

**TRANSIÇÃO DIGITAL E ESTRATÉGIAS DE INTERNACIONALIZAÇÃO:
UM ESTUDO DAS EMPRESAS DE SERVIÇOS ATENDIDAS PELO PEIEX-RN**

*DIGITAL TRANSITION AND INTERNATIONALIZATION STRATEGIES: A STUDY ON
SERVICE COMPANIES ATTENDED BY THE PEIEX-RN*

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Objetivo do estudo

Analisar o processo de transição digital e sua influência nas estratégias de internacionalização em empresas de serviços atendidas pelo Programa de Qualificação de Exportação da ApexBrasil no Estado do Rio Grande do Norte – PEIEX-RN (2020-2021).

Relevância/originalidade

Existem poucos trabalhos na academia analisando as internacionalizações das PMEs brasileiras sob a perspectiva da transição digital e pouquíssimos estudos com foco nos efeitos do programa PEIEX, especificamente para empresas de serviços.

Metodologia/abordagem

A pesquisa é descritiva, de natureza qualitativa, utiliza diversas estratégias de coleta de dados: 1) pesquisa documental; 2) observação participante; e 3) entrevistas semiestruturadas.

Principais resultados

Percebeu-se que a barreira mais significativa à transição digital das empresas estudadas é a natureza de um mercado local ainda centrado em modelos de negócios analógicos e regionais. As limitações impostas pelo ecossistema acabam afetando a competitividade das empresas.

Contribuições teóricas/metodológicas

O trabalho aponta para a importância de estudar as empresas atendidas pelo programa PEIEX na perspectiva de seus consultores técnicos, por meio da observação participante, aproveitando informações relevantes ainda não exploradas pela academia ou pela ApexBrasil.

Contribuições sociais/para a gestão

O trabalho indica que apenas capacitar empresas por meio do programa PEIEX, apesar de seus benefícios óbvios, não é suficiente, pois é preciso trabalhar no nível do ecossistema para permitir uma melhor transição digital e uma maior expansão internacional.

Palavras-chave: ApexBrasil, PEIEX, Transição Digital, Internacionalização, Empresas de Serviço

DIGITAL TRANSITION AND INTERNATIONALIZATION STRATEGIES: A STUDY ON SERVICE COMPANIES ATTENDED BY THE PEIEX-RN

Study purpose

To analyse the digital transition process and its influence on internationalization strategies in service companies attended by the ApexBrasil's Export Qualification Program in the State of Rio Grande do Norte - PEIEX-RN (2020-2021).

Relevance / originality

There are very few works in academia analysing the internationalizations of Brazilian SMEs from a digital transition perspective and even fewer studies focusing on the effects of the PEIEX program, specifically on service companies.

Methodology / approach

The research is descriptive and qualitative in nature, utilising several different data collection strategies: 1) documental research; 2) participant observation; and 3) semi-structured interviews.

Main results

It was noticed that the most significant barrier to the digital transition of the companies studied is the nature of a local market still centered on analogical and regional business models. The limitations imposed by the ecosystem affect the companies' competitiveness.

Theoretical / methodological contributions

The work points out to the importance of studying the companies attended by the PEIEX program from the perspective of its technical consultants, through participant observation, tapping into relevant information not yet explored by academia or by ApexBrasil.

Social / management contributions

The work indicates that only capacitating companies via the PEIEX program, despite its obvious benefits, is not enough, it is necessary to work on the ecosystem level in order to allow for a greater digital transition and further international expansion.

Keywords: ApexBrasil, PEIEX, Digital Transition, Internationalization, Service Companies

1 Introduction

The intense international competition and the integration of global value chains have profoundly transformed the phenomenon of internationalization. What was previously seen as a long-term strategic alternative, is currently considered a prerogative for any business model, as the strict regional focus has been increasingly risky, which leads to the understanding that internationalization is not just a strategy of expansion, but, above all, of survival (Costa, 2020; Camisón & Villar-Lopes, 2010; Gassmann & Keupp, 2007).

Such paradigm shift does not only affect large companies, but small and medium companies (SMEs) as well, given that, in the current scenario, it is recommended that they diversify their operations to preserve their competitive advantage. Such particularities raise concerns about the survival and expansion strategy of SMEs, because they are more likely to encounter various barriers during the internationalization process (Kahiya, 2017; Cahen, Lahiri & Borini, 2016; Baum, Schwens & Kabst, 2013).

One of the key current drivers to the internationalization process – making it more fluid and opening space for new products, services and business models – is the digital transition of traditional processes, as well as the emergence and growth of highly scalable digital ventures of a global nature (Cavallo, Ghezzi, Dell’era & Pellizzoni 2019; Steininger, 2019; Bustamante, 2019).

It is necessary to prioritize actions that allow an efficient and effective digital transition for SMEs within a global strategy. Such strategies must contemplate all possibilities for innovation, whether in products and/or services, production process, marketing methods, business practices, amongst others (Verhoef et al., 2021).

The Brazilian Export Promotion Agency (ApexBrasil) was created in 1997 as an Export Promotion Organisation (EPO). Since its inception, the agency has been promoting the country’s export and internationalization culture across several different industries, including services as well as attracting consist foreign direct investment (Monticelli, Calixto, Vasconcellos & Garrido, 2017; Carpes, Scherer & Beuron, 2012; Lima & Carvalho, 2012; Farias & Tatsch, 2002).

The ApexBrasil Export Qualification Program (PEIEX) plays an essential role in guiding SMEs through the internationalization and digital transition process using specialized training and the development of export plans elaborated by technical facilitators, who are the experts providing training and guidance to entrepreneurs under the PEIEX program (Dornelas & Carneiro, 2018; Monticelli et al., 2017; Carpes et al., 2012; Lourenção & Giraldi, 2015).

Moreover, PEIEX acts as a "spearhead" for other internationalization support services promoted by ApexBrasil, such as international fairs, business roundtables with foreign buyers for the expansion of networking opportunities, and commercial promotion (Costa, Costa, Araújo & Freitas, 2021; Dornelas & Carneiro, 2018).

The current article analyses the strategies for the adoption of digital transition in the internationalization process of companies in the service sector; specifically, SMEs that went through the PEIEX program in the state of Rio Grande do Norte (PEIEX-RN) during the 2020-2021 cycle. The research was a multiple case study with a qualitative approach, in which the studies specifically focus on understanding the main challenges faced by local entrepreneurs, as well as the strategies and tools utilized by them to advance the internationalization process through digital transition.

2 Theoretical Background

Digital transition can be divided into three levels: i) External factors of digital transformation, such as technology, competition and customer behaviour; ii) stages of digital transformation, focused on products, processes or business models; iii) strategic drivers of digital transformation, related to the organizations' resources, their essential competences, strategy, structure and culture (Verhoef et al., 2021).

Furthermore, digital transition takes place through the adoption of digital technology to transform specific processes or business models, taking place at three distinct levels: i) e-commerce (use of digital platforms to carry out commercial transactions); ii) e-marketing (the use of digital channels for marketing and promotion activities); iii) e-business (digital improvement of production and commercial processes); (Verhoef et al, 2021; Dethine, Enjolras & Monticolo, 2020; Zoppelletto, Orlandi & Rossignoli, 2020; Tekic & Koroteev, 2019).

Table 1 presents the details of these three levels of digital transition, their concepts, transformations and benefits on the business internationalization process.

Table 1
Nature of Digital Transition and Benefits

Level	Concept	Transformation	Benefits
E-commerce	Use of digital platforms to carry out transactions consisting of the sale of goods and services over the internet.	Personalization of the shopping experience. Integration into digital platforms. Secure payment system on the company's own page. Space for customer ratings and comments. Availability of order form. Website adapted for mobile access. Bilingual website. Adoption of chatbots.	Reduces distance and entry costs. Provides an additional sales channel. Optimize the supply chain through process automation. Affects pricing. Establishes new communication structures with customers.
E-marketing	Use of digital channels to carry out marketing and promotion.	Omnichannel integration. Segmentation with customer groups and profiles. Email marketing features or integration. Adoption of Pay-Per-Click Marketing. Integration with Social Media. Search optimization strategies. Conversion rate optimization. Affiliate Marketing. Use of Marketing Analytics. Content Marketing Strategies. Adwords Strategy.	Increase profits and market share. Increases brand value. Optimize networking. It offers corporate intelligence tools for decision making. Establishes a framework for content development. Makes products/services more customized and competitive.
E-business	Use of digital analysis tools to improve production processes and internal management.	Expansion Strategy integrated with the digital transition. Re-evaluated business model. Digital monetization strategies. Cost structure. IT infrastructure.	Improves internal processes and production capacity. Provides support for managing intellectual capital through optimal use of information. Promotes information sharing and collaborative R&D efforts.

Source: Adapted from Costa, Cavalcanti, Tasca & Weber, (2021c), based on Dethine, Enjolras & Monticolo, (2020).

From the information presented in Table 1, it is possible to perceive that the human element is present at all levels of digital transition, covering not only the adoption of tools or strategies, but also the adaptation of people to the business digitalization. This would be a fundamental condition for the success of business internationalization and digital transition (Verhoef et al, 2021; Costa, 2020; Lee & Falahat, 2019). It also constitutes a central aspect to

be included in companies' training programs for internationalization (ApexBrasil 2020a; ApexBrasil, 2020b).

The concept of internationalization has a very clear and distinct nature, being commonly understood as the economic and cultural process of increasing the involvement of organizations in international activities, bringing benefits such as cost reduction, profit maximization, mitigation of risks and expansion of intellectual capital (Knight & Liesch, 2016; Camisón and Villar-Lopez, 2010). However, its *modus operandi*, timing and scope varies according to different scenarios, that go from a gradual transition into the global markets to the internationalization from the very business inception (Costa et al., 2021a; Axinn & Matthyssens, 2002).

Business internationalization is perceived as an important lever for economic growth, and is closely related to digital transition strategies (Verhoef et al, 2021; Zoppelletto, Orlandi & Rossignoli, 2020). This new scenario is accompanied by several opportunities and challenges, especially for SMEs (Dethine, Enjolras & Monticolo, 2020).

The more complex the internationalization process, the greater the degree of digital transition. This is because most internationalization models found in the literature tend to accelerate and become more complex within a digital landscape: for instance, foreign direct investment becomes more robust and multifaceted (Cavallo et al., 2019; Steininger, 2019); the most innovative business models compete at a global level (Bustamante, 2019; Verhoef, 2019); the accumulation of intangible resources and the exchange of technologies intensifies (Steininger, 2019); networking becomes more efficient and complex (Zoppelletto, Orlandi & Rossignoli, 2020); and, mainly, the emergence of born global companies is made possible (Verhoef et al, 2021; Dethine; Enjolras & Monticolo, 2020).

It is also possible to notice that, to some extent, schools of thought on internationalization converge in order to identify the types of barriers, whether internal or external, must be overcome (Costa et al., 2019; Narayanan, 2015; Ojasalo & Ojasalo, 2011). Although these barriers, especially for SMEs, have been reduced as a result of social, economic and cultural factors that favour the globalization of the economy and act as driving forces, they still remain complex and close to insurmountable for some companies (Narayanan, 2015; Knight & Liesch, 2016).

On the one hand, internal barriers are usually related to the availability of resources (financial, intellectual and cultural), organizational culture (business restrictions) and managerial practice (strategic barriers and low level of networking) (Costa et al, 2019; Narayanan, 2015; Ojasalo & Ojasalo, 2011). On the other hand, external barriers are linked to market-related factors outside the sphere of influence of entrepreneurs, varying from region to region and from industry sectors, which also includes political, economic, cultural, legal and geographic barriers (Costa et al, 2019; Ojasalo & Ojasalo, 2011).

Given the relationship between internationalization and digital transition, the essential step to begin the study of these two areas is the understanding of the driving forces, both within and without the organization, that push the internationalization process, as well as the association between these driving forces and the processes of digital transition (Costa et al. 2021a; Verhoef et al., 2021; Bosco, Mazzucchelli, Chierici & Gregorio, 2019; Nicotra, Romano, Giudice & Schillaci, 2018; Lee & Falahat, 2019). Table 1 presents a resume of the driving forces for internationalization and their relationship with digital transition.

Table 1
Internationalization Driving Forces and Digital Transition

Driving Forces	Digital Transition
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Organization characteristics: size, age, geographic location.	Digital transition transforms the organizational structure, reducing its size, changing processes and expanding the possibility of geographic expansion.
Corporate Leadership	The digital transition highlights the posture of certain leaders, fostering new standards of excellence.
Competencies based on knowledge, intellectual capital or contingencies.	The digital transition drastically changes the organization's core competencies, reorganizing the balance of intellectual capital.
Entrepreneurial orientation and alignment with new markets.	Digital transition facilitates entrepreneurial orientation, increasing interaction with other organizations and obtaining information.
Marketing environment – market size, sales potential, logistics (infrastructure, transport, etc.).	The Market becomes more fluid, more customized, with a focus on 4.0 marketing based on platforms and content.
Government – regulations, export policies, customs restrictions, bilateral/multilateral agreements, ideological orientation.	The transition from analogical to digital models makes many rules and procedures obsolete, challenging governments to reinvent themselves in the search for competitiveness.
Competitive Environment – Cooperation, co-dependency, co-learning, risk mitigation and network opening.	Cooperation is favoured by the exchange of information and the possibility of managing global projects more easily.
Interrelationship with customers, competitors, suppliers, government and society in general.	Relationships become more dynamic, based on immediate communication, omnichannel models and greater accountability to society.
Technology transfer, partnerships and expansion of distribution channels.	Digital transition expedites technology transfer and the development of marketing channels, restructuring the entire production chain.

Source: Based on Costa et al. (2021a); Verhoef et al (2021); Bosco et al, (2019).

It is possible to notice that, to some extent, these driving forces of internationalization tend to intensify considerably when introduced in the digital context (Verhoef et al., 2021; Lee & Falahat, 2019; Tekic & Koroteev, 2019).

The specialized business literature points out that lessons from the strategy of larger organizations do not necessarily apply to smaller enterprises. This reflects the idea that the strategies to be adopted for start-ups, scale-ups and SMEs should also be created from a direct study that includes the empirical experience of their managers and their particularities (Costa et al., 2021b; Bustamante, 2019). Several researchers have pointed out that international growth is, above all, the result of entrepreneurial predisposition; therefore, it is necessary to prioritize actions that allow the digital transition of SMEs within a global expansion strategy (Verhoef et al, 2021).

ApexBrasil (Brazilian Trade and Investment Promotion Agency) is one of the key players dedicated to fostering export of products and services abroad, promoting internationalisation, enabling foreign trade, and attracting foreign direct investments to Brazil (ApexBrasil, 2020a) by combining strategic industry development and public policies support (Alcaraz & Zamilpa, 2017, Bonfim, Padovani & Duque, 2015).

Given the role of ApexBrasil in integrating the most diverse stakeholders, such as trade associations, industrial consortia, educational institutions, research centres and business incubators (Monticelli, et al., 2017; Farias & Miranda, 2016; Lima & Carvalho, 2012; Farias & Tatsch, 2002); it is imperative to further study businesses that are attended by the agency through their different projects. This includes the PEIEX program (Industrial Exporter Extension Project), which is usually one of the first points of contact that SMEs have with ApexBrasil (Dornelas & Carneiro, 2018).

To fulfil its role, the PEIEX program follows standard procedures to assist SMEs interested in internationalizing their businesses through its work plan, support material and the export plan model (PEIEX, 2020a; PEIEX, 2020b). This documentation needs to take into account the demands of companies' digital transition, which is an especially important challenge for service companies, given the extremely volatile global business scenario with new technologies, born global companies, digital business models, shorter product life and transnational competition in which they are inserted (Verhoef et al, 2021; Costa, 2020; Knight & Liesch, 2016).

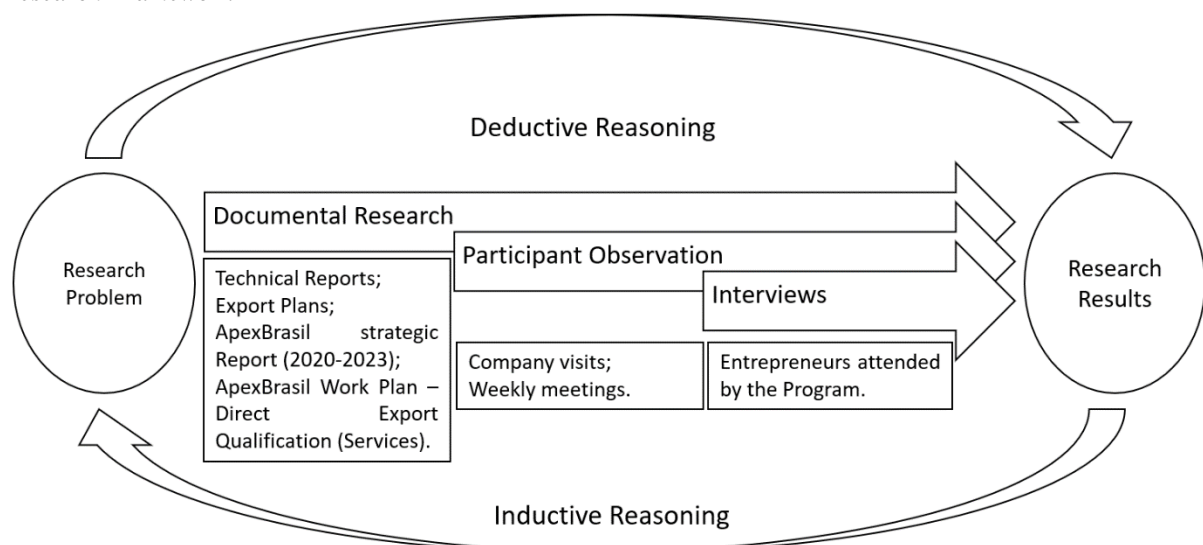
The emphasis on service companies, despite constituting less than 10% of the companies served in the 2020-2021 PEIEX cycle in the state of Rio Grande do Norte, was due to an internal demand for a better understanding of service exports, since there was a greater interest shown by this segment of companies to adopt the digital transition of commercial promotion processes, as well as a considerable shortage of relevant material on the subject (Lee & Falahat, 2019; Dethine, Enjolras & Monticolo, 2020).

3 Methodology

The research was descriptive, as it consisted of a study aimed at generating a detailed exposure of a given phenomenon (Saunders, Lewis & Thornhill, 2016); its nature was qualitative, focused on exploring the perception and experiences of subjects for the description and understanding of phenomena (Miles & Huberman, 1994). As for the type, the research is a multi-case study (Yin, 1995), as it focused on several different service companies that underwent the PEIEX-RN capacitation throughout the 2020-2021 cycle and were undergoing different stages of digital transition and internationalization.

The data was collected from nine service companies that were attended by the PEIEX-RN program in the 2020-2021 cycle. Overall, these companies represented more than half of the service companies attended in the 2020-2021 cycle, and 9% of the total companies attended (Costa et al., 2021a). The research was comprised by three different, albeit interdependent stages, as presented in figure 1:

Figure 1
Research Framework



The first stage was based on a documental research, focused on the following documents: i) Technical Reports (elaborated by the PEIEX consultants about each company

attended); ii) Export Plans (elaborated by PEIEX consultants for each company attended); iii) ApexBrasil strategic Report (2020-2023); iv) ApexBrasil Work Plan – Direct Export Qualification (Services). Those documents were analysed in order to collect relevant information regarding the companies' commercial promotion strategies as well as ApexBrasil directives for this specific theme.

As a second stage of the study, alongside the documental research, data was collected by participant observation realised by each PEIEX-RN technical consultant. PEIEX Technical Consultants spent an average of 40 hours attending each company. This data is very relevant for the research, as the technical consultants witness very closely the company's efforts to adapt to the export demands in order to prepare the Export Plans. Furthermore, weekly meetings between Technical Consultants and PEIEX coordinators were organized to discuss the challenges faced by the companies and their particular experiences, thus comparing their different perspectives.

Regarding the use of participant observation as a form of data collection, the issue of reflexivity (Yin, 2005) was not perceived during the study, for it was not noticed any change of behaviour from the entrepreneurs attended by the program, given that the interaction with the PEIEX consultants and the discussion about digital transition take part across several weeks.

Finally, as a third stage, interviews were conducted with the entrepreneurs attended by the program, in relation to international trade promotion strategies. Interviews lasted an average of 60 minutes. A total of 12 interviews were conducted, of which nine were utilized for the current research.

4 Result Analysis

It could be observed that there were a variety of service companies that underwent the PEIEX program in the state of Rio Grande do Norte, with a slightly larger number of IT related services companies – five companies in all, whilst there were two petrochemical related service companies, one company specialized in energy services and one company specialised in design.

Regarding other relevant aspects about the companies, seven of them are headquartered in the city of Natal and two in the city of Mossoró. The companies are relatively young, with an average of four years' operation, and about 30% of them with only two years' operation.

Moreover, all companies have their tax framework within the *Simple Nacional*, confirming the PEIEX-RN's focus on SMEs. Furthermore, all companies responded to the ApexBrasil's feedback questionnaire at the end of the cycle, that is, there is an open intention to maintain active networking with ApexBrasil even after the end of the PEIEX program, indicating that the companies have interest to be contacted for further projects and opportunities.

On analysing the documents produced by the PEIEX-RN team (Costa et al, 2021a; Costa et al., 2021c), it is possible to notice that several referrals were made to ApexBrasil's institutional partners, in order to enable the companies to adapt to the most diverse demands that occur during the initiation of the exporting and internationalization process (ApexBrasil 2020b).

The analysis revealed that all companies showed interest and openness to the digital transition of their processes. There was significant demand for further services related to the subject, which was directed, via referrals, to some of ApexBrasil's institutional partners.

More than half of the referrals to ApexBrasil's institutional partners were directed to Softex, a Civil Social Organization of Public Interest (OSCIP) that promotes digital transformation (Softex, 2020). There were also referrals to the Brazilian Institute of Oil and Gas, which amongst its activities has a considerable focus on encouraging research,

development and innovation, preparing the industry for the new context of digital transformation (Instituto Brasileiro de Petróleo e Gás, 2020). About 80% of the companies analysed also went through referrals to institutions such as SEBRAE-RN, with the objective to improve their visual identity and their digital presence.

It was possible to verify that the companies analysed have been using digital tools, specifically the adaptation of websites and the use of social networks, in their international networking efforts, including *Comex Stat* and *Trademap*, in addition to other organic strategies, such as referrals and partnerships between companies in the same industry and, in few cases, participation in international trade-shows.

Although all the companies use business oriented social media such as LinkedIn to a certain extent, their usage does not follow a systematic pattern of commercial promotion – only one of the companies analysed has a content generation strategy for inbound marketing and only two of these companies use LinkedIn systematically for lead generation, which indicate the underutilization of basic tools.

Table 2 presents the main challenges that entrepreneurs face in the digital transition and how they respond to these challenges

Table 2
Challenges and Response Strategies

Barriers	Response strategies
Difficulties to expand the business in a scalable way.	Partnerships for technology exchange. Use of social media for commercial promotion.
Partner companies lack interest in having a structured database, migrating to e-commerce, serving customers virtually or adapting their production model.	Use of commercial platforms to prospect new partners.
Difficulties in establishing new business partnerships.	Using LinkedIn to expand business partnerships prospects.
Market prospection.	Lead sourcing through social media.
Difficulty regarding the use of digital sales channels (Pre-pandemic business model was analogical, based on referrals and cold calling).	Incorporation of digital resources to promote services, specifically the use of social media.
Lack of skilled labour in the state. Absence of an international labour outsourcing strategy.	The companies intend to establish international partnerships to outsource some of their processes, but this effort has not yet started.

Two central challenges to the digital transition were perceived in the commercial promotion of service companies served by PEIEX-RN.

Firstly, there is an internal barrier relating to business practices. It was noticed that despite being service companies - and half of these companies are linked to IT services - none of them presents a systematic strategy of digital international expansion and commercial promotion, having only on isolated efforts. In short, only adaptations of the traditional business structure were identified through the peripheral incorporation of new technologies, such as the use of social media for commercial promotion.

Secondly, the most significant barrier to the digitalization of companies, however, is not the attitude of managers – which, in general, is open to the digital transition – but the difficulties of a local market still centred on analogical and regional business models. Entrepreneurs encountered several difficulties throughout their value chain, which has not yet incorporated the *ethos* of the digital economy. This poses serious impediments to the international competitiveness of companies, given that the business ecosystem is a crucial element for business innovation through digital transition (Bosco et al., 2019; Nicotra, Romano, Giudice & Schillaci, 2018).

It was also noticed that in line with other relevant research in the area (Dornelas & Carneiro, 2018; Monticelli, et al., 2017; Carpes et al., 2012; Lourenção & Giraldo, 2015), and the testimony of service companies attended by the program (PEIEX-RN 2021), ApexBrasil and its Export Qualification Program – PEIEX emerged as fundamental agents for the development of the internationalization of these companies and to encourage the adoption of the digital transition in their business model.

5 Conclusion

The current article presented a multi-case study in nine service companies that underwent the PEIEX-RN program in the 2020-21 cycle, with the objective of analysing the strategies involved for the adoption of digital transition models in the internationalization process of their commercial promotion.

It was possible to notice that the international networking of companies still takes place in an unsystematic way, without structured planning, despite the entrepreneurs being open to changes for the commercial promotion of their businesses. The use of social media is primarily restricted to LinkedIn and Instagram, but little emphasis is placed on content creation and lead sourcing. Companies still have analogical business models, with an emphasis on organic expansion through cultural approximation.

Regarding the challenges faced by companies to integrate the digital transition in their commercial promotion, it was noticed the predominance of external barriers, specifically related to the orientation of local markets that do not favour digital expansion strategies, with resistance from suppliers and other partners. There is also the difficulty of business orientation that has not yet incorporated a systematic effort to adopt digital models for the commercial promotion of companies.

As a suggestion for future studies, it is recommended to extend the current research to other PEIEX centres in Brazil, especially in the North and North-eastern regions that have socioeconomic similarities, in order to expand the insights already observed so that they can be used for companies and technical facilitators' capacitation, as well as in the strategic planning of companies seeking international expansion.

As an immediate suggestion for ApexBrasil, the researchers can point out the need to structure a capacitation for the use of social media aimed at commercial promotion, especially LinkedIn and Instagram, which are already well known by entrepreneurs and could mark the first steps in the systematization of their commercial digital transition efforts.

Finally, the main limitation of this work concerns its scope, as a multi-case study is restricted to a specific reality that makes it impossible to generalize results. However, this study offers significant insights for the development of broader future studies, in addition to the structuring of initiatives to improve the services of the PEIEX program.

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