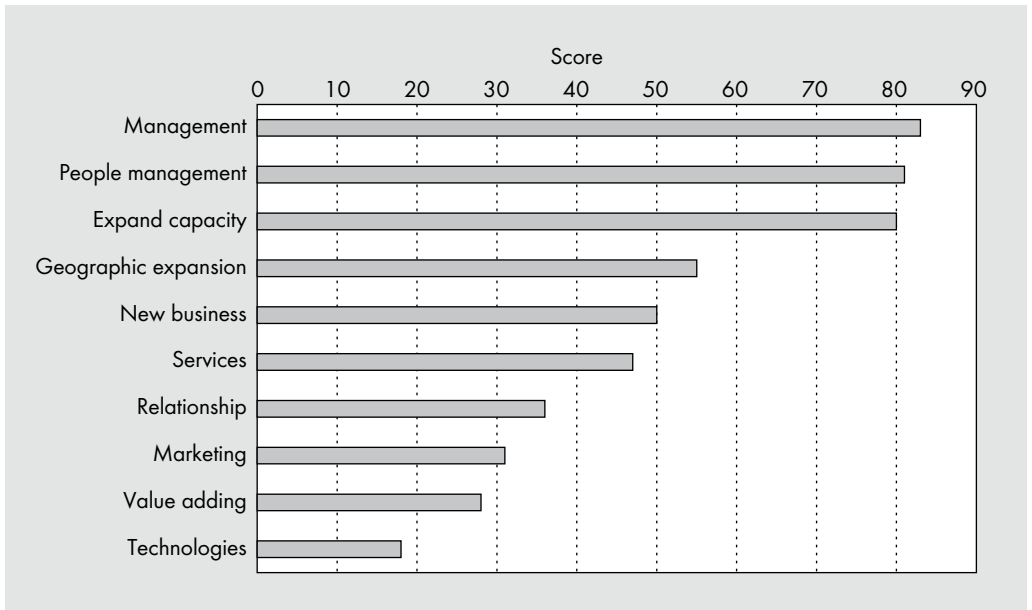


Figure 7.5. Question 5: strategic projects.

On the other hand, an already identified trend in cooperatives, i.e. the fast growth in technology adoption (Oliveira, 2015), did not turn out to be relevant in the sample studied.

Another group of categories of projects prioritised by the cooperatives involved those taking advantage of external environment opportunities: for example, Expand Capacity (increasing the volume of production and/or storage capacity), Geographic Expansion (open branches in new cities) and New Business (services and operations that enhance the portfolio).

We can include in this group of answers the Value Adding category. Its appearance in the top ten projects to be implemented by cooperatives chimes with what is already known: that in the early stages cooperatives are member-oriented, and with time they evolve to a more complex stage where they become market-oriented and there is a need to add value and differentiate to agricultural commodities (Bialoskorski Neto, 2012).

Despite the cooperative's good perception of several topics, the study also highlighted the absence of one of the most crucial themes nowadays: sustainability. Because of that, we dedicate the next section to discussing the relationship that cooperatives must have with this issue.

7.7 Cooperatives and sustainability

In 2015, the United Nations launched the 2030 Agenda, in which it proposed 17 Sustainable Development Goals (SDGs) aimed at eliminating poverty, promoting well-being and prosperity for all, tackling climate change and protecting the environment (United Nations, 2018). These 17 objectives are listed in Figure 7.6.

These Sustainable Development Goals, or some of them, are closely linked to cooperatives and these organisations have an important role in helping society achieve these goals. Just by analysing the 7 principles of cooperativism, we can identify an alignment between them.

Cooperatives promote economic development in the territories where they are located. In addition, in terms of economic and social development this improvement ends up being spread across several cities and regions (SDG1, SDG11), thus enabling innovational improvements in society (SDG9). According to the United Nations (2016), for every six people in the world, one is a member or customer of a cooperative and the assets of these cooperatives are worth approximately US\$ 20 trillion, generating an



Figure 7.6. UN Sustainable Development Goals (United Nations, 2016).

annual revenue of approximately US\$ 3 trillion (SDG8). Partnering (SDG17), a cornerstone of cooperatives, is another important tool used by these organisations to stay competitive in agribusiness.

Cooperatives also have a very strong connection with society because they support local businesses, in most cases even work with philanthropic projects, and generate an important volume of jobs. Cooperatives not only generate direct and indirect jobs (G5, G8), but also have important training and educational activities (G4) for the work force as one of their core values. The United Nations (2016) estimates that the (approximately) 2.6 million cooperatives operating in the world employ around 12.6 million people.

Agribusiness cooperatives, especially in agricultural production (SDG2), help keep families in the countryside and support the participation of smallholders in the value chain by giving them greater opportunities to access funding and markets, providing technical assistance and access to technologies. Cooperatives are also known for having a long-term perspective and respect for the environment that is transmitted to their members' farms (SDG7, SDG13, SDG15).

Cooperatives already practice a good part of what the SDGs preach, but they are not yet able to show this to the world. The role of cooperatives in the new world is to continue contributing to sustainable development and society in order to support the achievement of the UN's Sustainable Development Goals.

7.8 Final considerations and managerial implications

The importance of cooperatives in agribusiness can be understood not only by their financial numbers but also because of their strengths, like the credibility that these organisations have among their members and the portfolio of products and services helping farmers to be more productive.

On the other hand, the biggest threat cooperatives are facing is the competition with input dealers, other cooperatives and trade companies that are starting to offer similar products and services. If any of these organisations also stand out as having credibility in the market, cooperatives will have no competitive advantage over these players.

An alternative for the sustainability of cooperatives over the coming years is to improve what, in their opinion, is their most preeminent weakness: management. By not having to seek profit, cooperatives can distribute more of the value generated to farmers and build a solid competitive advantage. But this proposition of having the best possible cost versus benefit ratio, can only work with a professional management structure, including finances, human resources and operations.

This change in management is not an easy task and requires investment and effort from the organisation. Perhaps most challenging of all will be to implement better management with the need and desire to embrace environmental opportunities at the same time. New business and geographic expansion (most cited opportunities), if not properly implemented, can harm the brand and credibility of the cooperatives.

Despite all the challenges, the results also show a promising future for cooperatives because even though it was not a formal process of strategic planning, the projects listed by them in question 5 matched their own SWOT analysis, and they presented actions that will indeed contribute towards their established goals.

Finally, sustainability must be the new focus of cooperatives: organising farmers, keeping smallholders in the productive chains, educating and training growers about sustainability, providing technical assistance, generating employment, fostering the economy of rural towns, and continuing to take care of society. This is the role of cooperatives in the new world.

CHAPTER 8

The world after Covid-19

Abstract

There is no doubt that the year 2020 was marked by one of the biggest health crises ever seen at a global level. The Covid-19 pandemic has brought unprecedented losses for thousands of people around the world. On the other hand, it caused relevant changes in the dynamics of many countries, which had to review their usual programmes and services; and in several organisations, many of which were unprepared to deal with moments like this. Our routine has changed so much that, today, we have abandoned many of our habits and behaviours and replaced them with different ways of living used to have. In the coming years all these transformations will continue to affect the growth of organisations, the relationship between people, and behaviour in general. With this in mind, this chapter presents a list of 10 words that summarise the main transformations and changes resulting from the Covid-19 pandemic. They are: Digital, Home, Simplicity, Engagement, Neo-collectivism, Infotoxication, Monitoring, Sanitation, and Nature. This content can contribute to discussions between people, countries and organisations, with a view to finding opportunities and adapting strategic planning, so as to overcome this new challenge we are facing.

Keywords: covid-19, pandemic, people behaviour, transformations

If you want our help with your homework and are curious at this moment to see our selection of topics where change will be more pronounced, we have listed 10 words that changed our life in this period, and would be our selection:

1. *Digital*: Companies and people have moved irreversibly into the digital era. We have seen 5-year goals achieved in 20 days. The 'online' model of acquisition of services, content, and others will become preponderant; physical spaces will have to adapt to this, experimenting with reduction in the speed of growth of shopping areas, among others. Education is also heavily affected and will need to review which activities are to be carried out in the classroom and which virtually. And all of this free content produced will serve the less fortunate, as long as home access is given. If we form an alliance of young people who dominate the digital world and the elderly who know almost everything in terms of concepts and wisdom, we will end up with some wonderful material. Digital services are also here to stay, for example in medical areas and healthcare in general. People have learned to put up with less quality in return for watching what they want, mainly from the larger media companies, beaming direct interviews from people's homes. And by the way, isn't it nice to see the homes of those we have watched from studios all of our lives? It has also affected, irreversibly, culture and the delivery of entertainment, such as the 'live performances' that have attracted millions in all possible ways (engagement, audience, donations, sponsorship), representing a phenomenon in the history of art diffusion.
2. *Home*: the home office, once thought of as something that would not work efficiently, has now shown not only that it works but also that it produces excellent results for administrative positions. We will see a huge reduction in the number of flights and car journeys to meetings etc, because everyone has now adapted to meeting through connecting platforms that work incredibly well. Companies will also notice that they do not need as many people in administrative, commercial, and sales activities; therefore, we believe downsizing is the most probable scenario as is the reduction in demand for commercial properties, downsizing of offices and people (overheads) and reduction in the need for business transportation. Also, the tourism segment may return to growth; since people are now spending more time at home, not travelling, their wish to travel with family and not to stay at home at the weekend may return. This fact may increase the value of living in the countryside, on the outskirts, in smaller centres and less in great urban areas.
3. *Simplicity*: in this isolation period, parts of the population have taken the time to reorganise closets, shelves, and other home compartments; materials are being donated as we realise they are not necessary. We believe that we are now more open to living a simpler life, and the

question ‘Do I need this?’ will be asked more often from now on. This will have an impact on the consumption of many products. We will put greater value on details, small things, places, things made in our regions, our neighbourhoods, wisdom which comes through simplicity. Along these lines, many software (Apps) have been created which will allow for great gains in businesses, connecting supply and demand simply and easily. Moreover, we have engaged in simple delivery models, which have exploded in this period and, judging by what we have seen, they will be sticking around for some time. There is a detrimental side to this behaviour: less consumption means a loss of jobs and this will contribute to the increase in unemployment in the world. We will then need to be creative in thinking of labour alternatives and a minimum income, as well as sustainable forms of inclusion for vulnerable people.

4. *Engagement*: this period of reflection has made people increase their social actions, their will to engage in causes connected in various ways, and we believe this movement shall establish itself for good. Causes, mainly social, will have more supporters and a will to work on common challenges. Solidarity, the adoption of online evaluations, free guidelines, and recommendations to other people, participation in ‘clubs’ and other forms of engagement will increase. In this scenario, the social prominence of companies and people will come up, doing more for the least fortunate.
5. *Neo-collectivism*: in the engagement line mentioned before, we believe in the strengthening of new pro-collective behaviour and, with that, the cooperative and associative models will find significant space and will benefit from the possibility of digital communication with their associated base. Mechanisms of ‘crowd-funding’, creation of communities and other forms of making the small great. Less ‘me’ and more ‘us’, more ‘be’ and less ‘have’. Collective actions will gain a share in our behaviour.
6. *Neo-nationalism*: an increase in evaluation by consumers, of what products are manufactured in the country; and governments may realise that some essential supplies need to be produced internally, or externally with secure supply chains and contracts aimed at reducing dependence on exports. There will be a higher prioritising of research and development, and innovation aimed at local manufacturing. Appreciation of ‘made local’, tourism in the country, among others. A new perception of sovereignty in the world is approaching.
7. *Infotoxication*: During this isolation period, people have been exposed to a brutal volume of information, with media networks and TV dedicated to the same subject 24 hours a day, with the traditional negative reports overlapping the positive ones. Crazy WhatsApp/ WeChat groups and other forms of digital agglomerations created panic, and in many cases highlighted the need for psychological help. But they have also brought some lessons on filtering to parts of the

population. In their own way, people have been trained to select what is relevant, to verify sources, and adjust the volume of information to their tolerance capacity.

8. *Monitoring*: digital systems allied to health needs will make people tolerate the growth of monitoring behaviours. Huge amounts of data will be created that, in one sense, can lead to more efficiency. The trade-off will be loss of privacy. We believe that this will have an enormous impact on public security matters, reducing the propensity to crime and other illegal activities, since the movements of criminals will be more visible and available to authorities. A new phase of transparency is approaching, in which civil society will be able to follow digitally all of the processes that involve the State and its purchases, making comparisons, etc.
9. *Sanitation*: in our opinion, this will be another behavioural change. A lot of knowledge, about health, hygiene, cleanliness, and contamination, among other things, has been shared during this pandemic, and a part of it will stay with the population after the crisis. Health-related research issues and public health systems will gain attention and the State will play a fundamental role in this area, investing in it and ensuring that it is accessible to all.
10. *Nature*: at this time, nature and the environment have been gaining space: an appreciation of its details, species, sunrise and sunset, its preservation, the notion of how polluting urban activities are. Nature will benefit from the time that will be left for contemplation and valuing our existence. Environmental approaches will gain supporters and attention.

We selected these 10 words in an attempt to translate the behavioural changes derived from personal reflections, the isolation period, and quarantine. This personal reflection is of course not true for everyone; it will feed controversy and arguments. However, it is an exercise on what the near future may look like. Three details: (1) not all the population will be affected by these ten words/trends; (2) not all the ten words/trends will affect a certain individual; (3) we don't know for how long they will have an effect. We was affected by all ten, and hope they stay. It is interesting now to reflect on each one of them to understand how these changes will affect businesses, introducing a new configuration. In times of reinvention, this is our contribution to the actions and improvements expected.

References

- Abate, G.T., Francesconi, G.N. & Getnet, K. (2014). Impact of agricultural cooperatives on smallholders' technical efficiency: evidence from Ethiopia. *SSRN Electronic Journal* 85(2): 257-286. <https://doi.org/10.2139/ssrn.2225791>.
- Adams, D.C. & Salois, M.J. (2010). Local versus organic: a turn in consumer preferences and willingness-to-pay. *Renewable Agriculture and Food Systems* 25 (4): 331-341. <https://doi.org/10.1017/S1742170510000219>
- Agência Nacional do Petróleo, Gás Natural e Biocombustível (ANP) (2020). Biometano. Available at: <http://www.anp.gov.br/biocombustiveis/biometano>.
- Altman, M. (2015). Cooperative organizations as an engine of equitable rural economic development. *Journal of Co-Operative Organization and Management* 3(1): 14-23. <https://doi.org/10.1016/j.jcom.2015.02.001>.
- Andrews, K.R. (1987). *The concept of corporate strategy* (3rd ed.). Homewood, IL: Richard D. Irwin.
- Angus, A. & Westbrook, G. (2019). *Top 100 consumer trends 2019*. Euromonitor International.
- Ansoff, H.I. (1965). *Corporate strategy: an analytic approach to business police for growth and expansion*. New York: McGraw-Hill.
- Antia, K.D., Zheng X. & Frazier, G. (2013). Conflict management and outcomes in franchise relationships: the role of regulation. *Journal of Marketing Research* 50(5): 577-589.
- Arya, A. & Mittendorf, B. (2011). Supply chains and segment profitability: how input pricing creates a latent cross-segment subsidy. *The Accounting Review* 86(3): 805-824.
- Asioli, D., Aschemann-Witzel, J., Caputo, V., Vecchio, R., Annunziata, A., Næs, T., and Varela, P. (2017). Making sense of the 'clean label' trends: a review of consumer food choice behavior and discussion of industry implications. *Food Research International* 99: 58-71.
- Atuahene-Gima, K. (1996). Market orientation and innovation. *Journal of Business Research* 35: 93-103.
- Backer, G.A. (2003). Strategic planning and financial performance in the food processing sector. *Review of Agricultural Economics* 25(2): 470-482.
- Bansal, P. (2002). The corporate challenges of sustainable development. *Academy of Management Journal* 16(2): 122-131.
- Batalha, M.O. (ed.). (2009). *Gestão agroindustrial* (3rd ed.). São Paulo: Atlas.
- Batat, W., Peter, P.C., Moscato, E.M., Castro, I.A., Chan, S., Chugani, S. & Muldrow, A. (2018). The experiential pleasure of food: a savoring journey to food well-being. *Journal of Business Research* 100: 392-399.
- Beer, M. & Eisenstat, R. (2000). The silent killers of strategy implementation and learning. *Sloan Management Review* 41(4): 29-40.
- Belk, R.W. (1975). Situational variables and consumer behavior. *Journal of Consumer Research* 2: 157-164.

References

- Besanko, D., Dranove, D. & Shanley, M. (2000). *Economics of strategy*. New York, NY: John Wiley and Sons.
- Beske, P., Koplin, J. & Seuring, S. (2008). The use of environmental and social standards by German first-tier suppliers of the Volkswagen AG. *Corporate Social Responsibility and Environmental Management* 15(2): 63-75. <https://doi.org/10.1002/csr.136>
- Bhargava, H.K. (2012). Retailer-driven product bundling in a distribution channel. *Marketing Science* 31(6): 1014-1021.
- Bialoskorski Neto, S. (2012). *Economia e Gestão de Organizações Cooperativas* (2nd ed.). São Paulo: Atlas.
- Boniface, P. (2016). *Tasting tourism: travelling for food and drink*. New York, NY: Routledge.
- Bowen, F.E., Cousins, P.D., Lamming, R. C. & Farukt, A.C. (2001). The Role of Supply Management Capabilities in Green Supply. *Production and Operations Management* 10(2): 174-189. <https://doi.org/10.1111/j.1937-5956.2001.tb00077.x>.
- Brečić, R., Mesić, Ž. & Cerjak, M. (2017), Importance of intrinsic and extrinsic quality food characteristics by different consumer segments. *British Food Journal* 119(4): 845-862. <https://doi.org/10.1108/BFJ-06-2016-0284>
- Buainain, A.M., Alves, E., Silveira, J.M. da & Navarro, Z. (2014). *O mundo rural no Brasil do século 21: a formação de um novo padrão agrário e agrícola* (1st ed.). Brasília: Embrapa.
- Buzzell, R.D. & Ortmeier, G. (1995). Channel partnership streamline distribution. *Sloan Management Review* 36(3): 85-96.
- Campomar, M.C. (1982). *Contribuições ao estudo de planejamento e confecção de planos em marketing: uma aplicação em concessionárias de automóveis* (Masters Dissertation). Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto, Ribeirão Preto, SP, Brasil.
- Castro, A.M.G. (2001). *Prospecção de cadeias produtivas e gestão da informação*. *Transinformação* 13(2): 55-72.
- Castro, L.T. & Neves, M.F. (2007). Innovative sales planning and management: a framework proposition. *Innovative Marketing* 3: 7-18).
- Castro, L.T., Neves, M.F. & Scare, R.F. (2015). Eficiência de representação de associações de produtores de cana de açúcar no Brasil. *Organizações Rurais & Agroindustriais* 17: 383-397.
- Cechin, A., Bijmana, J., Pascucci, S., Zylbersztajn, D. & Omta, O. (2012). Quality in cooperatives versus investor-owned firms: evidence from broiler production in Paraná, Brazil. *Managerial and Decision Economics* 34: 230-243. <https://doi.org/10.1002/mde>.
- Chaddad, F. & Rodriguez-Alcalá, M.E. (2010). Inter-organizational relationships in agrifood systems: a transaction cost economics approach. In: Fischer, C. & Hartmann, M. (eds) *Agrifood chain relationships*. Oxford, UK: Cab International, pp 45-60.
- Chandler, A.D. (1962). *Strategy and structure*. Cambridge: MIT Press.

- Charan, R. & Colvin, G. (1999). Why CEOs fail it's rarely for lack of smarts or vision: most unsuccessful CEOs stumble because of one simple, fatal shortcoming. *Fortune* 21 June. Available at: https://archive.fortune.com/magazines/fortune/fortune_archive/1999/06/21/261696/index.htm.
- Chintagunta, P.K., Chu J. & Cebollada, J. (2012). Quantifying transaction costs in online/off-line grocery channel choice. *Marketing Science* 31(1): 96-114. <https://doi.org/10.1287/mksc.1110.0678>
- Clay, P.M. & Feeney, R. (2019). Analyzing agribusiness value chains: a literature review. *International Food and Agribusiness Management Review* 22(1): 31-46.
- Coase, R.H. (1937). The nature of the firm. *Economica* 4(16): 386-405.
- Cônsoli, M.A., Prado, L.S. do & Marino, M.K. (2011). *Agrodistribuidor: o futuro da distribuição de insumos no brasil*. Ribeirão Preto, São Paulo: Markestrat.
- Cook, M.L. & Iliopoulos, C. (2016). Generic solutions to coordination and organizational costs: informing cooperative longevity. *Journal of Chain and Network Science* 16(1): 19-27.
- Coughlan, A.T., Anderson, E., Stern, L.W. & Ei-Ansary, A.I. (2002). *Canais de marketing e distribuição*. 6th ed. Porto Alegre: Bookman, 461 pp.
- David, F.R. (2002). *Strategic management: Concepts and cases* (9th ed.). New Jersey: Prentice Hall.
- Davis, J.H. & Goldberg, R.A. (1957). *A concept of agribusiness*. Boston: Harvard University.
- De Vita, C.L.R. (2015). Contratos: conflitos e soluções. In: Zylbersztajn, D., Neves, M.F. & Caleman, S.M.Q. (eds) *Gestão de sistemas de agronegócio*, pp. 93-105.
- De-Magistris, T., Gracia, A. and Barreiro-Hurle, J. (2017). Do consumers care about European food labels ? An empirical evaluation using best-worst method. *British Food Journal* 119(12): 2698-2711.
- Digman, L.A. (1990). *Strategic management: Concepts, decisions, cases* (2nd ed.). Boston: BPI Irwin.
- Draganska, M., Klapper, D. & Villas-Boas, S.B. (2010). A larger slice or a larger pie? An empirical investigation of bargaining power in the distribution channel. *Marketing Science* 29(1): 57-74.
- Drucker, P.F. (1954). *The practice of management*. New York: Harper & Row.
- Dyllick, T. & Hockerts, K. (2002). Beyond the business case for corporate sustainability. *Wiley InterScience* 11: 130-141.
- Elkington, J. (1998). Partnerships from cannibals with forks: the triple bottom line of 21st-century business. *Environmental Quality Management* 8: 37-51. <https://doi.org/10.1002/tqem.3310080106>.
- Eriksen, P.J. (2008). Conceptualizing food systems for global environmental change research *Global Environmental Change* 18: 234-245.
- Farina, E.M.M.Q. (1999). Competitividade e coordenação de sistemas agroindustriais: um ensaio conceitual. *Gestão & Produção* 6(3): 147-161. <https://doi.org/10.1590/S0104-530X1999000300002>.
- Farina, E.M.M.Q., Azevedo, P.F., de & Saes, M.S.M. (1997). *Competitividade: mercado, estado e organizações*. São Paulo: Singular.

References

- Galaskiewicz, J. & Wasserman, S. (1989). Mimetic processes within an interorganizational field: an empirical test. *Administrative Science Quarterly* 34(3): 454-479.
- Giampietri, E., Finco, A. & Del Giudice, T. (2015). Exploring consumers' attitude towards purchasing in short food supply chains. *Quality – Access to Success* 16: 135-141.
- Gilligan, C. & Wilson, R.M.S. (2003). *Strategic marketing planning*. Linacre House: Butterworth-Heinemann.
- Gimenes, R.M.T. & Gimenes, F.M.P. (2006). Agronegócio cooperativo: a transição e os desafios da competitividade. *Revista de Ciências Empresariais Da UNIPAR* 7(1): 33-46.
- Giraldi, J.M.E. & Campomar, M.C. (2005). Implementação eficaz de planos de marketing. *Revista eletrônica de gestão de negócios*, 1(3), 37-54. Available at: <https://www.unisantos.br/mestrado/gestao/egesta/artigos/43.pdf>.
- Godfray, H.C.J., Crute, I.R., Haddad, L., Lawrence, D., Muir, J.F., Nisbett, N., Pretty, J., Robinson, S., Toulmin, C. & Whiteley, R. (2010). The future of the global food system. *Philosophical Transactions of the Royal Society* 365: 0180. <https://doi.org/10.1098/rstb.2010.0180>
- Grant, R.M. (2010). *Contemporary strategy analysis* (7th ed.). Chichester: John Wiley & Sons.
- Guerreiro, R. & Souza, R.P. (2015). Um estudo sobre percepções de importância de atividades do processo de gestão e barreiras à implementação do planejamento estratégico. *Revista Universo Contábil* 11(1): 88-104.
- Guimarães, G.M.A. (2010). Agronegócio, desenvolvimento e sustentabilidade: um estudo de caso em Rio Verde, Goiania. Doctoral thesis Universidade Federal de Goiás, 172 pp. Available at: <https://repositorio.bc.ufg.br/tede/bitstream/tde/332/1/Tese%20Gislene%20M%20A%20Guimaraes%20CIAMB%202010.pdf>.
- Guo, L. & Iyer, G. (2010). Information acquisition and sharing in a vertical relationship. *Marketing Science* 29(3): 483-506.
- Guo, L. & Iyer, G. (2013). Multilateral bargaining and downstream competition. *Marketing Science* 32(3): 411-430.
- Guo, M.X. (2010). Study on functions of the agriculture cooperative in food safety. *Agriculture and Agricultural Science Procedia* 1: 477-482. <https://doi.org/10.1016/j.aaspro.2010.09.060>
- Hahn, T., Pinkse, J., Preuss, L. & Figge, F. (2014). Tensions in corporate sustainability: towards an integrative framework. *Journal of Business Ethics* 127(2): 297-316. <https://doi.org/10.1007/s10551-014-2047-5>
- Headey, D. & Fan, S. (2008). Anatomy of a crisis: the causes and consequences of surging food prices. *Agricultural Economics* November 39: 375-391. <https://doi.org/10.1111/j.1574-0862.2008.00345.x>
- Hedin, D.I. (2019). Megatrends in global food: which mountains to climb. *Euromonitor International*. Available at: <https://tinyurl.com/y45pf7uz>.
- Heide, J.B., Wathne, K.H. & Rokkan, A.I. (2007). Interfirm monitoring, social contracts, and relationship outcomes. *Journal of Marketing Research* 44(3): 425-433.

- Heide, M. & Olsen, O.S. (2018). The use of food quality and prestige-based benefits for consumer segmentation. *British Food Journal* 120(10): 2349-2363.
- Henderson, B.D. (1984). *The logic of business strategy*. Cambridge: Ballinger.
- Hill, C.W.L. (1990). Cooperation, opportunism and the invisible hand: implications for transaction cost theory. *Academy of Management Review* 15(3): 500-513.
- Huchet-Bourdon, M. and Korinek, J. (2011). To what extent do exchange rates and their volatility affect trade? *OECD Trade Policy Papers*, No. 119, OECD Publishing. <https://doi.org/10.1787/5kg3slm7b8hg-en>
- Jaeger, S.R., Hort, J., Porcherot, C., Ares, G., Pecore, S. & MacFie, H.J.H. (2017). Future directions in sensory and consumer science: four perspectives and audience voting. *Food Quality and Preference* 56 B (march): 301-309.
- Jain, S.C. (2000). *Marketing planning & strategy* (6th ed.). Cincinnati: Thomson Learning.
- Jamali, D. (2015). Insights into triple bottom line integration from a learning organization perspective. *Business Process Management* 12(6): 809-821. <https://doi.org/10.1108/14637150610710945>
- Jank, M.S. & Nassar, A.M. (2000). Competitividade e globalização. In: Zylbersztajn, D. & Neves, M.F. *Economia e gestão de negócios agroalimentares*. Pioneira Thomson Learning, pp. 137-158.
- Jap, S.D., Robertson, D.C., Rindfleisch A. & Hamilton, R. (2013). Low-stakes opportunism. *Journal of Marketing Research* 50(1): 216-227.
- Jaworski, B.J. & Kohli, A.K. (1993). Market orientation: antecedents and consequences. *Journal of Marketing* 57: 53-70.
- Jennings, P.D. & Zandbergen, P.A. (1995). Ecologically sustainable organizations: an institutional approach. *The Academy of Management Review* 20: 1015-1052. <https://doi.org/10.2307/258964>
- Jensen-Auermann, T., Adams, I. & Doluschitz, R. (2018). Trust – factors that have an impact on the interrelations between members and employees in rural cooperatives. *Journal of Co-operative Organization and Management* 6: 100-110.
- Kaplan, R.S. & Norton, D.P. (1992). The balanced scorecard: measures that drive performance. *Harvard Business Review* 70(1): 70-79.
- Kaplan, R.S. & Norton, D.P. (1997). *A estratégia em ação: Balanced scorecard* (14th ed.). Rio de Janeiro: Campus.
- Kaplan, R.S. & Norton, D.P. (2001). *Organização orientada para a estratégia: como as empresas que adotam o balanced scorecard prosperam no novo ambiente de negócios*. Rio de Janeiro: Campus.
- Kaplan, R.S. & Norton, D.P. (2004). *Mapas Estratégicos: convertendo ativos intangíveis em resultados tangíveis* (7th ed.). Rio de Janeiro: Elsevier.
- Kaplan, R.S. & Norton, D.P. (2008). *A execução premium: a obtenção da vantagem competitiva através do vínculo da estratégia com as operações de negócios*. Rio de Janeiro: Elsevier.
- Kearney, J., (2010) Food consumption trends and drivers. *Philosophical Transactions of the Royal Society* 365: 2793-2807.
- Keith, R.J. (1960). The marketing revolution. *Journal of Marketing* 24: 35-38.

References

- Kim, S.K., McFarland R.G., Kwon S., Son S. & Griffith D.A. (2011). Understanding governance decisions in a partially integrated channel: a contingent alignment framework. *Journal of Marketing Research* 48(3): 603-616.
- Klag, M. & Langley, A. (2014). Critical junctures in strategic planning: understanding failure to enable success. *Organizational Dynamics* 43(4): 274-283.
- Kotler, P. (2000). *Administração de marketing: análise, planejamento, implementação e controle*. São Paulo: Prentice Hall.
- Kozlenkova, I.V., Samaha, S.A. & Palmatier, R.W. (2014). Resource-based theory in marketing. *Journal of the Academy of Marketing Science* 42(1): 1-21.
- Kraft, M., Goetz, O., Mantrala, M., Sotgiu, F. & Tillmans, S. (2015). The Evolution of Marketing Channel Research Domains and Methodologies: An Integrative Review and Future Directions. *Journal of Retailing* 91(4): 569-585.
- Kumar, N. and Kapoor, S. (2017). Do labels influence purchase decisions of food products? Study of young consumers of an emerging market. *British Food Journal* 119(2): 218-229.
- Lafley, A.G. & Martin, R.L. (2013). *Playing to win: how strategy really works*. Boston: Harvard Business Press.
- Lambin, J.J. (2012). *Market-driven management: strategic and operational marketing* (3rd ed.). United Kingdom: Palgrave Macmillan.
- Las Casas, A.L. (1999). *Plano de marketing para micro e pequena empresa*. São Paulo: Atlas.
- Lazzarini, S.G., Chaddad, F.R. & Cook, M. (2001). Integrating supply and network analysis: the study of netchains. *Journal on Chain and Network Science* 1(1): 7-22.
- Levitt, T. (1960). Marketing myopia. *Harvard Business Review* (Jul./Aug.): 3-13.
- Liang, Q. & Hendrikse, G. (2016). Pooling and the yardstick effect of cooperatives. *Agricultural Systems* 143: 97-105. <https://doi.org/10.1016/j.agsy.2015.12.004>
- Lignani, J.B. Sichieri, R., Burlandy, L. & Salles-Costa, R. (2010) Changes in food consumption among the Programa Bolsa Família participant families in Brazil. *Public Health Nutrition* 14: 785-792.
- Lopes, F.F. (2012). *Agroperformance: um método de planejamento e gestão estratégica para empreendimentos agro visando alta performance*. São Paulo: Atlas.
- Lusch, R.F. & Brown, J.R. (1996). Interdependency, contracting and relational behavior in marketing channels. *Journal of Marketing* 60(4): 19-38.
- Lyons, T.P. & Connolly, A.J. (2012). The people question: creating global advantage through global talent initiatives. *International Food and Agribusiness Management Review* 15: 19-24.
- Macedo, A.S., Sousa, D.N. & Amodeo, N.B.P. (2014). A organização do quadro social na interface entre gestão empresarial e social de cooperativas. *Desenvolvimento Em Questão* 12(26): 177-205.
- Manning, L. (2016). Food integrity. *British Food Journal* 119(1): 2-6.
- Manning, L., Baines, R.N. and Chadd, S.A. (2007). Quality assurance: a study of the primary poultry producers' perspective. *British Food Journal* 109(4): 291-304.
- Mascaraque, M. (2019). *Disrupted or distracted? Understanding insurgent brands and new business models in food*. Euromonitor International.

- McCarthy, B., Liu, H. and Chen, T. (2016). Innovations in the agro-food system: adoption of certified organic food and green food by Chinese consumers. *British Food Journal* 118(6): 1334-1349.
- McKinsey & Company (2019). *The global economy: navigating a world of disruption*. McKinsey & Company. Available at: <https://tinyurl.com/yd6ldcg>.
- McNeil, I.R. (1974). The many futures of contracts. *Southern California Law Review* 47(3): 691-816.
- Ménard, C. (2002). *The economics of hybrid organizations*. Paris: MIT.
- Mintzberg, H. (1994). The fall and rise of strategic planning. *Harvard Business Review*. Available at: <https://hbr.org/1994/01/the-fall-and-rise-of-strategic-planning>.
- Mintzberg, H., Quinn, J.B. & James, R.M. (1988). *The strategy process: concepts, contexts and cases*. Englewood Cliffs, NJ: Prentice-Hall.
- Moore, J. L. (1993). *Writers on strategy and strategic management*. London: Penguin Books.
- Morvan, Y. (1985). *Fondements d'économie industrielle*. Paris: Econômica.
- Mossberg, L. & Eide, D. (2017). Storytelling and meal experience concepts. *European Planning Studies* 25(7): 1184-1199.
- Munck, L. & Souza, R.B. (2009). Competence management and corporate sustainability: searching for an analytic path. *Revista Eletrônica Gestão e Sociedade* 3(6): 254-288.
- Munck, L., Dias, B.G. & de Souza, R.B. (2008). Sustentabilidade organizacional: uma análise a partir da institucionalização de práticas ecoeficientes. *Revista Brasileira de Estratégia* 1(3): 285-295.
- Nassar, A.M. (2001). *Eficiência das associações de interesse privado nos agronegócios brasileiros*. Dissertação (Mestrado) – Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo, São Paulo, Brasil, 236 p.
- Nassar, A.M. & Zylberszajn, D. (2004). Associações de interesse no agronegócio brasileiro: análise de estratégias coletivas. *Revista de Administração da Universidade de São Paulo* 39(2): 141-152.
- Neves, M.F. (2000). Marketing no agribusiness. In: Zylbersztajn, D. & Neves, M.F. *Economia e gestão de negócios agroalimentares*. Pioneira Thomson Learning, pp. 109-135.
- Neves, M.F. (2005). *Planejamento e gestão estratégica de marketing*. São Paulo: Atlas.
- Neves, M.F. (2008). Método para planejamento e gestão estratégica de sistemas agroindustriais (GESis). *Revista de Administração da Universidade de São Paulo* 43(4): 331-343.
- Neves, M.F. (2013). *Demand Driven Strategic Planning*. New York: Routledge.
- Neves, M.F. (2014a), Characteristics of booming food markets. *China Daily*.
- Neves, M.F. (2014b). *The future of food business: the facts, the impacts and the acts*. 2nd ed. Toh Tuck, Singapore: World Scientific Publishing.
- Neves, M.F. (2017). Improving sustainability actions and reports for food and agribusiness companies. *Fruit Processing* 394-395.
- Neves, M.F. & Trombin, V.G. (2017). Foodpairing: a key to generation Z. *International Journal of the Fruit Processing*, 126-127.

References

- Neves, M.F., Kalaki, R.B., Rodrigues, J.M. & Gerardi, F.L. (2017). Sugar cane growers situation in 2016. In: 27th Annual IFAMA World Conference: Technology, Investment, and People: Business Solutions for Food Security, June 18-21th, 2017, Miami, Florida, USA. Proceedings. Washington D.C. (USA): International Food and Agribusiness Management Association (IFAMA).
- Neves, M.F., Kalaki, R.B., Rodrigues, J.M. & Gray, A.W. (2019). Strategic planning and management of food and agribusiness chains: The chainplan method (framework). *Revista Brasileira de Gestao de Negocios* 21(4): 628-646. <https://doi.org/10.7819/rbgn.v21i4.4012>
- Neves, M.F., Trombin, V.G., Kalaki, R.B. & Lopes, F.F. (2015). *A laranja do campo ao copo*. Atlas, Ribeirão Preto, Brazil.
- New, S.J. (1997). The scope of supply chain management research. *Supply Chain Management: An International Journal* 2(1): 15-22.
- Nieto-Rodriguez, A. (2016, December 13). How to prioritize your company's projects. *Harvard Business Review*.
- Nijs, V.R., Misra, K. & Hansen, K. (2013). Outsourcing retail pricing to a category captain: the role of information firewalls. *Marketing Science* 33(1): 66-81.
- OCB. (2017). O que é cooperativismo? Available at: <http://www.ocb.org.br/o-que-e-cooperativismo>.
- OECD/FAO (2015), *OECD-FAO agricultural outlook 2015*, OECD Publishing, Paris.
- OECD/FAO (2019), *OECD-FAO agricultural outlook 2019-2028*. OECD Publishing, Paris, https://doi.org/10.1787/agr_outlook-2019-en
- Oliveira, D. de P.R. (2015). *Manual de gestão das cooperativas: uma abordagem prática* (7th ed.). São Paulo: Atlas.
- Oliveira, D.P.R. (2006). *Planejamento estratégico: conceitos, metodologia e práticas* (6th ed.). São Paulo: Atlas.
- Olson, M. (1999). *A lógica da ação coletiva: os benefícios públicos e uma teoria dos grupos sociais*. São Paulo: EDUSP.
- Omta, S.W.F., Trienekens, J.H. & Beers, G. (2001). Chain and network science: a research framework. *Journal on Chain and Network Science* 1(1): 1-6.
- O'Regan, N. & Ghobadian, A. (2002). Formal strategic planning: the key to effective business process management? *Business Process Management Journal* 8(5): 416-429.
- Otsuka, K. (2013), Food insecurity, income inequality, and the changing comparative advantage in world agriculture. *Journal of Agricultural Economics* 60: 298-317.
- Palmatier, R.W., Houston, M.B., Dant, R.P. & Grewal, D. (2013). Relationship velocity: toward a theory of relationship dynamics. *Journal of Marketing* 77(1): 13-30.
- Pearce II, J.A. & Robinson, R.B., (2014) *Strategic management: strategy formulation and implementation control* (14th ed.). New York: Mcgraw Hill Education.
- Perdonsini, D., Büttgenbender, P. L., Nonnemacher, B., Sparenberger, A. & Zamberlan, L. (2015). Pesquisa em gestão de cooperativas no noroeste gaúcho: explorando temas emergentes. In XXIII Seminário de Iniciação Científica (Vol. 23). <https://doi.org/10.13140/2.1.4451.3280>
- Planet Retail. (2017). *Store of the future*. Planet Retail Limited, Kingsway, London, UK.

- Porter, M.E. (1980). *Competitive strategy: techniques for analyzing industries and competitors*. New York: Free Press.
- Porter, M.E. (1991). Towards a dynamic theory of strategy. *Strategic Management Journal* 12: 95-117.
- Prahalad, C.K. & Hamel, G. (1990, May-June). The core competence of the corporation. *Harvard Business Review*.
- Regattieri, A., Gamberi, M. & Manzini, R. (2007). Traceability of food products: general framework and experimental evidence. *Journal of Food Engineering* 81(2): 347-356.
- Richey, G.R., Jr., Tokman M. & Dalela, V. (2010). Examining collaborative supply chain service technologies: a study of intensity, relationships and resources, *Journal of the Academy of Marketing Science* 38(1): 71-89.
- Rigby, D. & Bilodeau, B. (2015, June 10). Management tools & trend 2015. Bain & Company. Available at: <https://www.bain.com/insights/management-tools-and-trends-2015>.
- Rindfleisch, A. & Heide, J.B. (1997). Transaction cost analysis: past, present and future applications. *Journal of Marketing* 61(4): 30-54.
- Sacomano Neto, M. & Truzzi, O.M.S. (2004). Configurações estruturais e relacionais da rede de fornecedores: uma resenha compreensiva. *Revista de Administração da Universidade de São Paulo* 39(3): 255-263.
- Saes, M. S. (2000). Intuições e organizações. In: Zylbersztajn, D. & Neves, M.F. (eds) *Economia e gestão de negócios agroalimentares*. São Paulo: Pioneira.
- Samaha, S.A., Palmatier R.W. & Dant, R.P. (2011). Poisoning relationships: perceive unfairness in channels of distribution. *Journal of Marketing* 75(3): 99-117.
- Seuring, S. & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. *Journal of Cleaner Production* 16(15): 1699-1710. <https://doi.org/10.1016/j.jclepro.2008.04.020>
- Sheth, J. (1986). Global markets or global competition? *Journal of Consumer Marketing* 3 (2): 9-11.
- Silva, A.L., da. & Batalha, M.O. (2010) Marketing estratégico aplicado ao agronegócio. In: Batalha, M.O. (ed.) *Gestão agroindustrial* (3rd ed., vol. 1). São Paulo: Atlas, pp. 113-183.
- Soriano, R.L., Torres, M.J.M. & Rosaleñ, R. C. (2010). Methodology for sustainability strategic planning and management. *Industrial Management & Data Systems* 110(2): 249-268.
- Spielman, D.J., Byerlee, D., Alemu, D. & Kelemework, D. (2010). Policies to promote cereal intensification in Ethiopia: the search for appropriate public and private roles. *Food Policy* 35(3): 185-194. <https://doi.org/10.1016/j.foodpol.2009.12.002>
- Spralls, S.A., III, Hunt, S.D. & Wilcox, J.B. (2011). Extranet use and building relationship capital in interfirm distribution networks: the role of extranet capability. *Journal of Retailing* 87(1): 59-74.
- Steenkamp, J-B.E.M. & Geyskens, I. (2012). Transaction cost economics and the roles of national culture: a test of hypotheses based on Inglehart and Hofstede. *Journal of the Academy of Marketing Science* 40(2): 252-270.
- Thompson, A.A. & Strickland, A.J. (2000). *Planejamento estratégico: elaboração, implementação e execução*. São Paulo: Pioneira.

References

- Tortia, E.C., Valentinov, V.L. & Iliopoulos, C. (2013). Agricultural cooperatives. *Journal of Entrepreneurial and Organizational Diversity* 2(1): 23-36.
- Trail, B. & Grunert, K.G. (1997). *Product and process innovation in the food industry*. London: Blackie Academic & Professional.
- United Nations (2016). ONU destaca importância das cooperativas para a criação de empregos no mundo. Available at: <https://nacoesunidas.org/onu-destaca-importancia-das-cooperativas-para-a-criacao-de-empregos-no-mundo/>.
- United Nations (2018). ONU anuncia Pacto Global de Mídia para conscientizar sobre os Objetivos de Desenvolvimento Sustentável. Available at: <https://nacoesunidas.org/onu-anuncia-pacto-global-de-midia-para-conscientizar-sobre-os-objetivos-de-desenvolvimento-sustentavel/>.
- Valerio, F.R. & Neves, M.F. (2015). O que tira o sono do produtor? *AgroAnalysis* 35(4): 23-24.
- Valerio, F.R. & Neves, M.F. (2018). Strategic planning in cooperatives: a comparison of Brazilian organizations. In: 28th International Food and Agribusiness Management Association World Conference, June 23-27th, 2018, Pilar, Argentina. Proceedings. Washington D.C. (USA): International Food and Agribusiness Management Association (IFAMA)
- Von Bertalanffy, L. (1972). The history and status of general systems theory. *Academy of Management Journal* 15(4): 407-426. <https://doi.org/10.5465/255139>
- Wang, D.T., Gu F.F. & Dong, M.C. (2013). Observer effects of punishment in a distribution network. *Journal of Market Research* 50(5): 627-643.
- Watson, G.F., IV, Worm, S., Palmatier, R.W. & Ganesan, S. (2015). The evolution of marketing channels: trends and research directions. *Journal of Retailing* 91(4): 546-568.
- WCED, U. (1987). *Our common future – the Brundtland report*. Report of the World Commission on Environment and Development. Oxford University Press: Oxford. Available at: <https://tinyurl.com/y2b2njfx>.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal* 5(2): 171-180.
- Wessel, J.R. (1993). The strategic human resource management process in practice. *Planning Review* 21(5): 37-39.
- Westwood, J. (1995). *Plano de marketing*. São Paulo: Makron Books.
- Williamson, O.E. (1985). *The economic institutions of capitalism*. New York: Free Press.
- Woo, E. & Kim, Y.G. (2018). Consumer attitudes and buying behavior for green food products from the aspect of green. *British Food Journal* 121(2): 320-332.
- Wood, M.B. (2004). *Marketing planning: principles into practice*. Harlow: Prentice Hall.
- World Bank (2020), World Bank Data IBRD-IDA – rural population (% of total population). Available at: <https://data.worldbank.org/indicator/sp.rur.totl.zs>.
- Wright, P., Kroll, M.K. & Parnell, J. (2000). *Administração estratégica: conceitos*. São Paulo: Atlas.
- Youn, H. & Kim, J. (2017). Effects of ingredients, names and stories about food origins on perceived authenticity and purchase intentions. *International Journal of Hospitality Management* 63:11-21. <https://doi.org/10.1016/j.ijhm.2017.01.002>

- Zhao, Y. & Zhang, J. (2017). Consumer health information seeking in social media: a literature review. *Health Information & Libraries Journal* 34: 268-283.
- Zulian, A., Dórr, A.C. & Almeida, S.C. (2013). Citricultura e agronegócio cooperativo no Brasil. *Revista Eletrônica Em Gestão, Educação e Tecnologia Ambiental* 11(11). <https://doi.org/10.5902/223611708700>
- Zylbersztajn, D. (1995). Estruturas de governança e coordenação do agribusiness: uma aplicação da nova economia das instituições. Tese de Livre Docente do Departamento de Administração da Faculdade de Economia, USP, São Paulo. Available at: <https://tinyurl.com/y3m87x8o>.
- Zylbersztajn, D. (1996). Entre o mercado e a hierarquia: análise de casos de quebra contratual no agribusiness. Estudos temáticos. São Paulo: PENSA.
- Zylbersztajn, D. & Farina, E.M.M.Q. (1999). Strictly coordinated food-systems: exploring the limits of the Coasian firm. *International Food and Agribusiness Management Review* 2(2): 249-265.
- Zylbersztajn, D. & Neves, M.F. (ed.). (2000). *Economia e gestão dos negócios agroalimentares*. São Paulo: Pioneira.

