THE OPERATION OF THE EXPORT QUALIFICATION PROGRAM IN FACTORS PROMOTING EXPORTATION: AN ANALYSIS OF THE '*PEIEX-FRANCA*'[1]

Pedro Luiz Messana Niero Rocha[2]
Daniela Schettini[3]

By means of the 'APEX Brasil' program, the Brazilian Federal Government has developed the Export Qualification Program (Projeto de Extensão Industrial Exportador – Peiex), with the aim of preparing firms for export activities. Following academic research of the internal and external factors affecting firms that both boost and hinder exports, this article aims to analyze whether the PEIEX program has been operating precisely in those areas that the literature highlights as important for firms working with exports. Using data from Peiex-Franca (São Paulo), relating to the period from between 2016 and 2018, involving 190 firms based in 16 municipalities and working in different business sectors, an interview with Apex, and a survey conducted with firms participating in the project in question, the article concludes that there is a convergence between the export factors outlined in the literature and the characteristics of the firms participating in the project. Furthermore, despite Peiex working with these factors, it can be noted that the improvements are concentrated in a few specific internal factors, meaning others are possible within the scope considered in the literature and offered by Peiex.

Keywords: exportation; Peiex; companies; export support programs.

A ATUAÇÃO DO PROJETO DE EXTENSÃO INDUSTRIAL EXPORTADOR NOS FATORES DE FOMENTO ÀS EXPORTAÇÕES: UMA ANÁLISE DO PEIEX-FRANCA

Por meio do programa APEX Brasil, o Governo Federal desenvolveu o Programa de Qualificação para Exportação (Projeto de Extensão Industrial Exportador – Peiex), com o objetivo de preparar empresas para atividades de exportação. Com base em pesquisas acadêmicas sobre os fatores internos e externos que influenciam as empresas, tanto aqueles que impulsionam quanto os que dificultam as exportações, este artigo tem como propósito analisar se o programa Peiex tem atuado exatamente nas áreas destacadas pela literatura como relevantes para as empresas que buscam exportar. Utilizando dados do Peiex-Franca (São Paulo), referentes ao período de 2016 a 2018, envolvendo 190 empresas localizadas em 16 municípios e atuantes em diferentes setores econômicos, além de uma entrevista com a Apex e de um questionário aplicado às empresas participantes, o artigo conclui que há convergência entre os fatores de exportação identificados na literatura e as características das empresas atendidas pelo projeto. Além disso, embora o Peiex atue sobre esses fatores, observa-se que as melhorias concentram-se em alguns fatores internos específicos, indicando que outros aspectos ainda podem ser explorados, dentro do escopo apontado pela literatura e das ações oferecidas pelo programa.

Palavras-chave: exportação; Peiex; empresas; programas de apoio à exportação.

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2. PhD candidate in Administration at the School of Economics, Business and Accounting of Ribeirão Preto, University of São Paulo (FEA-RP/USP). E-mail: p.rocha@usp.br.

3. Associate professor at Institute of International Relations (IRI) of USP. E-mail: danischettini@usp.br.

1 INTRODUCTION

Overseas trade has the potential to influence the development and growth of a country by creating jobs, stimulating innovation and cooperation between States, and balancing economic factors. In micro-economic terms, companies tend to be more productive, pay higher salaries and apply innovation to their processes and products more frequently (Arbache and de Negri, 2002). Over recent years, Brazil has adopted incentive policies as a means of encouraging its government agencies, such as the Brazilian Agency for the Promotion of Foreign Trade and Investment (Apex Brasil), with the aim of disseminating a culture of exportation amongst firms. The agency conducts various different trade development activities designed to encourage exports and promote Brazilian products and services, such as, for example, trade missions, business rounds, support for Brazilian firms to be able to participate in large international trade fairs, as well as market studies and analyses, that aim to guide firms and their partners with regard to the best opportunities for their international business ventures[4] (Apex Brasil, 2015).

Apex has also developed the Export Qualification Program (Projeto de Extensão Industrial Exportador – Peiex), a Brazilian Federal Government program which, since 2004, has assisted more than 30,000 firms with the aim of preparing them for exportation activities.[5] Free of charge and offered through certified responsible agencies,[6] Peiex provides services to Brazilian firms located throughout the country, offering expert consultations on their export capacities, their performance in different areas, especially management, and recommendations and advice on technical, management and technological improvements. After developing a diagnosis based upon technical visits and the study of data together with the firm, the program offers suggestions for specific actions and improvements.

In a study of 180 clothing firms from Ceará, which received support between 2011 and 2012, Santos (2014) analyzed the performance of the Peiex methodology in encouraging the companies to move into the international market and incorporate innovation, as well as the importance of innovation for the firms' success overseas. Dornelas (2016) sets out to identify the benefits and weaknesses of Peiex, through an analysis of seven firms from different sectors in the states of Rio de Janeiro, São Paulo and Bahia between 2015 and 2016. Focusing on 41 firms in the state of Rio Grande do Sul, Rochineski (2016) noted the contribution of the project to regional development. The importance of the Peiex project is not only highlighted by academic literature. In 2010, given the distinction and importance

4. Available at: https://portal.apexbrasil.com.br/noticia/PEQUENAS-E-MEDIAS-EMPRESAS-INTEGRAM-SUA-1-MISSAO-COMERCIAL/. Accessed on: 15 May 2024.

5. Available at: https://apexbrasil.com.br/br/pt/conteudo/noticias/ApexBrasil-celebra-20-anos-do-Programa-de-Qualificacao-para-Exportacao-que-ja-capacitou-mais-de-30-mil-empresas-de-Norte-a-Sul-do-pais.html. Accessed on: Apr. 2025.

6. In general, universities, technology parks, Research Support Foundations, or Industry Federations. The selection of the executing entity is carried out by Apex-Brasil technicians. According to Apex Brasil (2015), the project team comprises the Coordinator of the Operational Center, Extension Monitors, Extension Technicians, and interns.

of the project, Apex Brasil was named the world's best trade promotion agency, a distinction awarded by the International Trade Centre (ITC), a body connected to the United Nations Organization (UN).

However, despite the high level of participation of firms in the program, the percentage that actually start exporting following the project is relatively low, at least according to a short-term analysis. In 2018, for example, of a total of 15,737 firms supported by the agency, only 2.2% started export operations. The figures are better amongst those firms that were already exporting (around 30%), since 64.6% of them started operating in new markets and 60.6% started exporting new products. Even so, almost 70% of the firms failed to start exporting having spent two years pursuing the federal program. It is important to mention, however, that the program's success rate is calculated using data noted immediately after the end of the program. Or in other words, these percentages could have been higher if the firms involved in the program had started maturing in terms of what was learned during the project and started exporting sometime immediately following the conclusion of the project.

As such, be it because Peiex is a government project that uses public resources to encourage overseas trade, or because it has the opportunity to work directly with different departments within the firms, with the aim of encouraging its exports, or even due to the economic and productive results that insertion into the international market can produce, it is essential that the effectiveness of the program in stimulating exports should increase, thereby allowing both the country and the firms to enjoy the benefits generated by overseas trade. In general, the academic research focused on Peiex addresses the need for new studies on the project and the importance of performing analyses involving more companies, from different sectors, and comparing them to previous studies. Furthermore, no studies have yet been performed with the aim of simultaneously analyzing all the firms with which Peiex has worked, a study that would cover a large group of different-sized firms from different sectors.

This article intends to contribute to the discussion under way within the relevant literature concerning the factors that encourage and discourage exports, above all amongst micro, small and medium-sized firms. Specifically, it seeks to analyze whether the work of Peiex is aligned with the factors outlined in the literature. Put another way, has the Peiex been working precisely with the factors that the literature sets out as being relevant for firms to be able to export? Has it been working to alleviate the factors that hinder exportation? Are there systemic factors that the Peiex sees as important, but which the literature has not addressed? To answer these questions, the study will be using Peiex-Franca (São Paulo) data developed, between 2016 and 2018, from work involving 190 firms from 16

municipalities and numerous different sectors of business activity. The analyses will be complemented by information from the interview[7] performed with APEX (2021) and a survey sent out to the active firms participating in the project (2021).

The second section investigates the literature relating to the internal and external factors that affect the exports by Brazil's micro, small and medium-sized firms. The third section presents the Peiex-Franca project and empirically analyzes the presence/absence of the factors investigated by the literature and which influence the exports of the firms participating in the project. The fourth section, meanwhile, explores the work of Peiex in relation to these factors, by looking at the improvement options offered and implemented by the program. Finally, the fifth section concludes the article.

2 LITERATURE RELATING TO FACTORS INFLUENCING EXPORTATIONS

In general, the classical theories concerning overseas trade, such as the models presented by Ricardo (1817), Heckscher (1949), Olhin (1933), and the Chamberlianos (Krugman, 1979; 1981; Lancaster, 1980; Helpman, 1981; Ethier, 1982), emerged with the aim of explaining the complex relationship governing the exchange of products and services between countries and their distribution effects. On the other hand, in the literature addressing International Business, we find studies that seek to identify factors that influence exportation and the internationalization of firms, outlining a series of suggested models. The Uppsala school (Johanson and Vahlne, 1977) considers behavioral as well as economic factors in the decision-making and presents the idea that a firm's successful internationalization is the result of gradually obtaining more knowledge about new overseas markets (starting with exportation) and commitment of the company's resources. The Eclectic Paradigm developed by Dunning (1988) is a model that discusses the reasons why firms make direct investments overseas, explaining that the phenomenon occurs when this process provides three advantages: i) ownership; ii) location; and iii) internalization.

Cavusgil and Kilpalani (1993) conducted an exploratory study with the final objective of developing hypotheses on the key factors for exportation, through an exploratory analysis of the most important publications of the preceding years and the experiences of internationalization found in the cases of 130 firms located in the United States, Western Europe, Japan and Canada. Katsikeas, Shengliang and Wortzel (1997) identified the key factors for successful exportation by monitoring small and medium-sized manufacturing firms in Canada. They noted that two major streams of research have been pursued in this area, which

7. The interview with APEX Brasil was performed in the form of questions sent out by e-mail to the APEX training coordination department and distributed amongst the members of the Overseas Trade Education team (ECEX), and others, as a means of broadening the range of responses. Obtained in 2021.

the authors refer to as the "critical elements" necessary for companies to achieve success. One of the streams identifies the differences between exporting and non-exporting firms; the other explores the internal and external forces that influence a firm's export performance.

One of the objects of study of the microeconomic literature specializing in studies focused on the dynamics of firms entering and exiting foreign trade is analysis of the factors that may support or hinder the internationalization of firms. Over recent years, there has been noted a greater participation of micro, small and medium-sized firms in this dynamic, with these types of firms seeking internationalization strategies focused on growth over time (Dornelas, 2016; Cislaghi, Fernandes and Wegner, 2017).

Despite the different lines of research, our interest lies in bringing together the various points put forth – both in the literature dedicated to the study of overseas trade, and in that focused on international negotiations – to understand the internal and external factors that could possibly lead firms to export and, based upon this, analyze what our data could reveal, whilst avoiding adapting Peiex to a specific theoretical context.

2.1 What do firms export? Internal factors

Despite certain sample differences between the international studies conducted by different authors, there does exist a certain convergence on the identification of the internal factors that influence firms' exports. Amongst the principal variants are, most importantly, the commitment shown by the management and the quality of the export team within the firm, requiring it to act strategically and incisively, as well as its intensity and technological orientation. The authors also highlight the type of product being offered and its ability to adapt to the overseas market. Table 1 sets out the internal factors that influence firms' exports that have been noted in numerous studies.

Whilst Cavusgil and Kilpalani (1993) divide the factors into three groups, calling them "descriptive variables", "strategic variables" and "marketing mix variables", Katsikeas, Shengliang and Wortzel (1997) categorize them as "marketing policy elements" and "specific factors of the firms". Cavusgil and Nevin (1981) analyzed more than 400 manufacturers located in a single state in the United States. Andersson, Gabrielsson and Wictor (2004) also present variables that led small firms in Sweden to move into the overseas market, whilst Tsiotsou and Hajidimitriou (2017) highlight the participation of small and medium-sized Greek firms at international trade fairs.

In Brazil, Carvalho, Gomes and Lima (2012) concluded that those micro, small and medium-sized firms operating in sectors with a tradition in exportation are more articulate and possess greater bargaining power, meaning they are likely to be more frequently considered in public and private programs. Andersson, Gabrielsson and Wictor (2004) also find evidence that factors relating specifically to the firm, such as size (with all the advantages associated with economies of scale), time in existence, training of personnel, and technological capacity (that aim to identify the intensity of the adoption of technological innovation of processes and organizational), are all factors that influence firms' export possibilities.

Arbache and Negri (2002) suggest that education, technology and the scale of production are fundamental variables in explaining the likelihood of these companies exporting, and they should receive special attention in the creation of public policies focused on overseas trade. They further maintain that exports depend more on the characteristics of the companies than on the sector in which they operate.

However, many of these factors require the companies to make investments in time and financial resources, as well as in the innovation or adaptation of their products or processes, in the maintaining or hiring of a team specialized in overseas trade operations, professional training, and participation in trade fairs and business rounds. If they are not properly managed and understood, these costs can limit the company's possibilities for either starting export operations or remaining in the overseas market.

In relation to commercial costs, part of the existing literature focuses on an analysis of the financial restrictions that exist in different countries (Bellone et al. 2010), relating to what are called "sunk costs" (investments that cannot be recuperated), which lead many companies to desist from even starting their export operations. Das, Roberts and Tybout (2007) have clarified that these 'sunk costs' are expenses involved in opening distribution channels, going further than adapting the products and packaging, and further than learning and understanding the bureaucratic procedures of both the country of origin and destination. They also include the fixed costs that may involve investments to maintain a presence in the foreign market, as well as costs necessary for insurance, the monitoring of customs procedures and standard requirements of the product. Kim, Reimer and Gopinath (2007) obtained similar results when studying the Korean manufacturing sector between 1992 and 2002, and have argued that sunk costs can be tackled through government export incentive policies, as Jacks, Meissner and Novy (2011) have also since suggested.

For Copeland (2007), the costs related to exportation arise from market shortcomings due to a failure to appropriate positive external factors generated by funds invested by the firm itself in studying new entry markets, regardless of whether it actually enters them or not, by the received knowledge of experiences of other companies that have opened new international markets, or by the dissemination of information concerning problems relating to the demand for a product or service of a certain firm and how this affects the other companies working with similar or different products, their sector or production chain. To minimize the market shortcomings, Copeland (2007) identifies that some costs can be resolved through government interventions, such as in the "infrastructure" or "communication" sectors, that are essential not only to the country's domestic development, but also to enable overseas trade, in so far as they tend to bring trade costs down.

The responses provided in the interview with Apex Brasil (2021) align with these results, by affirming that exportation can be performed "without any big obstacles, either for micro and small firms or for large firms", although the dynamic of moving into new markets occurs differently, since "larger firms have a more robust structure for the identification of commercial opportunities and regulatory support for exportation, meaning they suffer these types of difficulties a bit less". Amongst firms' principal exportation costs, the agency also highlights those related to expanding production capacity or alterations to the manufacturing process, which can vary enormously in terms of funds invested. Furthermore, it is very often necessary to train the workforce and implement an export culture in the firm, given the low level of understanding of the domestic exportation processes of both the country and other States, the need to create a specialist exports department within the firm to research and prospect for new markets, the need to structure trade promotion actions specifically designed for the target market, and the need to verify the nature of the exported product or service, when special transportation needs can affect the costs and distance between the seller and the client and the terms of the purchase agreement (and the Incoterm[8] used) (Apex Brasil, 2021).

The choice of the exportation processes also generates different costs for different firms. According to Gao, He and Yin (2017) choices are made between "processing exports" (one-off exports) and "ordinary exports" (recurring exports). The authors conclude that "processing exports" have lower fixed costs than "ordinary exports", thus compensating for their lower productivity.

8. *Incoterms* or international trade terms are contractual clauses included in international purchase and sale agreements, defining the duties and obligations of the exporter and importer.

TABLE 1
Internal factors that influence firms' exports

Internal factors	Do not agree	Partially agree	Fully agree
Size of the firm	–	Cavusgil and Kilpalani (1993); Andersson et al. (2004)	Katsikeas et al. (1996); Dornelas (2016); Cislaghi et al. (2017); Tsiotsou and Hajidimitriou (2017); Carvalho et al. (2012)
Age of the company	–	Andersson et al. (2004)	Tsiotsou and Hajidimitriou (2017); Carvalho et al. (2012)
International involvement, with targets for growth, profit, and market development; Level of management commitment, training of the workforce and implementation of an export culture in the firm	–	–	Cavusgil and Kilpalani (1993); Tsiotsou and Hajidimitriou (2017); Carvalho et al. (2012); Cavusgil and Nevin (1981); Katsikeas et al. (1996); Das et al. (2007); Kim et al. (2011); Apex Brasil (2011); Dornellas (2016); Santos (2014)
Creation of a specific export department within the firm (employees, infrastructure); Expansion of the manufacturing capacity	–	–	Apex Brasil (2021); Lopez and Gama (2011); Apex Brasil (2011); Jingtao and Chengqi (2012)
Study for identification of new markets; Product positioning strategy;[1] Promotion efforts	–	–	Copeland (2007); Das et al. (2007); Kim et al. (2011); Jingtao and Chengqi (2012); Lopez and Gama (2011); Apex Brasil (2011); Cavusgil and Kilpalani (1993); Katsikeas et al. (1996); Andersson et al. (2004)
Type of product, firm's sector of activity, adaptations of the services, products and packaging; learning the right marketing strategy for the overseas market	–	Anderson and Wincoop (2004)	Cavusgil and Kilpalani (1993); Katsikeas et al. (1996); Cavusgil and Nevin (1981); Dornelas (2016); Tsiotsou and Hajidimitriou (2017); Carvalho et al. (2012); Copeland (2007); Das et al. (2007); Lopez and Gama (2011); Apex Brasil (2011); Kim et al. (2011); Jingtao and Chengqi (2012)
Product quality control	–	–	Katsikeas et al. (1996)
Technological level and orientation of the business	Andersson et al. (2004)	–	Cavusgil and Kilpalani (1993); Katsikeas et al. (1996); Cavusgil and Nevin (1981); Santos (2014); Arbache and Negri (2002); Carvalho et al. (2012); Cislaghi et al. (2017)
Experience in the domestic market	–	–	Cavusgil and Kilpalani (1993); Katsikeas et al. (1996); Cislaghi et al. (2017)
Sale price/competition	–	–	Cavusgil and Kilpalani (1993); Katsikeas et al. (1996); Copeland (2007); Das et al. (2007); Kim et al. (2011); Apex Brasil (2011); Jingtao and Chengqi (2012)
Developing distribution channels and transportation	–	–	Copeland (2007); Jingtao and Chengqi (2012)
Payment conditions and post-sales[2]	–	Cavusgil and Kilpalani (1993)	Katsikeas et al. (1996)
Financial resilience	–	–	Katsikeas et al. (1996); Cavusgil and Nevin (1981); Bellone et al. (2010)
Fixed costs/investments to maintain the firm's presence in the overseas market	–	–	Anderson and Wincoop (2004); Jingtao and Chengqi (2012)
Asymmetric information on the quality of both the firm's proprietary products and those used in the overseas market.	–	–	Copeland (2007); Jingtao and Chengqi (2012)

(Continues)

(Continued)

Internal factors	Do not agree	Partially agree	Fully agree
Prior experience with a consultancy or international training and experience of the firms' managers	–	–	Dornelas (2016); Katsikeas et al. (2017); Tsiotsou and Hajidimitriou (2017)
International experience (international trade fairs), formal education and general business experience	–	–	Tsiotsou and Hajidimitriou (2017); Arbache and Negri (2002); Dornelas (2016)

Authors' elaboration.

Notes: [1] The 'product positioning strategy' refers to the research and marketing efforts made to identify the target public and market with the greatest openings.

[2] Post-sales is the process that starts following the sale of a product or service, in which the company aims to provide all the support necessary to understand the client's satisfaction and control possible risks of dissatisfaction.

2.2 Why do firms export? External factors

The external factors, despite, in some cases, having close connections to the internal factors, tend to consider more macro-economic aspects or the relations that exist between countries. Katsikeas et al. (1997) conclude, in general terms, that the external factors refer to those elements associated with the diplomatic relations that exist between States, multilateral and bilateral trade agreements, contractual agreements, export subsidies and import tariffs, national credibility on the international market, stability, profitability, and accessibility of the foreign economy, as well as the risk involved in the export market operations. Tsiotsou and Hajidimitriou (2017) cite the economic climate and the political environment as being the most influential external factors.

Numerous studies address the influence of commercial policies, such as trade barriers, tariffs and subsidies, since both the incentives and the restrictions influence the possibility of a country being able to export (Anderson and Wincoop, 2004; Arvis et al., 2016). In a study focused on bilateral agreements, with a sample of trade flows of 130 States from the Americas, Asia, Europe and Oceania between 1870 and 2000, Jacks et al. explained that the consequences of the commercial costs and their determining factors go beyond the tariffs, transportation costs and economic risks, such as exchange rate systems, meaning cultural barriers, such as language, should also be taken into account.

For managers at small Brazilian firms who have experience in exporting their products, the exchange rate is the most important factor in external competitive standing, as can be seen in Carvalho, Gomes and Lima (2012). Furthermore, the authors highlight that the trade barriers – imposed on some products on the market – the interest rate and cultural differences all constitute obstacles to entry and permanence in the area of exportation. Lopez and Gama (2011) call attention to the role that the exporting country's tax incentives can play in eliminating the taxes falling on regular market operations, whilst they also note the costs involved in licensing, documents and formalities, transportation of the merchandise within terminals, and international transportation and insurance (Lopez and Gama, 2011).

In addition to this, firms have to spend time and resources finding quality and trustworthy partners, distribution companies and suppliers with whom to establish their network of operations and contacts.

With more countries becoming involved in overseas trade, the activities of the State become that much more important on the different fronts that influence international commerce (Nakano, 1994). Apex stresses that a lack of economic agreements, be they bilateral or multilateral, reduces the possibilities of access to certain markets, with a reduction of costs associated with tariff, non-tariff, protection and technical barriers, as well as certifications required by the target markets. The agency also stresses the importance of access to lines of financing for low-value exportations, especially for small and medium companies, which perform their initial operations in sums that are lower than those offered on the market. Furthermore, the firms encounter difficulties and high costs involving the "logistics infrastructure" for the merchandise to arrive at Brazil's ports and airports, which are very often associated with the "Brazil cost" due to the lack of effective public policies aimed at improving the infrastructure (Apex Brasil, 2021).

Within this context, government projects designed to promote exportation constitute an extremely important external factor, especially for small and medium-sized firms, which very often need support and do not have sufficient resources to begin the internationalization process. Table 2 sets out the external factors that influence firms' exports.

TABLE 2
External factors that influence firms' exports

External factors	Do not agree	Partially agree	Fully agree
Knowledge of instruments of support for innovation and interaction networks.	–	–	Deng and Wortzel (1995); Cavusgil and Nevin (1981); Santos (2014); Cislaghi et al. (2017)
Access to lines of credit	–	–	Das et al. (2007); Kim et al. (2011); Apex Brasil (2011);
Exchange rate	–	–	Jacks et al. (2011)
Diplomatic relations that exist between States, national or foreign credibility in the international market, low risk in export market operations, and cultural and language differences.	–	–	Katsikeas et al. (1996); Carvalho et al. (2012); Jacks et al. (2011)
Logistics infrastructure and quality of suppliers	–	–	Copeland (2007); Lopez and Gama (2011)
Learning gained from bureaucratic procedures of the exporting country and the importing country	–	–	Copeland (2007); Jingtao and Chengqi (2012)
Monitoring of customs procedures and standard requirements of the product	–	–	Das et al. (2007); Kim et al. (2011)
Distance	–	–	Das et al. (2007); Kim et al. (2011)
Technical/tariff barriers, subsidies, tax incentives, taxes and rates, and trade and economic agreements; Local regulations; Insurance costs	–	–	Anderson and Wincoop (2004); Copeland (2007); Das et al. (2007); Kim et al. (2011); Jacks et al. (2011)
Export agent's commission	–	–	Das et al. (2007); Kim et al. (2011)

Authors' elaboration.

3 AN EMPIRICAL ANALYSIS OF THE FACTORS PERTAINING TO THE PEIEX FRANCA

The empirical analysis of this article is based on data obtained from the responses to a questionnaire containing 295 questions in different departments including Strategic Administration, Human Resources, Finances and Costs, Sales and Marketing, Overseas Trade, and Products and Manufacturing applied by Peiex to the companies prior to their implementation of the project and from the Secretariat of Foreign Trade (Secex), which records the companies that exported and did not export, and was used to divide the companies into groups for analysis.[9] The Peiex-Franca was developed between September 2016 and September 2018 in the region of Franca, located in the north of the State of São Paulo.

Apex Brasil, together with the Peiex executing institution (the Fundação Educacional de Ituverava), selected 16 municipalities to be included in the project, aiming to provide services to 190 companies (almost 60% of which were located in the municipality of Franca) over a period of two years. The region is largely based on agriculture, with the main crops including sugarcane, soybean, corn and sorghum, along with forest and coffee plantations. Of the activities performed in the manufacturing sector, the most important are shoe, sugar and alcohol, metal-mechanical, furniture, food, electrical goods and fertilizer manufacturers. Amongst the companies provided with services, 21% form part of the shoe manufacturing sector, followed by the food (16%), clothing (12%) and metallurgy sectors. With respect to the size of the companies, measured by the number of employees, 71.6% were micro, 23.2%, small, and 5.3% medium-sized businesses.

For this analysis, the firms participating in Peiex-Franca were divided into four groups.

1) Group 1: 18 companies that were already exporting before the start of Peiex activities and continued to export after Peiex.
2) Group 2: 9 companies that exported only during or after receiving Peiex support.
3) Group 3: 7 companies that were exporting prior to receiving Peiex support but did not export during or after the completion of the project.
4) Group 4: 156 companies that were not exporting before and did not export after Peiex.

Table 3 summarizes the classification of companies before and after Peiex. Shaded cells indicate the presence of export activities.[10]

9. For confidentiality reasons, the Secex data is no longer publicly available. For this article, we had the complete dataset from 2000 to 2021 previously retrieved from the Secex website.

10. With the available data, it was not possible to determine whether the companies that were exporting managed to increase the quantity exported after Peiex, which may diminish the indication of the program's success.

TABLE 3
Classification of companies: export timing

	Before Peiex	During/after Peiex
Group 1		
Group 2		
Group 3		
Group 4		

Authors' elaboration.

The data presented in this section were obtained from the responses to the questionnaire that Peiex administers to companies before beginning its consultancy, indicating, therefore, the characteristics of the companies and their prior preparation for the international market, as well as data from the Foreign Trade Secretariat (Secex) which records the companies that exported and did not export. For the Secex data, the period from 2006 to 2021 was observed, i.e., 10 years before the start of Peiex-Franca and the last available year. Therefore, the analyses of the results presented in the tables refer to the conditions that the companies exhibited in September 2016, before the start of Peiex in Franca.

As observed in table 4,[11] the companies that started exporting or were already exporting (groups 1, 2, and 3) are larger in size, having, on average, more employees, and have also been in the market longer than group 4, which aligns with the literature discussion. The companies in groups 1 and 2 were those that remained linked to the project the longest (on average, approximately eight and nine months, respectively), followed by the companies in groups 3 and 4 (approximately six and five months, respectively). It is assumed that the shorter period of linkage for group 3 compared to groups 1 and 2 is due to their already possessing some knowledge of export practices or seeking specific improvements.

11. Table 4 reports the mean of each variable by group. The coefficient of variation (in percentage) is shown in parentheses.

TABLE 4
Characteristics of the firms according to group

	Group 1 – exported before Peiex	Group 2 – did not export and started exporting during or after Peiex	Group 3 – exported only before Peiex	Group 4 – did not export
Number of companies	18	9	7	156
Average number of employees (size)	79 (88.5%)	40 (135.3%)	46 (100.4%)	12 (134.3%)
Average time participating in Peiex (months)	7.56 (5.7%)	8,89 (0.0%)	5,86 (9.1%)	4.76 (10.5%)
% of firms which are highly committed	78% (3.8%)	100% (3.6%)	43% (4.9%)	54% (4.9%)
Age of the firm (average, years)	21.7 (44.5%)	17.11 (96.5%)	23.29 (49.0%)	10.81 (76.3%)

Source: Peiex-Franca data.
Authors' elaboration.

The firm's level of commitment to the project was gauged by its participation in workshops, business rounds, engagement with the information requested by the project technicians, operationalization of the improvement proposals, dedication and attendance at meetings. This variable represents the percentage of firms that were highly committed to the project, with a big difference being noted between groups 1 and 2 in relation to 3 and 4: whilst in the former more than 75% of the firms were highly committed to the project, in the latter a high level of commitment was only evident in around half the firms, results which align with those found by Tsiotsou and Hajidimitrou (2017), Carvalho, Gomes and Lima (2012), and Cavusgil and Nevin (1981).

Significance tests between group means and medians were conducted and are available upon request.[12] The smaller sample sizes of groups 2 and 3 make it challenging to obtain significant results and compare them to each other. Nevertheless, some interesting findings are observed. group 1 (always exports), as well as group 2 (exports after Peiex), exhibit means and medians that are statistically different from group 4 across all variables in the full sample. group 3 (does not export after Peiex) differs from group 4 (never exported) in structural terms (age and size), but not in terms of commitment to Peiex and time participating in Peiex. Additionally, the graphical analysis of the variables by group reveals some outliers, particularly regarding the size of the companies in groups 2 and 4, as evidenced by the high coefficients of variation.[13] However, excluding the outliers in the size variable does not alter the results for the difference in means

12. Please contact the authors at danischettini@usp.br. To test for differences in medians across groups, we conducted the Kruskal-Wallis test.

13. If the outlier company in group 2 is excluded, the average firm size would become 24 employees, whereas for group 3, it would be 30 employees, values still higher than group 4's average of 10 employees, even when excluding its outlier observations. Regarding the variable age, with the coefficient of variation also being high for group 2, excluding its outlier observation, the mean is 12.9 months.

tests, compared to the full sample, but there is no longer a difference between the medians of groups 2 and 4 for this variable.

Table 5 illustrates proxies for the firms' international involvement, positioning strategy and sales policies. The international involvement can be seen in the percentage of firms that use a catalog of products and services listing prices in other currencies. The other variables, meanwhile, can be seen in the percentage of firms that monitor their domestic market share and the percentage that develop sales policies.[14]

TABLE 5
Knowledge of the domestic market and prices in foreign currencies
(In %)

	Firms with knowledge of their domestic market share	Firms that list the price of the product in other currencies (USD/EUR)	Firms that monitor the prices of their competitors' prices in the domestic market
Group 1	83	44	89
Group 2	44	22	100
Group 3	43	43	100
Group 4	14	28	80

Source: Peiex-Franca data.
Authors' elabooration.

Companies in groups 1 and 3 (always exported and did not export after Peiex, respectively) demonstrated greater knowledge regarding their own market share in the national market. This suggests that companies with prior export experience tend to have a better understanding of their domestic market compared to companies that have not exported, as indicated by the literature. In terms of presenting products in foreign currencies, the highest percentage is again concentrated in groups 1 and 3, with 44% and 43% of the companies pricing their products in other currencies, respectively. This suggests a strong presence or interest in foreign markets and greater preparedness to handle transactions in other currencies. Since group 3 already exported before Peiex, it is also natural for them to have their products or part of their catalog priced in international currencies.

For groups 2 and 4 (exported only after Peiex and never exported), less than 30% of the companies have their prices in foreign currencies. This suggests a lack of preparedness, knowledge, or interest in the foreign market. Even though they have never exported, 22 companies in the group 4 adopt foreign currency pricing for their products, which may indicate some interest in the foreign market or perhaps a differentiator compared to other companies in the same segment.

14. Sales policies show the strategies adopted by a company concerning how to position the product and/or service in the market, identification of the competitors and the target-public, and marketing.

Regarding sales policy, most of the assisted companies monitor the selling prices of their competitors in the national market. However, the percentage does not reach 100% for groups 1 and 4, which may indicate that some companies, albeit few, have market reservations, weaker rivals or lack the financial, technological, or human capital resources to seek and maintain this information.

Table 6 addresses the knowledge firms have in relation to the overseas market. The results corroborate the literature, suggesting that the international experience of company managers is a crucial factor in winning over new markets. A noticeable disparity exists between groups 1, 2, and 3, composed of companies that have engaged in export activities, compared to group 4. Companies in group 1, which have always exported, exhibit the highest percentages of knowledge about foreign trade, reinforcing the consistency of the data. Although the companies in group 3 had only exported at some point before Peiex, they possess less knowledge about international trade in terms of where and how to export compared to companies in group 2, which began exporting only after Peiex, indicating a potential failure of group 3 and success of group 2 in terms of exportation.

The data also suggest another interesting behavior: 33% of the companies in group 2 had knowledge of where and how to export before participating in Peiex, and 22% were knowledgeable about trade missions and business rounds, despite not having performed any exports, in contrast to just 4% and 12% in group 4, which did not export. This indicates that companies in group 2 already showed some interest in the international market, suggesting that international preparation and experience of the firm can be fundamental for export success, as presented by the literature.

Furthermore, although no company in group 2 had knowledge of export barriers prior to the program, after Peiex, having performed exports, a survey post-Peiex conducted with firms participating in the project reveals that all companies in this group acquired this knowledge, indicating a significant contribution of Peiex.

TABLE 6
General understanding of overseas trade
(In %)

	Firms that know where to export to	Firms that know how to export	Firms that are aware of the export barriers	Firms that know about trade missions and business rounds
Group 1	50	50	39	44
Group 2	33	33	0	22
Group 3	29	29	29	29
Group 4	4	4	4	12

Source: Peiex-Franca data.
Authors' elaboration.

Table 7 indicates the concern of the firm with technological orientation and employee training. It also provides information on the need for investment to maintain the firm's presence in the overseas market, such as the 'creation of a specific export department within the firm (employees, infrastructure)'.

Group 1 presents the highest percentage of companies that seek employee development, with 56% adopting education and training policies. This high percentage, especially compared to the other groups, suggests prior experience in training, which can facilitate increasing production capacity or adapting processes for the international market, as the literature indicates is necessary for exportation. It is noted that companies in group 2 (which began exporting after Peiex) had a lower percentage than group 4. Although few companies in group 2 had formal training policies, there were other forms of preparation or strategies that facilitated their entry into the international market, indicating that Peiex may have contributed. Ultimately, success in exportation does not rely solely on education and training policies. Group 2 stands out in other areas such as the use of research data (89%) and the prospecting of new clients/markets (100%), which are essential for operating in international markets. This effort may have compensated for the lesser initial emphasis on formal training and suggests that these companies were already seeking to act proactively in both national and international markets.

Group 3 generally presents the lowest percentages compared to the other groups. Fourteen percent of the companies adopt education and training policies, a value lower than group 4 (27%). Group 3 did not reach 60% of companies dedicating time and effort to understanding new markets. Group 4, which specializes only in the national market, had more companies with these policies and corporate incentives, approaching 70%. The difference in percentages of education and training policies between groups 2 and 4 can be justified by the different emphases and needs of each group, considering the context before Peiex and the maturity of each group. Group 2 may have focused more on other effective strategies for exportation, while group 4 invested more in training to compete in the domestic market.

TABLE 7
Training and the use of studies
(In %)

	Firms that adopt an education and training policy	Firms that perform studies or use research data (clients or market)	Firms that prospect new clients/ markets
Group 1	56	83	67
Group 2	11	89	100
Group 3	14	43	57
Group 4	27	71	67

Source: Peiex-Franca data.
Authors' elaboration.

Investing in "trade promotion actions" and "standard requirements of the product" are also highlighted as successful moves for operating in the export market. Groups 1 and 2 most invested in producing promotional material, with almost 80% of the companies in group 1 and 100% of group 2 doing so (see table 8). On the other hand, the majority of companies in groups 3 and 4 do not produce promotional material and are unaware of the necessary adaptations required to export their products prior to participating in Peiex.

Regarding adaptations, 22% of the companies in group 2 are aware of the necessary adaptations, and although this percentage is lower than that of groups 1 and 3, the fact that group 2 managed to export may indicate the influence of Peiex. For group 1, 72% of the companies are aware of the necessary adaptations. In terms of investment in product design and/or packaging, more than 50% of the companies make such investments, with group 2 leading with all companies, group 1 at 89%, group 4 at 62%, and group 3 at 57%.

TABLE 8
Promotion and sales actions
(In %)

	Firms that produce promotional materials	Firms that invest in the design of the product and/or packaging	Firms that are aware of the adaptations they need to make to their products to be able to export
Group 1	78	89	72
Group 2	100	100	22
Group 3	43	57	29
Group 4	49	62	7

Source: Peiex-Franca data.
Authors' elaboration.

The post-sales practices are internal factors within companies that influence their ability to export. Table 9 presents some variables that can be considered important indicators of post-sales practices, according to the available data from the Peiex database, as well as the payment terms offered by the companies. Concern for client relations is more evident in companies that have exported or continued to export after Peiex (groups 1 and 2, 72% and 89%, respectively), suggesting that these companies seek to understand the 'quality' of the product offered or the adaptations that need to be made. The gap between group 3, which stopped exporting (57%), and group 4, which did not export (16%), also highlights the importance of customer relationships, especially in the foreign market.

Regarding payment systems, groups with international experience (groups 1 and 3) have a higher number of companies with established negotiation systems and pricing and payment policies, with group 2 also having a considerable percentage of companies (67%). Only group 1 showed 50% of companies with knowledge of international payment methods, while group 4 had 4%, and groups 2 and 3 had none.

TABLE 9
Post-sales and payment conditions
(In %)

	Firms with a client relations department	Firms with a negotiation system	Firms with a price and term policy	Firms that are aware of the international payment systems
Group 1	72	56	83	50
Group 2	89	78	67	0
Group 3	57	100	100	0
Group 4	16	27	53	4

Source: Peiex-Franca data.
Authors' elaboration.

Amongst the external factors that influence export possibilities, knowledge of government incentive projects is presented in both the existing literature and the responses provided in the interview with Apex Brasil (2021). The data in table 10 reveal that few firms have received export tax incentives, indicating that firms tend to rely on their own resources to mount their export operations, as was corroborated by the interview with Apex Brasil. Furthermore, knowledge of those public organizations that provide incentives for overseas trade is quite low amongst the firms, with only those in group 1, who have already exported in the past, showing any real awareness.

TABLE 10
Knowledge of APEX Brasil and the Ministry of the Economy
(In %)

	Firms that receive government incentives and are aware of entities that promote innovation projects	Firms that are aware of Apex, Ministry of the Economy
Group 1	11	50
Group 2	11	33
Group 3	0	43
Group 4	13	19

Source: Peiex-Franca data.
Authors' elaboration.

Also in terms of awareness, table 11 shows those companies that are familiar with the development of distribution and transportation channels. An international logistics agent is a professional who develops solutions using any mode of transport for the delivery of a product. The majority of the firms that are aware of such professionals are found in the groups that had already performed exports before Peiex (groups 1 and 3). It is interesting to note the distance between the percentages of the firms in group 2 (22%) and those in group 4 (9%). This behavior is also observed regarding knowledge about the necessary documents for

export (11%) and (13%). Regarding the preparation of internal and external export documentation, only group 1 shows that the majority of its companies possess this knowledge (56%). Group 2 has at least 11% of companies with knowledge about these variables, indicating the need for learning and maturation that likely occurred during their participation in Peiex, as these companies became exporters.

TABLE 11
International logistics agent and documents for exportation
(In %)

	Firms that know what an international logistics agent does and how they operate	Firms that know which documents are necessary for exportation	Firms that know how to prepare the exportation documentation (internally/externally)
Group 1	78	67	56
Group 2	22	11	11
Group 3	57	43	14
Group 4	9	13	13

Source: Peiex-Franca data.
Authors' elaboration.

Finally, table 12 addresses issues related to costs resulting from asymmetric information regarding the quality of suppliers. Companies with a more active policy towards their suppliers are found in the groups that appear to be more prepared to participate in foreign trade (groups 1, 2, and 3). The majority of the companies in the sample (group 4) neither adopt selection criteria nor monitor their suppliers' performance. When analyzing the percentage of companies aware of the tax relief on exports, group 1 stands out once again.

TABLE 12
Suppliers and tax exemption
(In %)

	Firms that adopt supplier selection criteria (pricing)	Firms that analyze control of the suppliers' performance	Firms that are aware of tax exemption on exports
Group 1	94	89	33
Group 2	89	78	0
Group 3	86	86	0
Group 4	33	21	2

Source: Peiex-Franca data.
Authors' elaboration.

4 ANALYSIS OF PEIEX IN PRACTICE: IMPROVEMENTS APPLIED

Whilst the previous section noted the characteristics of firms in relation to the factors highlighted in the literature as exerting an influence on exports, this section

analyzes whether the Peiex-Franca project actually addressed these factors. To do so, we will be analyzing the options for improvement on offer and training actions that the experts propose and develop at the firms, from amongst those the program makes available. We will also be presenting the results of the survey performed with a sample group of the companies that received support, together with the responses provided in the interview given by Apex Brasil. The Peiex methodology suggests that, from a total of 272 options, between five and ten improvements should be implemented in the firms, with these being divided between six areas of activity.[15] Of the total number of 272 improvements available, Peiex-Franca used 218. As each one of these improvements can be applied in more than one firm, a total of 772 improvement actions were executed.

However, to analyze whether the Peiex-Franca developed those factors of most importance for exportation, of the 272 improvements available, the ones selected were those that engage with the factors highlighted in the literature discussed and organized in tables 1 and 2. Reordering the improvements according to the indicators noted in the literature, the new classification offers 14 factors, with two being external (EFs) and 12 internal (IFs), as set forth in table 13.

Each cell in table 13 represents the number of improvements applied to a factor for a group divided by the total number of companies in the group. In other words, it is the number of improvements applied per company. The improvements were implemented according to the needs identified by the companies and noted by Peiex. For example, on average, one improvement per company was applied for the internal factor "international experience" for companies in group 1, and 0.44 improvements per company for companies in group 2. Thus, the higher the value, the more that factor is a necessity for the companies in the group.

Companies have different specific priorities, depending on their stage of maturity and the challenges they face. Therefore, although the classification of internal and external factors is related to international trade, the demand for improvements by companies arises from the deficiencies they present, including in domestic market competition.

In table 13, the cells were shaded by groups; that is, the darker the cell shading in the group, the more improvements for that factor were requested by the companies in the group. Additionally, for each factor, the group that utilized it the most is highlighted in bold.

15. Overseas trade (28%), finance and costs (19%), strategic administration (18%), sales and marketing (16%), products and manufacturing (13%) and human resources (6%). The percentages refer to the improvements executed in each area.

There is a predominance of the use of three factors mainly by all groups. The most demanded by companies were improvements related to the 'level of management commitment,' with all groups demanding, on average, at least one improvement per company, being most requested in group 3, with almost 1.5 improvements per company. Next, the internal factor 'financial resilience' was also highly demanded, with groups 2 and 4 averaging more than one improvement per company, while groups 1 and 3 averaged slightly less than one improvement per company. The factor 'international experience, formal education, and general business experience' completes the set of the three most requested factors, especially by companies in groups 1 and 4. Besides these three internal factors, improvements in the 'product positioning strategy/promotions efforts' also gained prominence.

TABLE 13
Improvements applied according to the internal and external factors

Success factors and cost	Group 1	Group 2	Group 3	Group 4	Average	Companies that adopted improvements
IF - International experience (example: international trade fairs), formal education and general business experience	1.00	0.44	0.43	0.96	0.71	77%
IF - Financial resilience	0.83	1.22	0.86	1.01	0.98	61%
IF - Level of management commitment	1.00	1.00	1.43	1.04	1.12	70%
IF - International involvement with growth, revenues and market development	0.11	0.11	0.00	0.18	0.10	17%
IF - International involvement with targets	0.00	0.00	0.00	0.03	0.01	3%
IF - Product positioning strategy / promotions efforts	0.56	0.22	0.14	0.28	0.30	27%
IF - Type of product, firm's sector of activity, adaptations of the product	0.00	0.00	0.00	0.01	0.00	1%
IF - Sale price/competition	0.17	0.22	0.00	0.10	0.12	15%
IF - Payment Conditions	0.06	0.00	0.00	0.01	0.02	2%
FI - Product quality control	0.00	0.00	0.00	0.04	0.01	5%
IF - Post sales	0.00	0.11	0.14	0.08	0.08	6%
FI - Technological level and orientation of the business	0.11	0.11	0.00	0.21	0.11	18%
EF - Knowledge of innovation support instruments	0.17	0.00	0.00	0.06	0.06	8%
EF - Interaction networks	0.06	0.00	0.00	0.02	0.02	2%
Average improvements per factor	0.29	0.25	0.21	0.29	0.26	
Total improvements applied to the group	73	31	21	630	755	
Number of companies	18	9	7	156	190	
Improvements by companies	4.06	3.44	3.00	4.04	3.97	

Source: Peiex-Franca data.
Authors' elaboration.

Observing the usage by factor, groups 1 and 4 presented the highest values for the two external factors *knowledge of innovation support instruments* (0.17 and 0.06, respectively) and *interaction networks* (0.06 and 0.02, respectively), indicating that some companies are interested in innovation and collaboration efforts, which could help sustain or expand their operation in the domestic market (group 4) and in exports (group 1). However, these values are below the average of improvements per factor of 0.29 for both groups, meaning that the external factors experienced lower demand than the average. group 2 (exported after Peiex) also showed some prominence in the use of improvements in *sale price/competition*, with a demand of 0.22 improvements per company, suggesting that they also sought to adjust their pricing strategies. For group 3 (exported only before Peiex), there was some emphasis on *post-sales* improvements, indicating a need to maintain relationships with already conquered markets and strengthen them. In group 4, besides the three main internal factors, which were widely demanded by all companies, the firms also stood out in the factor *technological level and orientation of the business*, with 0.21 improvements applied. Composed of companies that did not export, the improvements suggest that these companies are seeking to develop solid product positioning strategies and advance in the use of technology.

Based on the data collected, it was calculated that group 1 (always exported) applied, on average, four improvements per company (4.06), a magnitude similar to group 4 (4.04, never exported). Companies in group 2, which started exporting after Peiex, applied, on average, 3.44 improvements per company, while those in group 3 (stopped exporting after Peiex) applied 3.00 improvements per company.

Interestingly, for several factors, it is noted that group 4 had a greater demand for improvements compared to group 2 (both did not export, but group 2 started exporting). With only nine companies in group 2, considered a success group for creating new exporters, the improvements identified by Peiex technicians are more specific to the needs of these firms, perhaps aiming to resolve specific issues. Group 4, with 156 firms, being more comprehensive, naturally would demand a greater diversity of factors. Another explanation, perhaps more interesting, lies in the fact that companies in group 2 already showed, before Peiex, greater preparedness than those in group 4 in terms of market operation, therefore demanding fewer improvements compared to this group; without detracting from the relevance of the improvements applied in group 2, which had an effect in terms of exportation.

More importantly, however, for the evaluation of Peiex, table 13 shows that several factors pointed out by the literature as relevant for the development of exports, both internal and external, were not addressed by Peiex in the companies. For example, there were 0.3 improvements in the 'international involvement with targets' factor, all only for Group 4, which did not export at any time during the

analyzed period. Besides this, the 'type of product, firm's sector of activity, adaptation of the product,' 'product quality control,' and 'international involvement with targets' are factors little explored by the Peiex Franca Program.

Although many improvements may require a chronological order for their application, that is, the program would not suggest more sophisticated improvements to certain firms or groups if more basic developments are necessary first, table 13 reveals many options where Peiex could expand its activities. Maintaining the total number of relevant factors cited by the literature (14) and, therefore, considering the average of the improvements applied in the companies for this set of factors, we observe a very low number of improvements applied, 3.97 improvements per company, without much dispersion among the groups.

The last column of table 13 shows the percentage of companies that adopted at least one improvement from each factor highlighted as relevant by the literature. The average of this column, 22%, indicates that the intensity of improvements implemented in companies through Peiex remained low, suggesting that there is room for Peiex to further explore the factors that showed lower adoption rates.

Along these lines, the table also clarifies which factors deserve more attention in terms of reflection by the agency on the possibility of expanding its operations, given that there is a high concentration of improvements in just four factors, all of which are internal. Despite our having identified only two external factors among the available data, since Apex is a government agency, it would be possible to explore greater synergy with the instruments designed to support innovation by the public sector, as well as to encourage the construction of networks and interaction channels between companies and suppliers.

5 CONCLUSION

Overseas trade is vital for the development of a State, allowing for the creation of jobs, strengthening of the image of the country, stimulation of innovation, the balancing of environmental, social and economic factors, and cooperation between States, amongst other benefits. This article has explored Peiex, specifically using data drawn from the Peiex-Franca project, which took place between 2016 and 2018, and involved 190 firms from different sectors. Information obtained from an interview conducted with Apex in 2021 was also considered, along with the responses provided in a survey performed in 2021 with those firms still active that took part in this specific project. The article presented factors that operate within and outside a firm and which influence the exports of micro, small and medium-sized firms, according to specialist literature, with the aim of comparing them with the data drawn from the project in Franca. With regard to the literature, there is a

certain convergence of the listed factors, even though they refer to firms operating in different locations and sectors.

When analyzing each group of firms, divided up by whether or not they have exported following the project, it can be seen that those firms in group 2 (exported only after Peiex) were, in some way, previously prepared to enter in the international market, in accordance with the factors found in the literature. This group alternates with group 3 (exported only before Peiex) regarding the performance of the factors. However, for some reason companies of group 3 did not perform any exports following the project, with this perhaps being caused by the operations conducted by the firms in this group being frustrated somehow or their not having received the return expected considering the investments made. Contrasting groups 2 and 3, we can note that only having an understanding of Comex is not enough to be able to export, and other variables such as pro-activity and, maybe most importantly, an understanding of the overseas environment is necessary.

Compared to group 4 (never exported), those from group 2 appear to have been more prepared prior to the support received from Peiex. This shows that Peiex managed to achieve success amongst some firms that were in the process of maturing. On the other hand, comparing groups 1 (always exported) and 2 (which continued to export or intensified their exports and started exporting following the project, respectively), it can be seen that many factors that the firms possessed prior to working with Peiex could have contributed to the positive results, confirming the theory that the project is effective only partially in relation to the internal and external factors cited in the literature. It can also be noted that those firms that are developing in relation to overseas trade (group 2) can benefit from the program.

Finally, the reordering of the improvements applied by Peiex in the firms has shown that the project has partially operated within those factors raised by the literature. Indeed, more actions are possible within the scope considered in the literature and offered by Peiex. Maybe the firms are not prepared to receive certain improvements, which could suggest a need for more effort from the Apex partners in advance activities together with the firms, or perhaps the program should be split into two stages, with a total operating period and involvement together with bigger firms. It is worth highlighting that the results refer to firms which, despite operating in different sectors, are geographically concentrated in upstate São Paulo and, as such, other regions of the country could present different improvement needs, thus making more studies of a specific nature necessary to be able to draw more thorough conclusions.

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