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Challenges and changes faced by the food industry in multichannel distribution

Desafios e mudanças gerados na atuação da indústria de alimentos em multicanais de distribuição

Desafíos y cambios generados en las operaciones de la industria alimentaria en la distribución multicanal

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ABSTRACT

Goal: In searching for alternative means to reach consumers, food processing companies often experiment with new distribution channels, which brings about challenges and organizational changes. Thus, this study aimed to investigate the challenges and changes generated by the adoption of a multichannel distribution strategy in food processing companies. **Methodologt/approach:** This qualitative study comprised two phases, including a documentary survey to identify food production sectors and potential companies to be included in the study and a survey of 14 food industries in São Paulo State that distribute their products across multiple distribution channels. **Originality/relevance:** The intrinsic characteristics of a multichannel strategy make it highly complex to implement and manage. This study provides insight into the challenges encountered by food processing companies, enabling them to assess their readiness to adopt such a strategy. **Main findings:** Accessing new markets, coordinating multiple channels, and managing conflicts between channels were the main challenges reported by food companies. Some challenges and changes were associated with company size and channel structure. **Theoretical contributions:** It was found that the challenges and changes documented in the literature indeed occurred in the studied food processing companies, although the degree varied according to company size and channel structure. **Management Contribution:** The findings of this study enable companies to better design strategies for controlling and managing a multichannel distribution system, improving their results, and reducing retailers' power over channels.

Keywords: Distribution channels. Multichannel strategy. Competitiveness.

RESUMO

Objetivo: Empresas processadoras de alimentos, ao buscar formas alternativas de contato com o consumidor, experimentam novos canais de distribuição, que traz diversos desafios e mudanças organizacionais. Portanto, objetivou-se investigar os desafios enfrentados e as mudanças geradas na utilização da estratégia multicanal de distribuição por empresas processadoras de alimentos. **Metodologia/abordagem:** Este estudo qualitativo baseia-se em duas fases de pesquisa, sendo um levantamento documental para identificar os segmentos alimentares produtivos e possíveis empresas para o estudo; e uma *survey*, composta por 14 empresas de alimentos do estado de São Paulo, que distribuem seus produtos por múltiplos canais. **Originalidade/relevância:** A estratégia multicanal tem características que tornam sua implementação e gerenciamento altamente complexos. Este estudo traz informações sobre os desafios que as empresas podem enfrentar e permite que avaliem sua capacidade de adotar tal estratégia. **Principais resultados**: Identificou-se que acessar novos mercados, coordenar os múltiplos canais e gerir os conflitos entre canais foram os principais desafios apontados pelas empresas, e que alguns desafios e mudanças ocorridas estão correlacionados com o porte da empresa e o tipo de estrutura de canal utilizada. **Contribuições teóricas:** Constatou-se que os desafios e mudanças observadas na literatura realmente ocorrem com as empresas processadoras de alimentos estudadas, com maior ou menor intensidade, dependendo do porte e tipos de canais utilizados. **Contribuições para a gestão:** O resultado desse estudo possibilita que empresas delineiem melhores estratégias para controle e gerenciamento de multicanais de distribuição, proporcionando melhora de seus resultados e redução do poder do varejo no controle dos canais.

Palavras-chave: Canais de distribuição. Estratégia multicanal. Competitividade.

RESUMEM

Objetivo: Las empresas procesadoras de alimentos, al buscar formas alternativas de contactar a los consumidores, experimentan con nuevos canales de distribución, lo que trae consigo varios desafíos y cambios organizacionales. Por lo tanto, el objetivo fue investigar los desafíos enfrentados y los cambios generados en el uso de la estrategia de distribución multicanal por parte de las empresas procesadoras de alimentos. **Metodología/enfoque:** Este estudio cualitativo se basa en dos fases de investigación, siendo un levantamiento documental para identificar segmentos productivos de alimentos y posibles empresas para el estudio; y una encuesta, compuesta por 14 empresas de alimentos del estado de São Paulo, que distribuyen sus productos a través de múltiples canales. **Originalidad/relevancia:** La estrategia multicanal tiene características que hacen altamente compleja su implementación y gestión. Este estudio proporciona información sobre los desafíos que las empresas pueden enfrentar y les permite evaluar su capacidad para adoptar dicha estrategia. **Principales resultados:** Se identificó que acceder a nuevos mercados, coordinar múltiples canales y gestionar conflictos entre canales fueron los principales desafíos destacados por las empresas, y que algunos desafíos y cambios ocurridos se correlacionan con el tamaño de la empresa y el tipo de estructura de canales utilizada. **Contribuciones teóricas:** Se encontró que los desafíos y cambios observados en la literatura en realidad ocurren con las empresas procesadoras de alimentos estudiadas, con mayor o menor intensidad, dependiendo del tamaño y tipos de canales utilizados. **Contribuciones a la gestión:** El resultado de este estudio permite a las empresas trazar mejores estrategias para controlar y gestionar la distribución multicanal, mejorando sus resultados y reduciendo el poder de los minoristas en el control de los canales.

Palabras clave: Canales de distribución. Estrategia multicanal. Competitividad.

INTRODUCTION

Choosing how products and services reach the final consumer is one of the most relevant decisions for any company (Silva & Azevedo, 2012). Offering products and services on multiple distribution channels can be a great source of competitive advantage, as it gives consumers the autonomy to choose which channel best suits their needs, culminating in greater consumer loyalty and satisfaction and, consequently, higher financial returns for the company (Du, 2018; Wallace et al., 2004; Zhang et al., 2010). Raza and Govindaluri (2021) underscored that, in the contemporary retail market, physical and online channels are the main means through which consumers acquire products and services. Whereas online stores provide greater variety, lower prices, and greater convenience, physical stores create a unique shopping experience, allowing consumers to interact with the merchandise.

Distribution channel management has taken center stage as a strategic domain of decision-making among entrepreneurs, owing to shifts in consumer behavior, the growing role of technology in contemporary life, the need to reduce distribution costs, and the increased power of distributors over distribution channels, particularly retailers (Rosenbloom, 2002; Verhoef et al., 2015). In accordance with such trends, food processing companies are exploring alternative routes to reach consumers. Their motivations include a desire to circumvent the increased bargaining power of retail companies (Homburg et al., 2020; Knežević et al., 2014; Swinnen & Vandeplas, 2010), understand consumer behavior, and strengthen relationships with consumers (Bouças, 2017a; Faustino, 2018). In the search for these goals, companies typically experiment with a wide variety of channel formats, such as physical stores, online platforms, portable stores, catalogs, phone apps, and sales forces (Hulland et al., 2007; Neslin et al., 2006). There are several notable examples of food processing companies that have developed novel strategies to reach end consumers. For instance, Nestlé introduced the Nescafé Dolce Gusto subscription club, JBS established Swift stores selling exclusive meat products, and Danone launched a specialized nutrition website (Mattos, 2017). Additional examples include Perfetti Van Melle, proprietor of the Mentos, Fruittella, and Chupa Chups brands, which sought to increase product consumption through a multichannel strategy (Bouças, 2017B); Mondelez, which now sells Lacta eggs and Bis Oreo boxes directly to the final consumer through a marketplace (Salles, 2019); and Perdigão, which created a virtual store on the Rappi application (Reportagem SA+, 2019).

Many companies have expanded their operations to digital channels to deliver differentiated, value-added products not found in retail stores, thereby approaching consumers without creating conflicts with other sales channels. Being close to consumers through direct sales not only strengthens the brand but also offers insight into consumers' consumption habits and needs. Ultimately, such benefits translate into competitiveness gains for companies, as observed in the studies of Chen and Lin (2015) and Hsu and Chen (2018). According to Kolbe et al. (2022), a direct sales strategy is applicable not only to large industries but also to small- and medium-sized companies. However, according to the authors, smaller companies may encounter unique challenges in coordinating multiple channels.

Digital channels have gained prominence since 2020, when restrictions on social contact were imposed due to the coronavirus pandemic, announced by the World Health Organization (WHO) on March 11, 2020 (Universidade Aberta do Sistema Único de Saúde [UN-SUS], 2020). As stated by Rezende et al. (2020), the measures taken to reduce the spread of the SARS-CoV-2 virus, such as social distancing, prompted individuals to rethink their consumption behavior, thereby affecting the sales patterns and revenue of organizations. Consequently, companies had to design appropriate strategies for marketing their products and services, ensuring their continuity during and after the pandemic.

Operating on more than one distribution channel brings both benefits and challenges. A multichannel distribution strategy has high managerial complexity, demanding a high level of maturity and, most often, adjustments to the management structure of companies (Rosenbloom, 2002; Silva et al., 2016). It requires creating and managing an integrated channel system in alignment with marketing, logistics, and information management sectors (Kolbe et al., 2022). This article aimed to analyze the challenges and changes arising from the adoption of a multichannel distribution strategy in Brazilian food processing companies. In addition to this introduction, this article contains four sections. The next section examines theoretical perspectives on distribution channels, multichannel strategy, and channel conflict management. Section 3 describes the methodological procedures used in the research. Section 4 presents the findings from a survey with food processing companies. Finally, Section 5 provides some final considerations on the theme.

THEORETICAL PERSPECTIVES ON DISTRIBUTION CHANNELS AND MULTICHANNEL STRATEGIES

Distribution channels

According to Coughlan et al. (2002), Neslin et al. (2006), and Rosenbloom (2002), a distribution channel can be defined as the means by which a company and its customers interact. It is a set of elements involved in the strategic process of making a product available to the final consumer, encompassing from distribution and delivery methods to the store format. In other words, a distribution channel is the relationship of ownership transfer between companies, agents, and individuals. Distribution channels play a crucial role in determining the level of participation of organizations in highly competitive markets. The importance of operating on multiple distribution channels has increased, and so have the difficulties encountered by companies in sustaining competitive advantages (Batalha, 2009) and implementing effective strategies for this complex system (Rosenbloom, 2002).

Factors related to competitiveness gains, increased power of distributors over distribution channels, the need to reduce distribution costs, changes in consumer behavior, and the growing role of technology in contemporary society have drawn the attention of companies and researchers to distribution channel management (Acquila-Natale & Iglesias-Pradas, 2021; Kolbe et al., 2022; Rosenbloom, 2002; Verhoef et al., 2015). As noted by Coughlan et al. (2002), selecting the most appropriate distribution channels and designing a successful management strategy require time and creativity from managers. Moreover, these tasks hold strategic significance and shape the market share and success of an organization. Rosenbloom (2002) and Silva et al. (2016) observed that a multichannel approach has great potential to provide companies with competitive advantages. These long-term strategies are difficult to copy, and their implementation involves a complex network of organizations and individuals. Thus, the successful implementation of a multichannel project depends on the relationship between several agents and organizations.

Casali et al. (2018) emphasized that the choice of a distribution channel must be based on strategic decisions, such as product characteristics, innovation capacity, and changes in the business environment. Decisions regarding channel structure are decisive for effectiveness of marketing strategies, as they can either hamper competitive processes or guarantee the success of the organization. Additionally, the growing power of food retailers over distribution channels has prompted the food industry to reassess its competition strategies and search for novel methods to connect with consumers, without abandoning existing channels.

Multichannel distribution

A multichannel distribution strategy is defined as a set of activities aimed at providing goods or services to consumers through more than one channel. It typically encompasses the following stages: project design, implementation, and evaluation of channels to be acquired, retained, and developed to increase customer value (Neslin et al., 2006; Zhang et al., 2010). According to Saghiri et al. (2018), the term was initially used to represent customer's perspectives, as a multichannel approach allowed customers to engage with the company in different ways and locations. Raza and Govindaluri (2021) noted that, although multichannel strategies have been widely used for almost two decades, the search for channel integration is a more recent phenomenon.

Cai and Lo (2020) argued that multichannel distribution has become a common strategy in our contemporary society. Digitization, social media, big data, and emerging technologies such as artificial intelligence, virtual reality, augmented reality, and blockchain are transforming business models. In the view of Raza and Govindaluri (2021), the success of a business model no longer depends on having to choose between traditional or online channels. Common distribution channels include physical stores, kiosks, catalogs, phone apps, online stores, portable stores, sales forces, game consoles, and location-based services (Gao & Huang, 2021; Neslin et al., 2006). Jo et al. (2021) stated that multichannel shopping has become an umbrella term to designate the several patterns of multichannel behavior.

The advantages of selling products on multiple channels are many. Examples include accessing new markets, creating barriers to competitor entry, enhancing consumer satisfaction, gaining a greater understanding of consumer needs and consumption patterns, customizing sales, improving relationships, improving loyalty, creating value, fostering brand identification through product repositioning and packaging alterations, reducing supply, administration, or transaction costs, and securing competitive advantages through channel integration (Acquila-Natale & Iglesias-Pradas, 2021; Rosenbloom, 2002; Silva et al., 2016; Zhang et al., 2010). However, adopting a multichannel strategy is not without challenges. Acquila-Natale and Iglesias-Pradas (2021), Neslin et al. (2006), and Zhang et al. (2010) highlighted the main challenges faced by companies concerning multichannel operations: channel coordination and its impact on management structure; channel branding and compatibility; transferring existing distribution and information systems to new channels; attracting skilled labor and external capital; using information technology for systematic integration of data across channels; understanding consumer behavior, purchasing decisions, needs, and preferences; and monitoring channel evolution, defining performance metrics, and assessing the results of actions implemented on each channel. In the view of Bouças (2017a), Faustino (2018), and Homburg et al. (2020), challenges may also arise from difficulties in aligning channels and avoiding conflicts with retailers, which can be avoided by having a clear and well-defined strategy. Homburg et al. (2020) noted that multichannel sales systems, especially business-to-business, exhibit significant variations in design, with each system carrying a distinct potential to mitigate or aggravate conflicts between manufacturers and sales partners.

As Silva et al. (2016) observed in their study on direct sales, the primary challenges reported by food industries when implementing a multichannel strategy are the high costs associated with team training and the difficulties in engaging the sales team. On the other hand, food industries acknowledge that consumers regard multichannel distribution as advantageous, appreciating the convenience of receiving products at home and making cashless payments. Food companies perceive direct sales as a powerful strategy to boost customer loyalty through the construction of a continuous relationship.

Li (2023) identified some key factors influencing the success of multichannel projects, including differentiating products and increasing brand recognition, improving e-commerce environments through service optimization, and using customer consumption data from physical channels to better understand the needs and preferences of end consumers, thereby strengthening the online-to-offline relationship. The importance of good coordination between online and offline environments was also noted by Cicea et al. (2023). According to Saghiri et al. (2018), the need to increase channel variety and improve multichannel distribution, while simultaneously ensuring a seamless customer experience across all channels, has increased the complexity of channel integration processes for both the industry and retailers. Nevertheless, Silva et al. (2016) argued for the relevance of traditional channels (i.e., large retail chains) to the industry, as they represent the primary outlet for production, capable of absorbing large volumes of sales and distributing products to a large number of consumers. According to the authors, large retail chains serve as a showcase for manufacturers' brands, and not operating on this channel may represent a loss of more than 10% of the national market share. It can be seen that each channel holds its importance to the food industry, and operating on multiple channels means harnessing more advantages, so long as channels are properly coordinated.

New channels are associated with technological adoption. Cai and Lo (2020) and Priporas et al. (2017) identified that technological advances, such as digitalization, artificial intelligence, virtual reality, mobile apps, and mobile payments, have affected the behavior of consumers from different generations. The authors concluded that companies are adopting smart technologies and changing the management of distribution channels to improve consumers' shopping experiences and remain competitive. This view is corroborated by the perspective of Gao and Huang (2021), who stated that the internet and new digital technologies have created novel possibilities for companies, allowing them to interact with consumers through online and offline channels in a fluid and seamless manner. Hussein and Kais (2021) made an interesting observation: consumers may use different channels throughout the different phases of the purchase decision-making process, which encompasses pre-purchase and information research, purchase, and post-purchase.

According to Chen and Lin (2015) and Hsu and Chen (2018), in the current context of growing technology adoption and intense competition, companies are forced to explore novel and innovative methods to interact with consumers. As observed by Hulland et al. (2007), when seeking new points of contact with consumers, organizations often experiment with a wide variety of channel formats. Du (2018) pointed out that an organization's performance is directly linked to the use of multiple distribution channels, as multichannel consumers tend to be more loyal and satisfied, culminating in increased returns and reduced risk to the business. Conversely, Verhoef et al. (2015) argued that buyers who use online retail channels tend to become less loyal over time because of the ease of comparing options among competitors. This observation underscores the importance of adequately managing and developing adequate marketing strategies for each distribution channel.

As stated by Wallace et al. (2004), it is highly advantageous for companies to cultivate loyal consumers, as consumer acquisition actions entail great expenses and, without repeat purchases, it becomes challenging to recover these costs. According to Dholakia et al. (2010) and Moura et al. (2016), consumers are increasingly integrated into various distribution channels and typically opt for those that best suit their needs. Gao and Huang (2021) explained that multichannel distribution allows consumers to participate in various activities beyond purchasing, highlighting that when consumers invest more time and energy, they develop an ongoing relationship with the company.

METHODOLOGICAL PROCEDURES

This study adopted a qualitative and applied research approach to the theme, based on an exploratory and descriptive investigation. The primary objective was to identify challenges and changes stemming from the adoption of a multichannel distribution strategy in food processing companies. This study was conducted in two phases, namely a documentary survey (first phase) and an online survey (second phase). The documentary survey consisted of analyzing websites, organizational reports, newspapers, magazines, and bulletins of related associations and unions to identify food production sectors and companies that use a multichannel distribution strategy. The identified companies were then invited to participate in the online survey.

The results of the documentary survey were synthesized into a contact list containing the e-mail address and telephone number of companies that met the inclusion criteria, namely food and beverage companies based in São Paulo State, Brazil. Table 1 shows the number of companies selected from each source. It is worth mentioning that some companies appeared in more than one source with different e-mail addresses or telephone numbers. In these cases, all forms of contact were included.

Table 1

Companies selected from magazines and contact lists and invited to participate in the online survey

Revista Exame	Revista Ingredientes e Tecnologias	Estadão – Empresas Mais	List created by the authors – Marília and region	List provided by contributors	Total
53	79	47	273	282	734

Companies selected for application of the online survey (second phase of research) were first contacted via e-mail. The e-mail message contained a link to the questionnaire prepared using Google Forms, a description of the research objectives and questionnaire content, and the affiliated institution of the authors. A statement guaranteed researchers' commitment to maintaining the confidentiality of information concerning the identification of participating companies. The questionnaire contained closed questions rated on a Likert scale. The variables related to challenges encountered by organizations when implementing a multichannel distribution strategy were defined based on the studies of Neslin et al. (2006), Silva et al. (2016), and Zhang et al. (2010). Variables related to changes arising from implementation of a multichannel distribution strategy were defined based on the studies of Araújo and Zilber (2013), Neslin et al. (2006), and Zhang et al. (2010).

Because there were few responses to the questionnaire sent by e-mail, companies were contacted by telephone. The questionnaire was open for participation from September 17, 2019, to March 15, 2020. A total of 17 companies completed the questionnaire. However, three companies (17.65%) reported not using multiple channels to distribute their products to consumers. Thus, 14 companies (82.35%) were included in the final sample for analysis of challenges and changes associated with multichannel distribution.

The collected data were tabulated using SPSS® and Microsoft Excel® software. For frequency analysis, different weights were given to each response, which ranged from completely disagree (lowest score) to completely agree (highest score). The median and mode were used to assess whether the analyzed challenges and changes were pointed out by the majority of participating companies. Median values indicated whether at least 50% of the sample reported, totally or partially, experiencing the analyzed challenges and changes associated with the adoption of a multichannel distribution strategy. The mode complemented the analysis, showing which challenges and changes occurred with the greatest frequency.

Fisher's exact test was used for correlation analysis. This test assesses the level of independence between two qualitative variables; that is, whether or not they are associated (Levine et al., 2017). Here, the test was used to analyze whether specific challenges and changes were associated with company size and/or channel type. Statistical significance was set at $p < 0.05$ for all analyses. The null hypothesis (i.e., variables are not correlated) was rejected if the p-value was less than α (0.05). Fisher's exact test was performed using SPSS® software.

RESULTS AND DISCUSSION

Characteristics of the survey sample

The final sample included 14 food processing companies in São Paulo State that distribute their products on more than one channel. Participating companies were founded between 1944 and 2018, with nine having less than 32 years of operation. The annual revenue was used to classify company sizes according to the revenue ranges defined by the Brazilian Development Bank (BNDES, n.d.)[1]. The final sample comprised four microenterprises, four small enterprises, two medium enterprises, and four large enterprises.

As for the distribution channels used by participating companies, wholesale (used by all companies studied), traditional retail (supermarkets, minimarkets) (12 companies), factory stores (12 companies), sales representatives (11 companies), and restaurants (10 companies) were the most frequently reported. Other companies reported distributing their products using their own vehicles (food trucks), specialized stores, door-to-door sales, kiosks in shopping malls, franchises, virtual stores (websites), own applications for smartphones or tablets, specialized delivery applications, subscription clubs, social networks, online retailers (Mercado Livre and Magazine Luiza, among others), telemarketing, catalogs, and TV channels/programs.

Identified challenges

Potential challenges faced by an organization when implementing a multichannel distribution strategy were identified from the studies of Neslin et al. (2006), Silva et al. (2016), and Zhang et al. (2010) and a documentary survey conducted using the electronic databases of Valor Econômico, O Estado de S. Paulo, and Exame. The search period was from 2010 to 2019. Table 2 presents the absolute and relative frequency of responses related to challenges encountered by companies when operating on multiple channels, as well as the correlation of these challenges with company size and channel types.

Accessing new markets, coordinating multiple channels, and managing conflicts between channels were the main challenges reported by food processing companies. Such challenges were faced, to a greater or a lesser extent, by all 14 companies surveyed.

[1] BNDES classifies companies into size classes, allowing an adequate assessment of the characteristics of each sector for offering specialized credit lines and programs with tailored conditions. The classification system is based on the gross operating income (GOI) of companies, as follows: microenterprises, GOI ≤ R$360,000; small enterprises, R$360,000 < GOI ≤ R$4.8 million; medium enterprises, R$4.8 million < GOI ≤ R$300 million; and large enterprises, GOI > R$300 million (BNDES, n.d.).

Table 2

Challenges faced by food processing companies operating on multiple distribution channels.

Was it challenging for your company?	No	Yes, partially	Yes, completely	Median	Mode	Correlation			
						Company size		Channel type	
						p-value[a]	Cramer's V	p-value[a]	Cramer's V
Accessing new markets	0 (0,0%)	7 (50,0%)	7 (50,0%)	2,5	2,0[b]	0,2867	—	1,0000	—
Coordinating multiple channels	0 (0,0%)	8 (57,1%)	6 (42,9%)	2,0	2,0	0,5125	—	1,0000	—
Managing conflicts between channels	0 (0,0%)	10 (71,4%)	4 (28,6%)	2,0	2,0	0,0450	0,7500	1,0000	—
Attracting skilled professionals	1 (7,1%)	6 (42,9%)	7 (50,0%)	2,5	3,0	0,8921	—	1,0000	—
Integrating existing distribution and information systems and/or transferring their content to a new channel	1 (7,1%)	8 (57,1%)	5 (35,7%)	2,0	2,0	0,2408	—	0,8951	—
Evaluating channels and defining performance metrics	2 (14,3%)	6 (42,9%)	6 (42,9%)	2,0	2,0[b]	0,8767	—	1,0000	—
Implementing a branding strategy and maintaining compatibility between channels	2 (14,3%)	7 (50,0%)	5 (35,7%)	2,0	2,0	0,0922	—	1,0000	—
Understanding consumer behavior, purchasing decisions, needs, and preferences	2 (14,3%)	7 (50,0%)	5 (35,7%)	2,0	2,0	0,7243	—	1,0000	—
Reducing supply, administration, or transaction costs	2 (14,3%)	9 (64,3%)	3 (21,4%)	2,0	2,0	0,0054	0,7638	1,0000	—

Note. [a] Fisher's exact test; [b] This item has several modes. The table shows the smallest value.

Accessing new markets. Fisher's exact test was not able to identify a correlation between this challenge and company size or channel type. The *p*-values were respectively 0.2867 and 1.0000, indicating that the null hypothesis should be accepted; that is, the challenge of accessing new markets is not associated with company size or channel type. However, larger companies were more likely to face this challenge, as shown by the greater number of "yes, completely" responses. As will be discussed later, this finding may be related to the fact that larger companies usually have a more consolidated market, rendering the search for new markets more challenging.

Coordinating multiple channels. The challenge of coordinating multiple channels was also not associated with company size or channel type ($p = 0.5125$ and $p = 1.0000$, respectively). Six companies reported to have fully faced this challenge, most of which were large companies operating on all types of distribution channels. Eight companies reported partially encountering challenges in coordinating multiple channels. In this case, the frequency was higher among small companies operating on all channel types. It can be seen from these results that multichannel coordination represents a relevant challenge for the evaluated food processing companies, in agreement with the observations of Kolbe et al. (2022) and Neslin et al. (2006). These authors regarded multichannel coordination as one of the most difficult tasks for managers, explained by the need to coordinate objectives, channel design, and implementation, that is, achieve a synergistic relationship between channels.

The literature highlights the following factors that should be considered for the management of multiple distribution channels: (i) channels should be independent or integrated; (ii) prices should be the same in all channels; (iii) channels should distribute the same products; (iv) channels must have synergy; and (v) the relationship with channel partners should be managed. According to Neslin et al. (2006), the degree of coordination between channels can range from complete separation to full integration. Depending on the case, channels are either integrated with the others to have a sole view of the customer or managed as separate companies.

The complexity and particularity of each company will dictate how channels are managed. Zhang et al. (2010) stated that channels can serve different target markets that require different goods and prices. Given these operational differences, many organizations have separate teams for each channel and may even outsource management. These findings demonstrate the challenge of coordinating channels to meet demand-side synergies.

Managing conflicts between channels. Four companies reported fully facing this challenge and 10 companies reported partially facing this challenge. There was a correlation between conflict management and company size ($p = 0.0450$). The smaller the company size, the greater the chances of facing this challenge. In other words, managing conflicts between channels was more challenging for smaller companies. The association was found to be strong, with a Cramer's V of 0.7500. This result indicates that 75% of the responses regarding this challenge were associated with company size.

By contrast, channel type was not found to be associated with this challenge ($p = 1.0000$, Fisher's exact test). As discussed in the literature, simply adding distribution channels is not sufficient to achieve a good multichannel distribution; it is necessary to assess whether channels contribute to the performance of the firm (Neslin et al., 2006). Therefore, it is crucial to evaluate the impact of adding a channel on sales and profit, so that the new channel does not cannibalize previously existing ones. Neslin et al. (2006) advised that, when managing various channels, companies should consider the relationship with channel partners, especially companies that sell through intermediaries. This is because the addition of certain channels, particularly direct sales channels, may have an impact on intermediaries. As stated by Zhang et. al (2010, p.176), if channels are not properly designed and positioned, they can produce conflicts and create "dyssynergies."

Attracting skilled professionals. This challenge was mainly faced by large and microenterprises that work with all types of channels. According to correlation analysis, it cannot be said that this challenge is associated with company size or channel structure. Thus, no specific company profile was more prone to facing this challenge. Rosenbloom (2002) and Silva et al. (2016) argued that, given its complexity, multichannel distribution requires trained professionals for its management.

Integrating existing distribution and information systems and/or transferring their content to a new channel. Companies that fully faced this challenge (n = 5) were large or medium-sized and operated on physical and other channels or on all channel types. This challenge was not associated (p = 0.2408, Fisher's exact test) with company size or channel structure. Nevertheless, it can be inferred that larger companies face this challenge more intensely, given that the amount of information they handle is greater. The findings are in agreement with those of Zhang et al. (2010). The authors stated that it is a major challenge to develop an information technology infrastructure that integrates data from all channels. Such information must be linked and analyzed holistically. Zhang et al. (2010) underscored two critical aspects in this process: (i) establish an adequate infrastructure to manage the internal flow of information, such as collecting and managing data on purchases and other transactions, and (ii) know what to extract from relevant data to support decision-making in each channel–information output flow. Because of the lack of an integrated database, many companies are unable to measure the profitability of their multichannel customers, according to the authors.

Evaluating channels and defining performance metrics. No correlation was found between this challenge and company size (p = 0.8767) or channel type (p = 1.0000). It was observed that 12 companies faced this challenge, whether completely or partially. Both micro and large companies reported having fully faced this challenge. These companies used physical channels, physical and other channels, or all types of channels.

Companies need to constantly evaluate the channels in which they operate to assess whether such channels remain feasible. However, for this evaluation, it is necessary to understand consumer decision processes, internal processes, and the environment in which they operate. Poorly managed channels can generate conflicts and decrease customer loyalty (Neslin et al., 2006). Some of the well-accepted performance measures of physical channels, such as sales and gross margin per square meter, do not apply to digital channels, making the task of creating evaluation and performance metrics even more challenging (Zhang et al., 2010). According to Neslin et al. (2006), the following issues need to be considered in the evaluation and definition of channel performance metrics: (i) the channel's contribution to the firm, that is, the impact of the channel on sales and profit, and (ii) synergies generated by the channel, that is, assess whether the impact of the channel is relevant to the company and is greater than the sum of the parts.

Implementing a branding strategy and maintaining compatibility between channels. This challenge was faced in full by five companies, which were medium- and large-sized. The companies that stated not facing this challenge were microenterprises. Often, smaller companies have only one brand that is sold in all channels without distinction, precluding the need for branding and compatibility. However, correlation analysis did not reveal associations with company size (p = 0.0922).

Understanding consumer behavior, purchasing decisions, needs, and preferences. Seven companies partially faced this challenge and five companies completely faced this challenge, with company size being quite homogeneous. Two microenterprises stated not facing this challenge, explained by the fact that smaller companies are more flexible and accessible to customers, generally maintaining a closer relationship with them. Both microenterprises used all types of channels. In one of them, the channels with the highest revenues were the factory store and self-owned smartphone application. These direct sales channels allow for greater proximity to customers, which facilitates identifying and understanding their behavior.

Cui et al. (2022), Jo et al. (2021), Neslin et al. (2006), and Zhang et al. (2010) stated that one of the goals of multichannel strategies is to create value for customers. For this to be achieved, it is crucial to understand consumer behavior, purchasing decisions, needs, and preferences. Food processing companies must strive to gain access to and properly analyze consumer information, which would allow them to develop coherent strategies for each channel. This information can aid in decision-making about the potential for profit generation and value creation of each channel. It may also help evaluate whether the channels serve their intended purposes, determine which channels to use or add, allocate resources between channels, and define prices, assortments, and service levels offered in distribution channels, as stated by Neslin et al. (2006).

Reducing supply, administration, or transaction costs. Only three companies reported fully encountering this challenge, two of which were medium-sized and one of which was micro-sized. Four large companies, four small companies, and one microenterprise reported partially facing this challenge. Two companies, which were microenterprises, reported not facing this challenge. According to correlation analysis, the challenge was associated with company size (p = 0.0054). Such an association was found to be strong (Cramer's V = 0.7638).

Among companies that fully encountered this challenge, two used all types of channels and one used only physical channels. Although channel type was not significantly associated with the challenge (p = 1.0000, Fisher's exact test), it was observed that, in these three companies, physical channels such as factory store, wholesale, retail, and sales by representatives contributed the most to revenues. Cost reduction in these types of channels is more challenging. Of note, the correlation test did not consider the relative contribution of channels to the company's sales revenue, representing a future research opportunity.

Changes produced by adoption of a multichannel distribution strategy

Organizational changes are often necessary for companies to overcome the challenges inherent to multichannel distribution. Changes resulting from the implementation of multichannel distribution were identified on the basis of Araújo and Zilber (2013), Neslin et al. (2006), and Zhang et al. (2010). Table 3 describes the occurrence of such changes in the study sample. All companies reported reaching new levels of customer relationship, increasing sales, and increasing profitability with the adoption of multiple distribution strategies, whether in part or fully. Correlation analysis revealed a moderate association between channel type and access to new markets. The other factors were not associated with channel type or company size. Management maturity and mindset changes, changes in ways of work, and channel integration were the least frequent outcomes in the study sample.

New levels of customer relationship. This was the most significant change identified in the study, reported by 12 companies. According to Neslin et al. (2006), operating on several channels can expand the consumer–business relationship. The documentary survey showed that Cacau Show, Pepsico, Nestlé, and Ambev successfully increased their relationship with customers by adopting multichannel distribution strategies (Bouças, 2017a; Divulgador de Notícias, 2016; Faustino; 2018). Here, only two companies indicated that this change occurred partially. The main channels used by these enterprises, which were micro and large-sized, were wholesale and sales representatives. One of the companies distributes its products only through wholesale and sales representatives. The other company reported using all channels for product distribution; however, wholesale and sales representatives were the most representative.

Increased sales resulting from greater market coverage. This was the second most frequent change, which was reported to occur partially in six companies and fully in eight companies. Company size did not influence this change; however, it was more frequent among enterprises that used all types of channels. Multichannel customers generally have higher purchase levels because of their loyalty and frequent contact with the company through diverse channels (Neslin et al., 2006). Given that this change was more frequent among companies adopting all types of channels, it can be said that the use of alternative channels (e.g., digital channels) may be more relevant to increasing market coverage. As argued by Chen and Lin (2015), digital channels do not have geographical or spatial limitations, being able to spread quickly over long distances, reaching a greater number of customers.

Table 3

Changes brought by the adoption of a multichannel distribution strategy.

Was it challenging for your company?	No	Yes, partially	Yes, completely	Median	Mode	Correlation			
						Company size		Channel type	
						p-value[a]	Cramer's V	p-value[a]	Cramer's V
New levels of customer relationship	0 (0,0%)	2 (14,3%)	12 (85,7%)	3,0	3,0	1,0000	—	0,6044	—
Increased sales resulting from greater market coverage	0 (0,0%)	6 (42,9%)	8 (57,1%)	3,0	3,0	1,0000	—	0,4965	—
Increased profitability achieved by using different prices on different channels while avoiding conflict	0 (0,0%)	12 (85,7%)	2 (14,3%)	2,0	2,0	1,0000	—	0,6044	—
Access to new markets	1 (7,1%)	4 (28,6%)	9 (64,3%)	3,0	3,0	0,7123	—	0,0176	0,6211
Value creation and brand identification achieved by product repositioning and packaging alterations	1 (7,1%)	6 (42,9%)	7 (50,0%)	2,5	3,0	0,6763	—	1,0000	—
Development of new products on the basis of information on consumer needs	1 (7,1%)	7 (50,0%)	6 (42,9%)	2,0	2,0	0,8921	—	0,5122	—
Access to information on consumer needs and consumption habits	1 (7,1%)	8 (57,1%)	5 (35,7%)	2,0	2,0	0,6723	—	0,8951	—
Reduction in supply, administration, or transaction costs	1 (7,1%)	8 (57,1%)	5 (35,7%)	2,0	2,0	0,1449	—	0,2937	—
Management maturity and mindset changes	1 (7,1%)	10 (71,4%)	3 (21,4%)	2,0	2,0	0,7283	—	0,6853	—
Changes in ways of working	1 (7,1%)	11 (78,6%)	2 (14,3%)	2,0	2,0	1,0000	—	0,7692	—
New management model for channel integration	2 (14,3%)	6 (42,9%)	6 (42,9%)	2,0	2,0[b]	0,4760	—	0,2058	—

Note. [a] Fisher's exact test; [b] This item has several modes. The table shows the smallest value.

Increased profitability achieved by using different prices on different channels while avoiding conflict. Such a change was more frequent among micro and small companies. The enterprises distributed their products through physical channels (with retail as the main channel) and a combination of all channels (with factory stores as the main channel).

Access to new markets. Nine companies reported gaining access to new markets, with smaller enterprises experiencing the greatest changes in this regard. Small companies are often more inclined and adept at serving niche markets, as reported by Kotler and Keller (2006). Large companies usually have a consolidated market, making it less appealing for them to expend effort on serving a small segment of consumers, given the high specificity and limited scale of such markets. Of the companies that fully experienced this change, 88.89% distributed their products through all types of channels (physical, digital, and others). Fisher's exact test (p = 0.0176) confirmed that channel structure was associated with access to new markets in the study sample. Such an association was moderate, according to Cramer's correlation coefficient (V = 0.6211). Therefore, it can be inferred that by utilizing more distribution channels, companies can access new points of interaction with customers, facilitating their entry into existing markets or the creation of new ones.

Value creation and brand identification achieved by product repositioning and packaging alterations. Companies that reported having fully experienced this change were mainly large-sized. However, the multichannel distribution strategies differed, with companies using all types of channels (physical, digital, and others), only physical channels, or a combination of physical and other channels. Operating across multiple channels allows companies to better understand the market, reposition the brand, and charge differentiated prices for the same product with different packaging across channels (Li, 2023; Zhang et al., 2010). Araújo and Zilber (2013) and Li (2023) stated that acting in multiple channels can improve brand and product exposure. This may encourage customers to purchase more and seek the brand in other channels, enhancing loyalty.

Development of new products on the basis of information on consumer needs. Six companies stated to have fully experienced this change. Of these, 83.33% used physical, digital, and other channels, including direct sales channels. The finding shows that the use of multiple distribution channels led to the development of new products. By having greater access to information on consumer needs, companies were able to provide better-tailored solutions to consumers, in agreement with Acquila-Natale and Iglesias-Pradas (2021).

Access to information on consumer needs and consumption habits. Thirteen companies reported this change. The five companies that reported fully experiencing this change also stated having achieved new levels of customer relationship, value creation, and brand identification, as well as increased sales stemming from greater market coverage. Therefore, it can be inferred that companies that obtain greater access to information on customers' needs and consumption habits are more likely to adjust their strategies toward enhanced performance and competitiveness. As argued by Mesjasz-Lech (2015), proximity to clients is crucial for obtaining relevant information for designing appropriate strategies. Understanding consumer behavior allows companies to improve customer satisfaction and cultivate stronger connections between customers and the brand (Chen & Lin, 2015; Hsu & Chen, 2018).

Reduction in supply, administration, or transaction costs. Thirteen companies reported partially or fully achieving reductions in costs. The companies that were most impacted by such changes used physical and digital channels. Cost reductions may translate into investments in other areas of the company. For example, implementation of a multichannel strategy necessitates computerized systems for order management and processing, given the complexity of such a strategy. These factors may reduce personnel costs in all channels, allowing personnel to be allocated to more profitable interactions with customers (Araújo & Zilber, 2013; Zhang et al., 2010). Another example of cost reduction is the adoption of non-physical channels, such as sales through catalogs or digital platforms. With this, costs associated with infrastructure (e.g., physical stores) are reduced. Such savings can be invested in research and development, market research (to better understand consumers and identify market opportunities), additional services, and staff training, among many other possibilities.

Management maturity and mindset changes. Micro and small companies reported partially undergoing this change. This outcome may be attributed to the fact that larger companies typically possess greater resources and, consequently, a more structured management system. Thus, by operating across multiple channels, smaller companies must adapt their organizational perceptions, gaining maturity with regard to the management of their processes and controls (Araújo & Zilber, 2013).

Changes in ways of working. Only two companies, which were small-sized, indicated this change. One sells its products exclusively through physical channels, and the other uses physical and digital channels. A large company stated that this change did not occur. As management maturity and mindsets evolve, smaller companies typically enhance their management practices, translating into changes in the way employees work, in agreement with Araújo and Zilber (2013), Coughlan et al. (2002), Rosenbloom (2002), Yan et al. (2011), and Zhang et al. (2010).

New management model for channel integration. Only two companies did not report the implementation of new management models with the adoption of multichannel distribution. Both of these companies were large. This, together with the previous two changes, was more pronounced in small companies. Establishing an appropriate organizational structure poses a significant challenge for companies initiating operations, particularly when operating across multiple channels, given the complexity of this strategy. Consequently, companies face pressure to adapt their management structures, and the success of these strategies hinges on how effectively they are managed, as argued by Coughlan et al. (2002), Rosenbloom (2002), Yan et al. (2011), and Zhang et al. (2010).

FINAL REMARKS

This study investigated the challenges and changes faced by food processing companies adopting multichannel distribution strategies. A survey was conducted with 14 companies in São Paulo State, Brazil, that use multiple channels for product distribution. The main challenges included gaining access to new markets, coordinating multiple channels, and managing conflicts between channels. These difficulties were experienced by all companies, whether partially or fully. Difficulties in gaining access to markets were more pronounced in larger companies. Such a finding may be attributed to the fact that these companies often operate in established markets, making the pursuit of new ones more complex. Coordinating multiple channels and managing conflicts between them were particularly challenging for smaller companies, indicating that structural changes are more difficult for smaller enterprises.

Furthermore, the study revealed a strong correlation between company size and the challenges of managing conflicts between channels and reducing supply, administration, or transaction costs. Conflict management posed greater challenges for small companies, necessitating a reevaluation of strategies to enhance channel coordination. Conversely, cost reduction difficulties increased with increasing company size, as larger companies contend with a more complex cost structure, making management and reduction more challenging.

The main changes reported by companies were the achievement of new levels of customer relationship, increased sales stemming from greater market coverage, and enhanced profitability, achieved by using differentiated prices in different channels and avoiding conflict between them. Companies relying mainly on wholesale and sales representatives only partially observed changes in customer relationships. Therefore, it is suggested that the use of intermediaries can limit such changes. An increase in sales was mainly reported by companies operating on all types of channels. By selling products through various channels, companies can reach more markets, culminating in increased sales. Digital channels can particularly enhance sales. By contrast, an increase in profitability stemming from price differentiation was more frequently reported by smaller companies.

Overall, the challenges and transformations documented in the literature were observed in the studied food processing companies, albeit with varying degrees of intensity, depending on company size and channel type. The implementation and management of a multichannel distribution strategy is complex, requiring that organizations carefully evaluate the challenges they may encounter and assess their competencies and skills before adoption. Nevertheless, the successful execution of such a strategy represents an opportunity for companies to enhance competitiveness and align with the evolving demands of end consumers.

The challenges brought by the coronavirus pandemic accelerated the adoption of digital technologies and tools, reshaping consumer purchasing behavior. Sales through digital channels, which grew steadily in Brazil during the pandemic, are projected to experience continuous growth in the post-pandemic era. Digital channels were particularly important for food companies, allowing them to strengthen relationships with consumers and survive in the pandemic scenario. Organizations need to outline appropriate strategies for managing and monitoring multiple channels without neglecting traditional ones. It is important for food processing companies to train personnel and adapt strategies to enter, manage, and control operations across digital channels.

The low participation of companies was a limitation of this study. Moreover, given the low representativeness of the sample, the data cannot be extrapolated to other companies. Future studies should consider the relative contribution of each channel to the company's revenue for statistical analysis. Such an investigation could shed light on the challenges and changes associated with the most representative channels.

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