

CASE STUDIES & TEACHING CASES

Opportunity or necessity? The Case of ZM S/A

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ARE WE GETTING LEFT BEHIND?

The deindustrialization process in Brazil, especially in the automotive sector, were positive to ZM S/A. This movement, paradoxically, has promoted ZM to a company that survived this crisis, earning more market share due to the decrease in competition, growing in income, exponentially and progressively, year by year.

In February 2020, exactly at the beginning of the COVID-19 pandemic, the company was expanding its manufacturing facilities and launching its new line of products focused on automotive suspension parts. Obviously, as in every global market, the company was also affected by a shortage of raw materials and logistical problems, which has affected the entire segment, lasting detrimentally for two years. Despite the instability and challenges caused by the pandemic situation, aftermarket manufacturers had a growth rate of 4.4% in 2020, above the 4.0% recorded in 2019 (Fantoni & Dampierre, 2021). Accordingly, to the perspective of consultancy McKinsey & Company, actions that were accelerated due to the pandemic had a positive impact on the aftermarket, such as: reconsideration of maintaining operations in Brazil by new vehicle manufacturers, high exchange rate volatility and increased sales on e-commerce. The estimate for the Brazilian aftermarket income is around R\$ 100 billion for the year 2021 and growth of 6 to 7% to 2023.

In January 2022, a new year had begun at ZM. Hopes were renewed with the imminent feeling of an end to the pandemic. The pandemic period left a legacy of good lessons and new practices. Among them, the home office, efficient communication through online meetings and the acceleration of the digitalization process. Aware of this and realizing the growth of the industry 4.0 concept, ZM management, through field research, worked to get a better understanding of the resellers, applicators, and consumers, verifying which would be their difficulties and needs. As a result, it was found that its channels suffered greatly from a lack of raw materials, packages, and inputs.

In this context of online meetings and positive results with the presence of customers on social networks and the creation of e-commerce in the sector, the story began. On April 23, 2022, at 6:57 pm, a message was sent by the company director, Ademir, to the group of sales and marketing leaders: “Good evening. Tomorrow, at 2pm, our annual meeting with the PeçasMais group is scheduled. Please, at this meeting, keep all customer information at hand. It will be online.”

In the next morning, the annual purchasing data, by product line and sales policy, was aligned in the meeting. It has started punctually. On one side of the broadcast, there was Ademir, ZM’s superintendent director, with Poliana, marketing coordinator, and Roberto, ZM’s sales manager. On the other side, was the commercial director of PeçasMais, Marcos, as well as his two buyers, Pedro and João. The meeting remained objective and clear. The intention of the PeçasMais group was to present its good overall performance and use this as a bargaining chip when the time of negotiating better policies began.

– We are satisfied with ZM’s performance in our group. We have new business expansion plans, and in a few years, we want to be the largest auto parts group in Latin America – said Marcos, the director of PeçasMais.

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[Translated version] Note: All quotes in English translated by this article’s translator.

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- Excellent, Marcos. As your business advances, our company also grows – comments someone from the ZM team.
 - We have a new business plan, which has surprised us a lot. Our e-commerce has been exceeding projected records in recent years. Today, PeçasMais is the largest auto parts e-commerce in Latin America, and, among all our businesses, it has been the most profitable – reports, proudly, the director of the PeçasMais group, which currently has 191 physical stores and an e-commerce of automotive parts.
 - I have been keeping up with e-commerce and I see that the strength of this new business way is very great. Clearly efforts are being directed towards this new business plan, however, I noticed that only a few goods of our brand are present in your e-commerce. I see several items from our competitors that have active ads in it, and our items, almost nothing on it. How can you change this? – warns Poliana.
 - We have a team exclusively dedicated to our e-commerce. They do the product viability studies, refine, and digitize this data, and then team up with our partners to see how to promote them in the best way. Do you have all the catalog data, such as: application tables, product photos, technical materials ready to go online?
 - Our online catalog was developed in-house. This data is fed daily by our engineering sector and updated by our marketing team. For us, it is easy to extract all this data for a complete advertisement of our products. We just need you to open a space for us – commented Poliana.
 - With this complete database, our work will be easier. But firstly, you must indicate to us the products that you consider viable for e-commerce. We need a dedicated ABC curve. We initially will focus on these products. – says the buyer.
- The meeting ended within the agreed time. Poliana, checked the customer's growth information on digital channels, seeking to understand where and how the company could be more active and closer to the customer.
- In the next day, after returning to ZM, Poliana and Roberto quickly talked about the lack of products on the client's online platform and expressed their concern about this issue.
- Did you see, Roberto? On the PeçasMais website, our company's products mix is very low! Our competitors have more SKUs than us, in addition they also have advertising in banners, e-mail, marketing, pushes and various other types of advertisements. They are ahead of us in the digital market and e-commerce – said Poliana.
 - I saw! We need to understand why. You see, maybe our goods don't have a good output in e-commerce or the PeçasMais group doesn't want to invest in the ZM brand. What do you think?
 - I don't think so. We lack approach and action in this kind of business. Let's work together to get some suggested items and deliver a complete base to them, and then we can see what will happen.
 - Good idea! Let's do it! – said Roberto, with extensive experience in the sector.
 - You know, Roberto [...] Thinking about the subject, have you noticed that our distributors are migrating to this model of business? I've noticed an accelerated movement, including manufacturers that are breaking the distribution channel, selling directly to the end consumer, and, in my point of view, getting better sales results.
 - Yes, definitely, but this is a path with no turning back. The pandemic brought this situation, and with the lack of parts in the market, this process has been accelerated, because the consumer started to go to get his goods directly from the manufacturer – recalled Roberto.
 - And, if we do that too, as you said, there is no turning back. We will use the PeçasMais experience as an initial testing. Soon, all this situation can change – concludes Poliana.
 - But we need to be careful, as breaking the distribution channel can ruin big and important deals with our distributors.

With the most tumultuous period over, with our distributors recording an increase in revenue and the e-commerce surpassing physical stores sales, the company realized an opportunity (or a need) to sell directly to consumers through B2C and not just B2B (only selling through distributors or representatives).

The company found itself facing a difficult dilemma. It needed to evaluate whether to start direct sales operations (B2C), by creating its own e-commerce, or keeping the current structure by promoting online and offline sales by its distributors, respecting the channel. To do this, the company management needed to reflect on the strategic changes in sales channels and the potential conflicts of creating its own e-commerce.

ZM, A COMPANY THAT HAS NOT STOPPED IN TIME

ZM S/A has begun its activities in the automotive sector in 1983 in Brusque/SC, initially dedicating itself to the development and supply of starter relays and solenoids, also known as magnetic or automatic switches. Achieving new markets and consolidating the brand on the international scene, ZM extended its production to wheel bolts, nuts, and special cold-formed parts. As a result of constant investments, in 2022 the company also had, in its product line, starter motors, alternators, pulleys for alternators, armatures, fasteners, u-joints, stabilizer links, axial rods, tie rod ends and ball joints. Almost 500 products are only in the mechanical line, with a special focus on the last line installed, which was the steering and suspension section.

The Brazilian auto parts manufacturer, which positioned itself, in 2022, as the 62nd largest company in the state of Santa Catarina and leader in the automotive sector, had more than 780 employees, with all the necessary structure for the development of its products, from conception to its validation. In 2020, it invested R\$100 million in the construction of a new plant, which has followed the industry 4.0 concept, aiming to expand production and launch new product lines. The new plant, also located in Brusque, in operation from 2022, has more than 70,000m² of built area.

Figure 1
ZM S/A Headquarters in Brusque (SC)



Source: Primary data.

Within the automotive sector, the company stood out as the largest in financial profitability in the state of Santa Catarina, Brazil. It has been awarded with the position 261st among the “500 Largest Companies in the South of Brazil”, for the year 2021, according to the traditional award that has been held for 31 years by Revista Ajante, ZM presented a net worth of 427.17 million Brazilian reais and net profit of 63.27 million Brazilian reais (which corresponds to 20.78% of net revenue). Of its revenue in 2021, 50% came from the national market and 50% from the foreign market. The sum of the product mix of the electrical line (Figure 2) and the mechanical line (Figure 3) results in more than 8,600 SKUs, enabling more than 500 thousand vehicle applications.

Figure 2
 Electrical line products



Source: Primary data.

Figure 3
 Mechanical line products

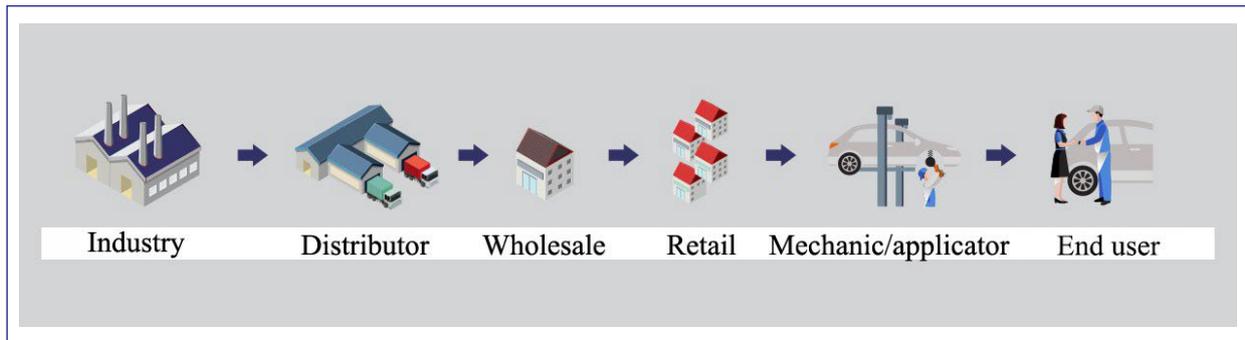


Source: Primary data.

Regarding the structure of marketing channels, ZM followed the traditional model of companies in the mechanical industry sector. It had authorized distributors, that could sell to wholesalers, retailers could sell to mechanical workshops that carried out maintenance on consumer’s cars, this one being seen as the last link in the distribution chain.

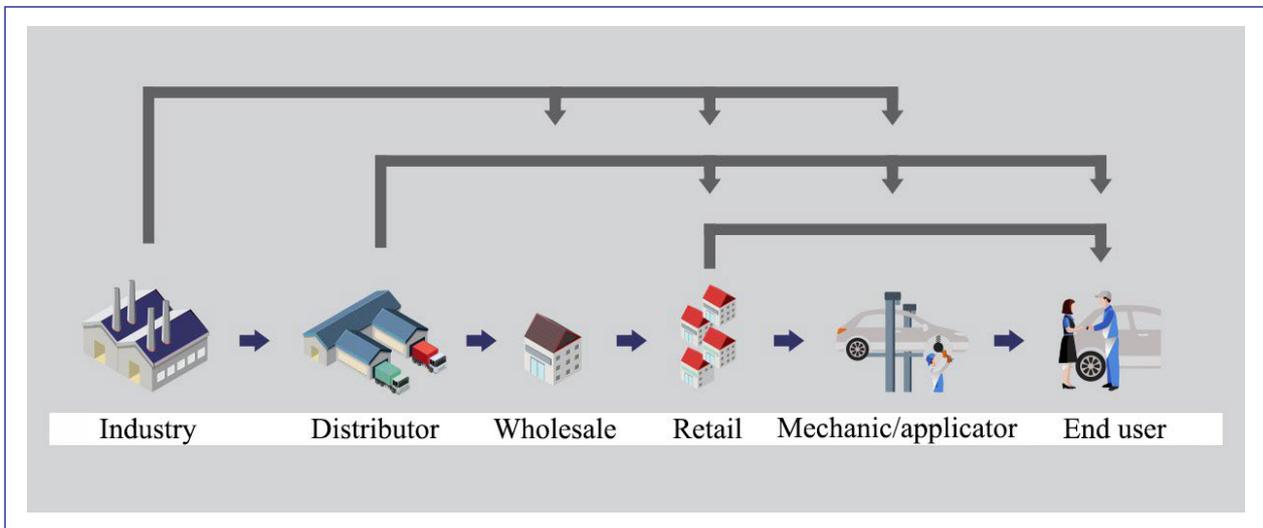
With the digital transformation, many competitors started to use e-commerce, digital platforms, and marketplaces to make the product reach the final consumer directly. From then on, there are several possibilities: the consumer delivers the product to the mechanic to perform the service; the mechanic himself buys the part via e-commerce to repair the vehicle; the retailer uses this device to buy and resell the pieces in its physical store. Other combinations are also possible, since any link in the chain has access to th+e manufacturer (Figure 4), which, in turn, needs to manage a series of conflicts in these channels (Figure 5).

Figure 4
 ZM S/A supply chain



Source: Elaborated by the authors based on primary data.

Figure 5
 Flows in the ZM S/A supply chain



Source: Elaborated by the authors based on primary data.

UNDERSTANDING THE CONFIGURATION OF THE AUTOMOTIVE SECTOR

The Brazilian automotive sector began its development journey in parallel with the country's history of industrialization and urbanization. With the development of the industry supported by the most influential presidents of the time – Getúlio Vargas and Juscelino Kubitschek –, Brazil transferred most of the rural sector to those emerging in technology and development. In this context, many industries and new jobs were created.

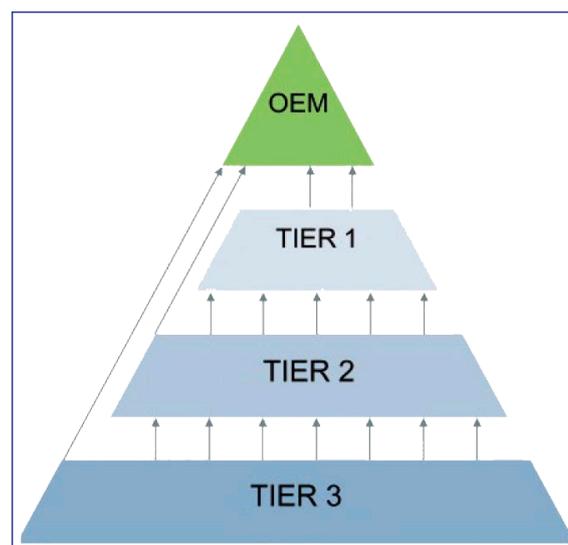
According to data published in the 2022 Yearbook of the National Association of Motor Vehicle Manufacturers (Associação Nacional dos Fabricantes de Veículos Automotores [Anfavea], 2022), the sector had a 20% share in the Gross Domestic Product (GDP) of the manufacturing industry. Furthermore, the generation of direct taxes in 2020 by automobiles was 62.5 billion Brazilian reais, including taxes such as tax on industrialized products (IPI), Social Integration Program/Contribution for Social Security Financing (PIS/Cofins), tax on circulation of goods and services (ICMS) and tax on motor vehicle ownership (IPVA). The sector's influence on the economy is not restricted to industry alone, but also to its intrinsic connection with several other industrial sectors. The sectors of steel and derivatives, electronic materials, rubber, and plastic articles revolved around the automotive sector.

Brazil has reached the end of 2021 with 27 vehicles manufacturing, including agricultural and road machinery. In the auto parts market, considering those that produce for the original and replacement markets, Brazil had 486 manufacturers. In the other hand, in the vehicle sales market, the number scaled to 4,897 dealerships affiliated to the National Federation of Motor Vehicle Distribution (Fenabrave). This sector had 57 industrial units, which had a production capacity of 4.5 million vehicles. The accumulated revenue in 2020 was 39.6 billion US dollars in addition to one million and two hundred thousand direct and indirect jobs. These numbers positioned Brazil as one of the main players in the world, taking it to 9th position as a producer and 7th position as a domestic market.

The automotive aftermarket is considered the secondary sector of the automobile industry. After the initial sale of a vehicle by car manufacturers, the aftermarket chain is responsible for manufacturing, remanufacturing, distribution, retail and/or wholesale and installation of the auto parts and accessories. The inter-relational chain of this sector is constituted by the parts and accessories manufacturing industry; by the distributors that are responsible for transporting industrial production to retailers; through retail, which makes products available to the end consumer; and the repairer, who applies these products to repair various vehicles and/or modify them.

At the industrial level, the auto parts segment is divided into three levels (Figure 6), called tiers (supplier tiers). Tier 1, known as systemist, provides the complete system directly to the automakers (OEM Market). Tier 2, manufacturer of sets, sells to tier 1. Tier 3, manufacturer of components and/or parts, sells its products to tier 2.

Figure 6
Auto parts supply tiers



Source: Adapted from Bey (2019).

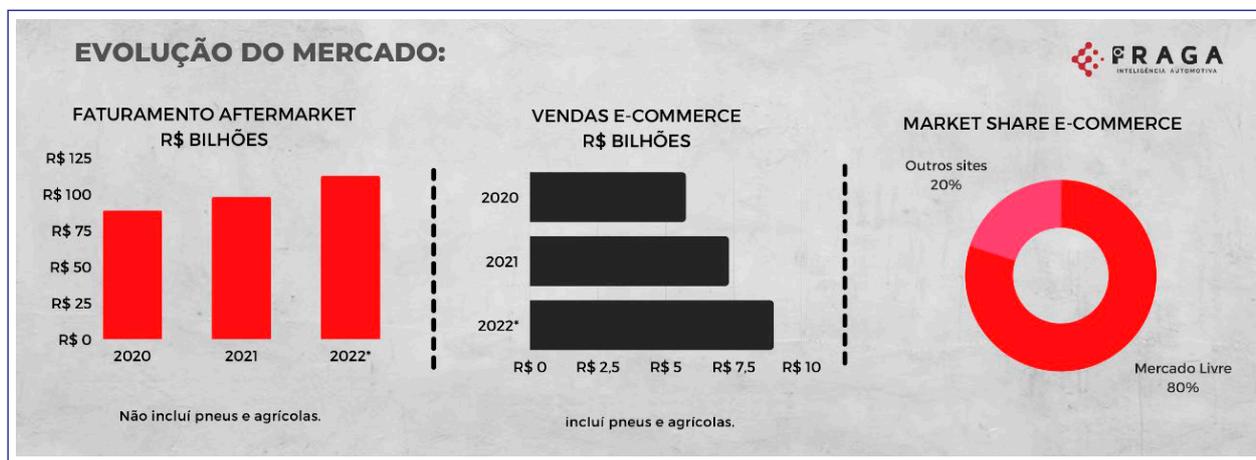
The auto parts sector has always been considered highly complex. The four main parts of this sector – assembler (manufacturer of sets), replacement, export and intra-sectorial – form the performance assessment of the Brazilian auto parts industry sector. From the total of 163.6 billion Brazilian reais registered in 2021, the percentage share was, respectively, 64.6%, 15.2%, 16.1% and 4.1% (Sindicato Nacional da Indústria de Componentes para Veículos Automotores [Sindipeças], 2022). Furthermore, distributors and industries had their own commercial policies, which had involved several negotiation rounds that resulted in different commercial policies for different clients. For example, catalog segmentation and marketing communication, which normally has differences when it involves car, truck and motorcycle retailing, segmentations that have completely different characteristics.

THE SECTOR DIGITAL TRANSFORMATION

In April 2019, the company’s sales, marketing, and engineering sector leaders were attending the Automec exhibition, one of the last exhibitions that were made in the sector before the pandemic. At this event, some situations drew the attention of the ZM commercial team. A client from the Central-West region reported that he was setting up an e-commerce, as, in his region, many mechanics and even end consumers were already searching online for better prices in auto parts.

The mentioned digital transformation in the sector accelerated sharply during the pandemic period (Figure 7), as people were forced to stay at home and began to consume more online. The sector considered essential during the period remained active with sales that in 2022 already amounted to 8% of total revenue generated in the aftermarket.

Figure 7
 Market evolution



Note: On the left, the aftermarket sector’s revenue between 2020 and 2022 is shown in billions of Brazilian Reais. In the center, the volume of sales in e-commerce, for the three years, in billions of Brazilian reais. On the right, the market share of the Mercado Livre partner is shown, compared to other marketplaces.

Source: Fraga (2022a, p. 30).

This market took as an advantage the synergies between industries and distributors. The industry used all its brand potential and scale capacity; on the other hand, distributors provided capillarity, stock capacity and customer knowledge. Sales in official stores were initiated on the Mercado Livre (Meli) platform, and they have shown that it could be a relevant tool to use. This model allowed the manufacturer to have its own store on the platform, so, in this way, consumers could interact and buy directly from the factory, being carried out by the brand. Regarding the operation, the manufacturer could opt for direct sales or use the model traditionally known as multi-seller, in which the brand could select accredited partners to operate its official store.

Meli was considered the leading marketplace platform in the e-commerce sector in 2021. On this platform, auto parts reached first place in the sales ranking among all categories. The company’s revenue on auto parts sales reached 8.5 billion Brazilian reais only in 2021, which represented an average of 15% of sales across the whole platform.

General sector data indicates that only 30% to 40% of a manufacturer's portfolio was absorbed by the distribution chain. The internet has brought the possibility of exploring the long tail¹ strategy and the opportunity for the manufacturer to sell his portfolio which was not absorbed by its traditional sales chain, making the path to direct sales seems to be even more attractive. E-commerce can offer an entire ecosystem and the manufacturer can use it with an advantageous cost-benefit.

IS IT AN OPORTUNITY OR A NECESSITY?

With the end of the lockdown, police due the COVID-19 pandemic and the return to in-person activities, exhibitions and fairs returned with full force and full of news. The kilometers traveled by vehicles were affected and reduced due to the pandemic lockdowns. But, on the other hand, due to new cars purchased a few years ago reaching the old age for spare parts, according to research by consultancy KPMG (Brotschi, Christof, Dertouzos, Kempf, & Vaze, 2020), demand could recover sooner than the market had expected.

In May 2022, ZM has attended at the first post-pandemic mechanical exhibition in Brazil, which has surpassed all the records in exhibitor and attendance counts. There were more than 50 thousand people from different states of the country and a lot of people that came from abroad. The ZM stand received many customers and applicators. New opportunities emerged and the subject of "sales through digital channels", already expected among the topics, emerged with great relevance at multiples times. Several e-commerce executives presented proposals to sell the brand's products. Companies of different sizes – large, medium, and small – were interested in being related to the ZM products.

The days in this exhibition were intense. In the next day of receiving the first proposals from e-commerce companies, ZM was approached by the account executive for Mercado Livre's auto parts segment, who went to the exhibition with the intention of presenting the operation of the official Meli store, seeking for ZM to start its digital presence on this platform. To reach his objective, he has offered three possible store options for ZM on their platform. One would be in the marketplace format: third parties, distributors of the brand, would operate the platform, selling the parts to consumers, within the ZM domain. In the second modality, the industry itself would sell to the final consumer. The third option would be a hybrid format: the industry itself and partners would operate it together.

This exhibition activated many demands. Returning to the factory, the team had a meeting with the sales management to discuss the main points. At a certain point, the Mercado Livre e-commerce entered the agenda. After some discussion and points presented by Poliana, it was decided that ZM would have its store on the platform, but the operation would be carried out by third parties, as the company did not, at that time, have the structure to serve the retail market. Among the partners, and using a previous conversation about this matter, Poliana had suggested the company JSO to be the third party, which had its own e-commerce and already operated via Mercado Livre, in the modality chosen by ZM, with other manufacturers, even our competitors. In this way, ZM began its digital presence through the Mercado Livre platform and with the operationalization of the JSO distributor.

At the half-year results meeting – between the commercial team and the direction board – the topic of new sales channels and digital presence dominated the meeting subject. The commercial team, based on the results of the operations at Mercado Livre, understood that they could increase sales even more if they started to operate them directly with consumers, instead of doing so through partners.

– We had many conversations with distributors who are opening their businesses to online sales. This is great, but I realize that this movement is changing many scenarios and I ask myself: What is our role in this transformation? Wouldn't this be an opportunity for us to transform ourselves too? – asked Poliana.

¹The term 'long tail' refers to a strategy that targets several products with low demand rather than focusing on a few products with many orders. Similar to an image of a dinosaur. Imagine that he is standing upright, and his tail is on the ground. At the top, we have products that we consider to be more generic, with more demand, however, with limited quantity. The tail part refers to more specific products with less demand. This "long tail" view, which suggests that companies profit from selling a wide variety of products rather than focusing on a small number of products, was popularized by Chris Anderson in the book *The Long Tail: Why the Future of Business is Selling Less of More*.

– It is natural for customers to be active in marketplaces or even have their own e-commerce sites. But we will participate in the transformation by offering our products data and suggesting viable products, like we have done with PeçasMais – the company director replied.

– Yes, but this is already in process with other clients. In addition, our official store is also working online, as a “multi-seller”, but, as I emphasize, with third parties operating it. There are many positive points to doing it in this way, but also many limitations too, because we are not always as attractive to the end consumer as our competitors – stated Poliana.

– So, I understand that we don’t participate in the logistics of receiving and delivering these orders, but, if we wanted to start selling directly, could we? – asked one of the board members.

– We could, but our logistics structure is not yet prepared for the retail sales market. Furthermore, we would break some links in the chain, selling directly to the end consumer. This is our biggest fear – argued Ademir.

– But with a higher markup, we can maintain healthy competition with our own distributors. This possibility is relevant because, in addition to getting a better profit margin, we can also advertise all our products, our entire portfolio, including those that our distributors do not keep in their storages. Nowadays, in this format, we only sell a small part of our products mix – pondered Poliana.

– Are you checking the impacts upon other manufacturers with direct sales on Meli, or in your own e-commerce stores? – asked the director.

– Yes! And I see that it is growing day by day. Just yesterday I saw the announcement of a filter manufacturer launching its e-commerce – replied Poliana.

– Yeah [...] My concern is if this is the right moment to do that. We need to get a better understanding of this entire e-commerce movement, so we won’t be left behind – pondered the director.

– But, on the other hand, we have our customers with an active presence and already consolidated in this market, because they are already purchasing destinations for the final consumers – argued Ademir.

– We are in a dilemma, as there is no guarantee that they will continue to buy from us. We have all the production system, but we do not have the sales to the final consumers. If a more attractive supplier appears, they can simply stop buying from us. But, on the other hand, if we go directly to the market, we are overriding them who, until today, have never caused us any problems. We are going to have a lot of conflicts with our own clients – reflected the director.

– Indeed, this decision is extremely important, we must decide what to do to resolve this dilemma. We have new product lines that are not going very well in this format, and I notice that, in many cases, it is because the resellers do not prioritize them. Therefore, I think that selling online is an opportunity. Furthermore, consumers feel confident buying directly from the brand which has manufactured the goods. What is the best way to increase our billing and presence in the market?

There are many arguments regarding both points of view. On the one hand, greater profits, the possibility of selling the entire portfolio and the increase of the consumer trust in the brand; on the other hand, transportation costs, changes in the business model, communication costs and logistical structure costs. Now, the company’s management and the commercial sector, led by Poliana, have an important dilemma to resolve: Will we follow the sector’s trend and invest in direct sales to consumers, taking advantage of digital channels, or will we keep the already consolidated structure that the company has been using it since the 1980s, when it has begun its operations?

TEACHING NOTES

Opportunity or necessity? The Case of ZM S/A

Abstract

This teaching case portrays the dilemma of ZM S/A, an auto parts industry, regarding the disruption of B2B to B2C sales channels. With the growing demand for sales through online channels due to the COVID-19 pandemic, the company puts into perspective the feasibility of starting direct sales operations (B2C) through the creation of its own e-commerce or the promotion of its distributors' online sales. The purpose of the case is to promote reflection on the strategic changes in sales channels and the potential conflicts of creating an e-commerce platform. This is a real case that uses the company's name and replaces the names of individuals involved for privacy. The construction of the case relied on primary sources, through interviews with those involved, and on secondary sources, through sectoral data. The case can be applied in the final years of undergraduate programs in business administration and graduate programs in strategic marketing and digital marketing, specifically in courses related with business management, organization and marketing strategies, operations management, and innovation.

Keywords: Marketing channels. Sales. Marketplace. Digital transformation.

Oportunidade ou necessidade? O caso da ZM S/A.

Resumo

Este caso para ensino retrata o dilema da ZM S/A, uma indústria de autopeças, ante a ruptura de canais de vendas, que passaram de B2B para B2C, e seus potenciais conflitos. Com a crescente demanda das vendas nos canais *on-line* em virtude da pandemia de COVID-19, a empresa coloca em perspectiva a viabilidade de iniciar operações de venda direta (B2C), com a criação de um *e-commerce* próprio ou fomentando as vendas de seus distribuidores. O objetivo do caso é promover a reflexão sobre as mudanças estratégicas dos canais de vendas e os potenciais conflitos na mudança destes canais em um setor com estrutura engessada, mas que vem mudando seu formato por uma demanda do acesso digital dos consumidores. Trata-se de um caso real, que retrata o nome verdadeiro da empresa. Apenas os nomes dos personagens foram são fictícios. A construção do caso contou com fontes primárias, via entrevistas com os envolvidos, e fontes secundárias, que foram os dados setoriais. O caso pode ser aplicado nos anos finais dos cursos de graduação em Administração e em cursos de pós-graduação em Marketing Estratégico e Marketing Digital, especificamente em disciplinas que envolvem a gestão empresarial, estratégias organizacionais e de *marketing*, gestão de operações e inovação.

Palavras-chave: Canais de *marketing*. Vendas. *Marketplace*. Transformação digital.

¿Oportunidad o necesidad? El caso de ZM S/A

Resumen

Este caso didáctico retrata el dilema de ZM S/A, una industria de autopartes, con respecto a la disrupción de los canales de venta B2B a B2C y sus posibles conflictos. Con la creciente demanda de ventas a través de canales online a raíz de la pandemia de COVID-19, la compañía pone en perspectiva la viabilidad de iniciar operaciones de venta directa (B2C), mediante la creación de un e-commerce propio o del fomento de las ventas de sus distribuidores. El propósito del caso es promover la reflexión sobre los cambios estratégicos en los canales de venta y los posibles conflictos en el cambio de estos canales en un sector con estructura enyesada, pero que ha ido cambiando su formato debido al acceso digital de los consumidores. Este es un caso real en el que se usa el nombre real de la empresa. Solo los nombres de los personajes son ficticios. La construcción del caso se basó en fuentes primarias, a través de entrevistas a los involucrados, y en fuentes secundarias, a través de datos sectoriales. El caso puede aplicarse en los últimos años de carreras de grado en administración y en posgrados en marketing estratégico y marketing digital, específicamente en disciplinas que involucren gestión empresarial, estrategias organizacionales y de marketing, gestión de operaciones e innovación.

Palabras clave: Canales de marketing. Vendas. Mercado. Transformación digital.

This section informs the teaching objectives, the suggested ways to apply the content, and the suggested content for evaluating the audience's performance. Only the case moderator should have access to the following teaching notes (Roesch, 2007).

Data source

The data in the teaching case comes from primary and secondary sources. The primary sources were collected through interviews with the characters involved. Secondary data are from industry sources, such as websites, magazines, and yearbooks.

The case story is real, and, in the plot, the company's name remained faithful. The names of the managers, distributors, and other characters involved have been changed to protect their identity, as requested. This change did not interfere with the context of the story.

Teaching objectives

This teaching case aims to promote reflection on strategic changes in sales channels and channel conflict.

The secondary objectives are:

- Understand the strategic position of distribution channels.
- Assess the structure and need for the multichannel strategy within the current market context.
- Estimate conflicts that online direct-to-consumer sales can generate.
- Investigate the accelerating digital transformation in a post-pandemic world.

It is expected with the case application the students will be able to indicate the best path for ZM S/A. in its market development and the consequent financial return. To this end, students will become capable of guiding B2C sales implementation processes via e-commerce platforms, in addition to being solution-oriented managers who seek to avoid channel conflict.

Teaching plan

The case is recommended to be applied to undergraduate and graduate courses in business administration, in subjects such as business management, organizational strategies, marketing strategies, innovation and technology, and digital marketing. In addition, related disciplines that work on sales channels and digital transformation acceleration the case can also be used.

The case application in an undergraduate course requires 120 minutes and is recommended in the last two years. For application at different levels of education, the application is as follows: through an isolated meeting, for an undergraduate course, or as a tool for evaluating a curricular component in graduate studies (Partyka, Lima, & Lana, 2021). It is suggested that the entire learning process with the case be carried out entirely in the classroom. In graduate classes, it can be used as a learning assessment tool and/or be asked to read it before the meeting. Box 1 presents the indicated lesson plan.

Box 1
Undergraduate teaching plan

TIME	SPEAKER	ACTIVITY	PURPOSE
5min	MODERATOR	Case introduction	Introduce students to history and teaching content.
15min	AUDIENCE	Case reading in full	Case knowledge and characters appropriation.
5min	MODERATOR	Groups (maximum 3 people)	Group formation to define answers to discussion questions.
30min	AUDIENCE	Group discussion	Reading and discussion time.
45min	MODERADOR AND AUDIENCE	Plenary discussion	The moderator leads the discussion, going chronologically through the suggested questions. The audience participates by pointing out the developed answers.
20min	MODERATOR	Closure	The moderator must conduct a closure trying to find a more correct solution. Make a discussion as to how the selected solutions should be implemented in the company.

Source: Elaborated by the authors.

For graduate classes (Box 2), a time of 130 minutes is indicated. The proposed didactic scope aims to allow time for research on the content discussed and the discussion of possible strategies and means that can be implemented in the company studied. For this level, it is recommended to solicit the read it before the meeting. If you choose to use assignment questions, these must be addressed before forming groups, to resolve the discussion questions.

Box 2
Graduate teaching plan

TIME	SPEAKER	ACTIVITY	PURPOSE
5min	MODERATOR	Case introduction	Introduce students to history and teaching content.
5min	MODERATOR	Groups (maximum 3 people)	Small group formation for research.
45min	AUDIENCE	Group discussion	Discussion and answers to suggested questions.
45min	MODERATOR AND AUDIENCE	Plenary discussion	Each group elects a leader who presents developed solutions. The plenary begins and is guided by the sequence of suggested questions.
30min	MODERATOR	Closure	Identify and list suggested solutions. Balance the selected solutions based on the company's decision.

Source: Elaborated by the authors.

Finally, assignment questions were made available, for application at both levels. These questions can be distributed to students before the first stage of the discussion. The time established for the activity, in this case, is 45 minutes. It is suggested to introduce new questions at each moment of the discussion. For this, the application is conducted more in-depth, focusing on reading the case and discussing it in sections. For this application, prior reading is not necessary. The moderator must provide time to read each section and, at the end of each, address the suggested questions to stimulate debate and absorption of the story.

- Were ZM S/A's operations consistent with the company's aspiration to enter B2C e-commerce? Why?
- Did the items sold by ZM S/A represent products compatible with digital platform sales? Justify.
- Why did Poliana, at that moment, choose to opt for a distributor model, offering on the marketplace?
- Which other distribution channel would achieve direct sales to the consumer (assuming they are not the person performing the service on the vehicle) without using a marketplace?
- Why did the B2C offer a path adopted because of the COVID-19 pandemic? Would there be another possible?

The case portrays a real situation. Having made this consideration, the closure of the case, at both levels, can be carried out in two moments: in the first, the moderator summarizes the main suggestions and alternatives prepared by the students and addressed to the company. In the second moment, he analyzes the alternatives and suggestions highlighted by the class, comparing them with what was carried out by the company's management.

Finally, although the case portrays the history of a public limited company, the capital of this company is currently closed. Therefore, the limitations of this case for teaching are related to financial information, especially reserves and cash flow, which the interviewees preserve due to strategic decisions.

Assignment questions and theoretical alignment

Based on the dilemma directly responsible to Poliana and all the actions and doubts, the reader must "put themselves as the protagonist" to answer the questions presented. Based on the story of ZM, the reader must "internalize" the anxieties and fears and, within the scenario set out by Poliana, solve the case dilemma.

The suggested questions introduce an approach to digital transformation, in a contextual way, so that questions on the replacement market and sales channels can then be explored in depth.

Opening

Question 1

The case contextualizes the digital acceleration and the exponential growth of sales via digital means (marketplaces and e-commerce) during and after the pandemic. Poliana should take what principal actions for these initiatives to be successful?

Suggested answer

Companies, in general, can no longer procrastinate digitalization when their sustainability depends on it. Kotler, Kartajaya, and Setiawan (2021) suggests some strategies for building solid digital capabilities.

- Invest in digital infrastructure: companies should invest in infrastructure for collecting and processing customer data. With this information, new tactics such as individual personalization and predictive marketing can be applied.
- Develop the digital customer experience: digitalization must cover all points of customer contact, providing an excellent journey throughout the process. In this way, value is created that generates revenue through the customer experience.
- Establish a strong digital organization: every organization must be able to operate and understand digital processes. Thus, it builds an agile culture with continuous experimentation and collaboration.

Based on the reference, the Automotive Sector Digital Transformation Index (ICTd), made by the Recife Innovation Center (CESAR), in partnership with Automotive Business, Poliana can envision major improvements in the company, since, according to this index, the sector presents 66.15% (on a scale that goes up to 100%) of maturity in digitally mature organizations (Riato, 2021).

Question 1.1

What general characteristics of ZM S/A will allow it to implement digital channels and, at the same time, avoid implementing a channel conflict?

Suggested answer

To successfully implement digital channels and avoid channel conflicts, ZM S/A should invest in technology and data analysis tools with its IT. This will allow the company to monitor customer behavior and adapt its strategy to market needs. Furthermore, ZM has expertise in customer behavior and preferences when using different channels. This proximity allows the company to offer an integrated and frictionless shopping experience.

The vertically integrated strategy, from production to the consumer, resulting in better coordination (Brahm & Tarziján, 2016), drives the ZM. Clear and consistent communication across all channels allows the company to convey a unified message across all touchpoints. The ZM must remain flexible and adaptable, adjusting its strategies according to the client's requirements and preferences to avoid conflicts. Even in a new crisis, health or economic, vertically integrated companies respond better and faster (Chong, Wang, Yue Tan, & Cheong, 2014).

Analysis

Question 2

When deciding to expand distribution channels with B2C operations by ZM S/A, what strategies should Poliana promote to avoid future channel conflicts with its distributors and trade representatives?

Suggested answer

Firstly, it is necessary to clarify that acting in this format is called multichannel since there are several channels that are not necessarily interconnected or integrated (S. Kim, Connerton, & Park, 2022). Another necessary clarification refers to the fact that opening up to direct sales (B2C) is not an innovation restricted to ZM's wishes. Many iconic companies in the world (i.e., HP and Walmart) have opened B2C direct sales channels to sell products online (Li, 2015).

The first step to avoiding channel conflict is to distance yourself from the possibility of competition between the store and its distributors or trade representatives (Palmatier, Sivadas, Stern, & El-Ansary, 2019). Poliana could focus on the consumer who decides to choose the part, be it the mechanic, the purchasing department of a mechanic, or the vehicle owner who wants to buy the part and take it for repair. Unlike the insurance sector (e.g., Dominique-Ferreira, 2018), in which the consumer usually purchases the product from an intermediary, such as a trusted broker, an acquaintance from the same city, or even from the bank where he already has an account – and it is difficult to directly from the insurance company – the aftermarket parts sector offers the manufacturer the benefit of being present and making direct sales available to the consumer.

It is necessary for strategies to be planned together, respecting customer preferences and segmentation, whether it is a consumer who owns a vehicle or the purchasing department of a mechanic. Furthermore, the after-sales management should improve, provided by the factory, distributors, and representatives. This leads to customer satisfaction with the factory and distributors (Lapoule & Colla, 2016; Reynolds, 2002). In turn, while the factory becomes a commodities company, adding small margins, distributors can differentiate themselves by adding vehicle exchange and replacement services.

Anytime Poliana can have the pieces available to optimize and differentiate business models, such as showrooms, delivery and collection centers, exhibition centers, and online logistics centers. When the initial cost of purchasing an asset is high, the decision maker tends to be reluctant to replace it and will continue to use it until it is too physically damaged to function, resulting in an extended economic lifespan (K. T. Kim, An, & Lee, 2021).

Finally, other sources of conflict must be managed by Poliana in the future and must be reduced to a minimum. For example, the costs charged to resellers, product prices, inventory sizing, and purchases financing.

Question 2.1

How can digital acceleration be a driving force for ZM to become more digital and, in addition, make it up to date in relation to new consumer behaviors and the second-hand market??

Suggested answer

Companies need to explore emerging channels (such as online), not neglecting cost reduction management and maintaining margins, as the boom in e-commerce was identified during the pandemic and online automotive parts have made part of this movement (Brotschi et al., 2020).

Digital acceleration can be a driving instrument and, at the same time, updated to new consumer behaviors in different ways.

E-commerce: ZM would invest in e-commerce platforms to facilitate sales besides expanding the supply of parts for its consumers. This strategy can help reach consumers in other regions of the country by extending the company's audience and visibility.

Social networks: important communication channels for promoting products and services. The company can take advantage of this opportunity to promote itself and its brand through channels such as Instagram, Facebook, Twitter, TikTok and LinkedIn.

Artificial intelligence: can be used to create replacement parts recommendations, based on the needs of each consumer. Furthermore, artificial intelligence would be used to optimize internal processes, such as inventory management and product delivery logistics.

Data analysis: would help the company to better understand the profile of its target audience, as well as identify trends and consumption patterns. This information would be useful to adjust ZM's offering and adapt its marketing strategy to better meet consumer needs.

Soon, it is possible to expect preferences that lead to a new "do it yourself" category, with video support provided, which would be limited since not all consumers can repair vehicles themselves (Brotschi et al., 2020).

Question 3

The case exposes strategic changes in the sales channels of traditional distributors and retailers to keep up with new consumer behaviors in the sector. What advantages can these companies have in comparison with digital natives and how would Poliana use this aspect in favor of ZM S/A?

Suggested answer

Companies not digital natives may have an advantage over others in the delivery point for an omnichannel strategy. Online sales with delivery points build a scenario of reliability for new digital media consumers (Addo, Jiaming, Kulbo, & Liangqiang, 2020; Ivanov, 2020; Sarkis, Cohen, Dewick, & Schroder, 2020). Furthermore, the omnichannel strategy guarantees a more efficient logistics operation, by establishing an integration of stocks across different channels and, thus, maturing online sales operations.

Another relevant point is stock capacity. For Almeida (2010), inventory means goods held for sales or production goals in connection with the company's objectives or activities. It is essential in determining the net profit for each fiscal year and the net working capital value estimation in the balance sheet. According to the case report, ZM maintained excellent inventory levels, which didn't happen with its distributors. The COVID-19 pandemic was a favorable period for company operations, with its delivery of finished products. Therefore, it can be said that available stock is a competitive advantage, as it adds agility to service.

Experience with a product catalog can result in digitalization that is faithful to demands. Freitas and Knauss (2009) state that digitalization has become a necessary solution, as it shortens and, above all, avoids interaction with all stages and/or organisms involved. An example would be the availability of the parts catalog online, depending solely on access by the interested party. There is also a concern about their physical integrity, which began to be protected with the promulgation of the digital experience. Companies must enact their expanded access to information. If previously only available in traditional stores, they are now made available and provided by technology in real-time – in traditional automotive retail, accurate information about prices, stock, and promotions does not have great transparency between manufacturer and retailer (S. Kim et al., 2022).

Studies (e.g., Boyce & Mano, 2018) have shown that consumers consistently choose companies focused on quality and delivery. A representative case is Amazon, whose shipping takes up to two days. In the case of ZM, because the company already has a verticalized manufacturing structure, availability through a direct sales channel provides a greater chance of reducing the time from purchase order to arrival at the consumer's address. This would avoid, for example, once again considering the reduced or non-existent stock of a part by the distributor, that he would have to place the order first with ZM and only then ship it to the consumer.

Question 3.1

Should the increase in demand in e-commerce and for maintenance (and sales) of used cars be judged by Poliana as something cyclical or something that requires strategic planning from ZM S/A?

Suggested answer

The increase in demand in e-commerce and the maintenance and sales of used cars can be considered a business opportunity for companies operating in the replacement sector. When economic pressure leads drivers to delay new car purchases, repairs on their current (and older) vehicles become even more vital (Brotschi et al., 2020).

Poliana should consider the increase in demand for e-commerce and maintenance and/or sale of used cars as something that requires strategic planning from the company. While economic cycles could influence these sectors it is necessary to recognize that increased demand could be a consequence of permanent change in consumer behavior. For example, the COVID-19 pandemic has accelerated the transition to online shopping – a trend that may continue even after the pandemic. Furthermore, the increase in demand for used cars could be a result of a low supply of new cars due to a shortage of raw materials. These factors can result in structural changes in the industry that require a strategic response from the company.

According to a study by McKinsey & Company (Brotschi et al., 2020), many consumers in the USA and Europe have already migrated to e-commerce to purchase parts. And must persist. Aftermarket companies must offer omnichannel models with online purchasing and then quick pick-up capabilities. The supply chain will change as distributors and retailers are expected to switch suppliers to nearby sources – seeking to reduce the risk of disruption – and avoid having a single supplier. In the case of Brazil, this would mean that, with an older fleet and demand for spare parts, the search for national suppliers may increase compared to the search for parts of Asian origin.

Although the demand for this sector can also be seen as cyclical, ZM needs to evaluate the current situation and plan its actions to make the best use of the opportunity. This includes investing in technology and innovation to improve its digital presence and offer a satisfying online shopping customer experience by adjusting the mix of products and services to meet consumers' needs. When the company realizes that the increase in demand is sustainable and not just a temporary spike, it may be necessary to expand production capacity to meet demand.

Closure

Question 4

Based on the perception of the demand growth for used cars and observing the automotive aftermarket activity, how can the increase in the used vehicle fleet influence the demand growth and how can Poliana use this “wave” to bring innovation and profit to the company?

Suggested answer

The automotive aftermarket is a secondary market, made up of replacement parts that are not produced by the original equipment manufacturer. These spare parts are used to replace damaged parts in automobiles and other equipment.

After the sale of a vehicle by an automaker, the aftermarket chain is responsible for the manufacturing, remanufacturing, distribution, retail/wholesale sales, and installation of auto parts and accessories. As the vehicle fleet ages and there is a need for repairs on used vehicles, the demand for spare parts in the aftermarket grows.

Around 11% of the fleet will age between 2021 and 2026, which increases the trend of increasing the share of replacement parts in the automotive market (Fraga, 2022b). With the boost in the auto parts market due to greater demand and interest in used cars, new vehicle sales have returned to pre-pandemic numbers (Laguna, 2023). This means an increase in the fleet of used vehicles (Figure 8).

Figure 8
Used cars boost auto parts market



Note: The illustration portrays the blend of two elements that lead consumers to prefer used cars. The first one is the increase in the price of new car units by more than 20% between 2020 and 2022. Combined with this, the desire to own vehicles leads to estimates of a 5% increase in the circulating fleet by 2026. As a result, the Brazilian fleet could reach an age of 12.12 years in 2026. Consequently, as shown in the bottom row of figures, there is an increased demand for vehicle maintenance and a greater demand (and profit) in the auto parts sector. Source: Fraga (2022b, p. 16).

Consumer relationships may not be explicit. The power that consumers have developed in recent years requires that their opinions and preferences are kept at the forefront of company decisions. Working more closely with customers can lead to other benefits, such as more innovation (Boyce & Mano, 2018).

Studies showed the greater the market stability the longer a part is used (e.g., K. T. Kim, et al., 2021). The result aligns with the finding that the economic useful life of an asset decreases as the company's revenue volatility increases. In other words, the faster the introduction of technology into parts, the more economical it becomes to replace the old asset, as the consumer can take advantage of the benefits of the new asset in advance.

Poliana can still count on the incentive of an increase in the number of consumers adept at innovation who have the desire to use new technologies or products that others have not yet used (S. Kim, et al., 2022). If customers judge the technology offered as compatible, they can gradually start to switch to digital.

DISCLAIMER

The moderator must ensure that students, as solution providers, present best practices for the case. As for the dilemma, ZM opted for direct sales on Mercado Livre to start new practices. The platform facilitated direct sales through the official store and boosted sales from distributors who already had this practice on the marketplace, thus integrating the stores. Since ZM has an IT team dedicated to the industry 4.0 universe, ZM also made its catalog available online, updated 24 hours a day and interactively, facilitating product registration with client partners.

Some issues are still in the experimental phase, as it is necessary to understand, in the long term, the behavior of this online consumer to conduct offers assertively. It is surprising that some low-turnover products became relevant in sales through the platform, which interfered with production scheduling, as this demand variable began to be considered.

The push in visibility that digital media provides contributed to the brand's presence – something foreseen by the company's managers.

REFERENCES

- Addo, P. C., Jiaming, F., Kulbo, N. B., & Liangqiang, L. (2020). COVID-19: fear appeal favoring purchase behavior towards personal protective equipment. *The Service Industries Journal*, 40(7-8), 471-490. Retrieved from <https://doi.org/10.1080/02642069.2020.1751823>
- Almeida, M. C. (2010). *Auditoria: um curso moderno e completo*. São Paulo, SP: Atlas.
- Associação Nacional dos Fabricantes de Veículos Automotores. (2022). *Anuário da Indústria Automobilística Brasileira 2022*. Retrieved from <https://anfavea.com.br/anuario2022/2022.pdf>
- Bey, N. (2019). Future Technology Photonics – Is the Product Development Ready for Automotive? *PhotonicsViews*, 16(4), 44-48. Retrieved from <https://doi.org/10.1002/phvs.201900032>
- Boyce, W. S., & Mano, H. (2018). An inquiry into the supplier selection decision from the business-to-consumer (B2C) perspective. *Journal of Business & Industrial Marketing*, 33(8), 1221-1230. Retrieved from <https://doi.org/10.1108/JBIM-06-2018-0183>
- Brahm, F., & Tarzijan, J. (2016). Relational Contracts and Collaboration in the Supply Chain: Impact of Expected Future Business Volume on the Make-or-Buy Decision. *Journal of Supply Chain Management*, 52(3), 48-67. Retrieved from <https://doi.org/10.1111/jscm.12110>
- Brotschi, A., Christof, D., Dertouzos, J., Kempf, S., & Vaze, P. (2020). *Beyond coronavirus: The road ahead for the automotive aftermarket*. Retrieved from <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/beyond-coronavirus-the-road-ahead-for-the-automotive-aftermarket>
- Chong, Y. Q., Wang, B., Yue Tan, G. L., & Cheong, S. A. (2014). Diversified firms on dynamical supply chain cope with financial crisis better. *International Journal of Production Economics*, 150(C), 239-245. Retrieved from <https://doi.org/10.1016/j.ijpe.2013.12.030>
- Dominique-Ferreira, S. (2018). The key role played by intermediaries in the retail insurance distribution. *International Journal of Retail & Distribution Management*, 46(11-12), 1170-1192. Retrieved from <https://doi.org/10.1108/IJRDM-10-2017-0234>
- Fantoni, R., & Dampierre, G. (2021). Mercado de Reposição Automotivo no Brasil: Perspectiva da McKinsey. Retrieved from <https://www.sindipecas.org.br/sindinews/2021/2-EncontroIndustriaAutopecas/Mckinsey.pdf>
- Fraga, D. (2022a). E-commerce de autopeças no Brasil, uma realidade que ainda promete. *Novo Varejo Automotivo*, 29(364), 30-31. Retrieved from <https://novovarejoautomotivo.com.br/wp-content/uploads/2022/07/Novo-Varejo-364-site-1.pdf>
- Fraga, D. (2022b). Carros usados impulsionam venda de autopeças. *Novo Varejo Automotivo*, 29(371), 14-16. Retrieved from <https://www.flipsnack.com/novovarejofulldigital/jornal-novo-varejo-automotivo-vers-o-digital-371.html>
- Freitas, C. R., & Knauss, P. (2009). Usos eletrônicos do passado: digitalização de documentos e política de arquivos. *Patrimônio e Memória*, 4(2), 3-16. Retrieved from <https://pem.assis.unesp.br/index.php/pem/article/view/32/0>
- Ivanov, D. (2022). Viable supply chain model: integrating agility, resilience and sustainability perspectives: lessons from and thinking beyond the covid-19 pandemic. *Annals of Operations Research*, 319, 1411-1431. Retrieved from <https://doi.org/10.1007/s10479-020-03640-6>
- Kim, K. T., An, D., & Lee, D. J. (2021). Economic service life of equipment under uncertain revenues: a real options approach. *The Engineering Economist*, 66(3), 245-261. Retrieved from <https://doi.org/10.1080/0013791X.2021.1946226>
- Kim, S., Connerton, T. P., & Park, C. (2022). Transforming the automotive retail: drivers for customers' omnichannel BOPS (Buy Online & Pick up in Store) behavior. *Journal of Business Research*, 139, 411-425. Retrieved from <https://doi.org/10.1016/j.jbusres.2021.09.070>
- Kotler, P., Kartajaya, H., & Setiawan, I. (2021). *Marketing 5.0 - technology for humanity*. Hoboken, NJ: Wiley.
- Laguna, E. (2023, January 03). Indústria de veículos tem melhor dezembro em dois anos no país. *Estadão*. Retrieved from <https://www.estadao.com.br/economia/industria-veiculos-dezembro-2022-melhor-dois-anos>
- Lapoule, P., & Colla, E. (2016). The multi-channel impact on the sales forces management. *International Journal of Retail & Distribution Management*, 44(3), 248-265. Retrieved from <https://doi.org/10.1108/IJRDM-11-2014-0159>
- Li, M. (2015). The Discussion on Multi-channel Distribution System under B2C E-commerce Mode. In *Proceedings of the 2015 International Conference on Education Technology and Economic Management (ICETEM 2015)*, Beijing, China.
- Palmatier, R. W., Sivadas, E., Stern, L. W., & El-Ansary, A. I. (2019). *Marketing channel strategy: an omni-channel approach*. Oxfordshire UK: Routledge.
- Partyka, R. B., Lima, C. E., & Lana, J. (2021). Quanto tempo destinar para as discussões ao ensinar com casos para ensino? *Administração: Ensino e Pesquisa*, 22(3), 446-467. Retrieved from <https://doi.org/10.13058/raep.2021.v22n3.2083>
- Reynolds, J. (2002). Charting the multi-channel future: retail choices and constraints. *International Journal of Retail & Distribution Management*, 30(11), 530-535. Retrieved from <https://doi.org/10.1108/09590550210449386>
- Riati, G. (2021, December 17). Digitalização do setor automotivo deu salto com a pandemia. *Automotive Business*. Retrieved from <https://automotivebusiness.com.br/pt/posts/setor-automotivo/digitalizacao-do-setor-automotivo-deu-salto-com-a-pandemia/>
- Roesch, S. M. A. (2007). Notas sobre a construção de casos para ensino. *Revista de Administração Contemporânea*, 11(2), 213-234. Retrieved from <https://doi.org/10.1590/S1415-6552007000200012>
- Sarkis, J., Cohen, M. J., Dewick, P., & Schroder, P. (2020). A brave new world: Lessons from the covid-19 pandemic for transitioning to sustainable supply and production. *Resources, Conservation and Recycling*, 159(1), 104984. Retrieved from <https://doi.org/10.1016/j.resconrec.2020.104894>
- Sindicato Nacional da Indústria de Componentes para Veículos Automotores. (2022). *Desempenho da Indústria Brasileira de Autopeças*. Retrieved from https://www.sindipecas.org.br/sindinews/Economia/2022/Sindipecas_Desempenho_ProjecoesOutubro_2022.pdf

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