

**A STUDY ON THE INTERNATIONALIZATION BARRIERS AND CHALLENGES FACED BY DIGITAL-
BASED SMES**

**UM ESTUDO SOBRE AS BARREIRAS E DESAFIOS À INTERNACIONALIZAÇÃO ENFRENTADOS
PELAS PME DE BASE DIGITAL**

**UN ESTUDIO SOBRE LAS BARRERAS Y DESAFÍOS A LA INTERNACIONALIZACIÓN DE LAS
PYMES DE BASE DIGITAL**

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Abstract

The current article's goal is to identify and analyse the barriers to internationalization of digital SMEs. It was developed a theoretical framework concerning internationalization barriers in the modern business literature, focusing on strategic management, networking, internal factors and external barriers. 21 digital SMEs were examined; the companies were chosen based on a Snowball sampling. A cluster analysis was developed in order to compare the performance of the firms and their main challenges towards internationalization. External barriers appear to be the most significant barrier for businesses, but those factors are related to a lack of strategic managerial drive, which resulted in dispersed and reactive internationalization initiatives.

Keywords: internationalization; internationalization barriers; digital SMEs; international growth.

Resumo

O objetivo do presente artigo é identificar e analisar as barreiras à internacionalização de PMEs digitais. Foi desenvolvido um referencial teórico sobre barreiras à internacionalização na literatura moderna de negócios, com foco em gestão estratégica, networking, fatores internos e barreiras externas. 21 PMEs digitais foram examinadas; as empresas foram escolhidas com base em uma amostragem Snowball. Uma análise de cluster foi desenvolvida para comparar o desempenho das empresas e seus principais desafios para a internacionalização. As barreiras externas parecem ser a barreira mais significativa para as empresas, mas esses fatores estão relacionados à falta de direção estratégica da gestão, o que resultou em iniciativas de internacionalização dispersas e reativas.

Palavras-chave: internacionalização; barreiras à internacionalização; PMEs digitais; crescimento internacional.

Resumen

El objetivo del presente artículo es identificar y analizar las barreras a la internacionalización de las pymes digitales. Se desarrolló un marco teórico sobre las barreras a la internacionalización en la literatura empresarial moderna, centrándose en la gestión estratégica, la creación de redes, los factores internos y las barreras externas. Se examinaron 21 pymes digitales; las empresas fueron escogidas en base a un muestreo Snowball. Se desarrolló un análisis de conglomerados para comparar el desempeño de las firmas y sus principales desafíos hacia la internacionalización. Las barreras externas parecen ser la barrera más importante para las empresas, pero esos factores están relacionados con la falta de impulso gerencial estratégico, lo que resultó en iniciativas de internacionalización dispersas y reactivas.

Palabras clave: internacionalización; barreras a la internacionalización; pymes digitales; crecimiento internacional.

1 INTRODUCTION

The nature of organisational competitiveness, as well as the reduction of distances via the integration of global value chains, has dramatically altered the phenomena of internationalisation. If it was initially perceived as a long-term strategic option, it is now considered a prerogative for any business model, given that a strict regional focus has become increasingly risky, leading to the understanding that internationalisation is not only a strategy of expansion, but, more importantly, of survival (COSTA et al., 2018; ANDERSSON and EVERS, 2015, CAMISÓN and VILLAR-LOPES; 2010).

Internationalization is a phenomenon into which businesses, particularly SMEs, are accelerating rapidly (COSTA et al., 2023; CHANDRA, PAUL and CHAVAN, 2021; MCDUGALL; JONES and SERAPIO, 2014; GABRIELSSON et al., 2008). A more varied global economy, where various organizations, even SMEs, may flourish worldwide, has contributed to the emergence of internationalization-prone and even born-global enterprises (KNIGHT and LIESCH, 2016). However, such success is not without its challenges and risks; smaller businesses are not simply scaled-down versions of large corporations; rather, their structure and behaviour differ significantly, necessitating specialized research to fully understand their unique characteristics (LOVE and ROPER, 2015; BRAMBILLA, LEDERMAN and PORTO, 2012).

Digital companies in general, particularly start-ups, have inherent conditions that are more conducive to internationalization, as they face lower geographic and linguistic barriers supported by a digital business model, allowing them to create knowledge and networks at a faster pace, increasing international competitiveness. Indeed, globalization has lowered overall internationalization obstacles; yet, they remain significant and quite complicated, necessitating more research on how to overcome them, particularly for SMEs (VENDRUSCOLO and GALINA, 2020; MUELLER-USING, URBAN and WEDEMEIER, 2020; TOULOVA, VOTOU PALOVA and KUBICKOVA, 2015.).

Furthermore, the increasing globalisation of economies, combined with the speed of digital technological development, is accelerating innovation cycles, generating new business models, and changing the operational and organisational environment for companies and consumers, sometimes in a disruptive way (VERHOEFFEF al, 2021; VIAL, 2019; PAGANI and PARDO, 2017).

Internal barriers or barriers arising from within firms, are more relevant for some SMEs than external barriers caused by company-independent circumstances; however, further research is required, as most studies tend to overlook internal barriers of internationalization (MUELLER-USING and WEDEMIER, 2020; TOULOVA, VOTOUPALOVA, and KUBICKOVA, 2015).

For the purposes of this paper, internationalization will be defined as the phenomenon of consolidating an organization's economic activities in foreign markets without ignoring the cultural aspects of such consolidation, using both incremental and accelerated models (KNIGHT and LIESCH, 2016; RUZZIER; HISRICH and ANTONCIC, 2006). The current research also assumes that internationalization has become a necessary prerequisite for SMEs seeking to consolidate their competitive advantage as well as future growth and development (COSTA, 2020, 2021; PAUNOVI and PREBEAC, 2010).

Thus, the article focuses on identifying and analysing the major barriers to internationalization of digital-based SMEs in order to point out the main difficulties faced by those companies. Such understanding may be useful to the development of more efficient internationalization strategies and operations.

2 THEORETICAL BACKGROUND

Internationalisation is no longer viewed as a strategy for large companies that have successfully expanded into their regional market to seek new growth paths; it is now regarded as a requirement for long-term survival, not only for larger organisations but also for SMEs focusing on rapid international expansion, especially digital-based businesses (COSTA et al., 2023; THOMAS; PASSARO and QUINTO, 2020). Export and foreign trade are only two parts of the more complex phenomena of internationalisation, which necessitates strategic adaptation focused on global competitiveness from entrepreneurs, businesses, research institutions, and government agencies (COSTA et al., 2022; KNIGHT and LIESCH, 2016; ANDERSEN and BUVIK, 2002).

Table 1 brings a summary of different schools of internationalization thought as well as its relevance and application to digital based SMEs.

Table 1 – Internationalization schools

Internationalization School/Approach	Main Features	Relation to Digital Businesses
Uppsala Model	Incremental development. Domestic experience precedes international growth. Cultural proximity is fundamental for achieving internationalization. Focused on large organizations.	Not related as it describes MNEs international expansion.
Operational Approach	It focuses on increasing the involvement of international operations from local markets to international markets or from international markets to local markets. It is not restricted to commercial relations, but to operational interactions. Mainly focused on medium and large organizations.	May describe internationalization through outsourcing operations, but it is not focused on digital SMEs.
Foreign Direct Investment Approach	It focuses on the growth of direct and indirect foreign investment in international transactions.	It is intended for larger organizations, but may also apply to digital SMES, given the growth of cross border venture capital.
I-Model Theory	Internationalization is seen as a decision and an innovation management process. Focus on the transformation of production cycles.	Highly relevant, as digital businesses tend to present a more innovation prone strategy, supporting internationalization.
Resource-Based Approach	Internationalization is seen as a competence created by accumulated tangible and intangible resources.	It makes no distinction of organizational size. Highly relevant for Digital SMEs given the competitive nature of the market.
<i>Networking Approach</i>	The extent, penetration and integration of interconnections between stakeholders are the key element of internationalization. An efficient network can overcome time constraints and accelerate internationalization. Tangible and intangible resources can be enhanced by an efficient network.	Regardless of organizational size, many approaches favour SMEs, since their size may reflect potential for faster adaptation and integration with larger players.
Born Global	Significant changes in internal and	Primarily focused on Digital-

Organizations	external forces have increasingly diverted companies from the gradual internationalization model. Internationalization can occur in less than 5 years, in some circumstances, since companies' inception.	based SMEs – associated with companies with less than 200 employees and annual revenues of up to \$100 million.
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Source: Elaborated by the authors, based on Costa (2020); Van Schijndel (2019) and Knight and Liesch (2016).

Despite the fact that internationalisation is an unpredictable and difficult process that poses substantial obstacles for any organisation, many businesses internationalise from the start of their operations (VAN SCHIJNDEL, 2019; KNIGHT and LIESCH, 2016). Early internationalisation may allow for quick expansion, growing the organisation in both home and foreign markets (WOO, 2020). Partnerships and international activities in new and young firms increase distribution and, as a result, market actions (BLESA et al., 2008), whilst also increasing domestic operational performance (WOO, 2020). There is also a link between technical practise and worldwide expansion in new and emerging enterprises (ZAHRA, IRELAND and HITT, 2000). On the other hand, a delay in internationalization may lead to the increase of entry barriers by foreign competitors (PAIK and WOO, 2017).

The diversity and complexity of the driving forces that exert direct and indirect effect on organisational performance is a key source of the many varied theories and approaches on internationalisation. These factors might be internal or external to the organization. Some forces are also considered mixed since they are the result of both internal and external influences (COSTA et al., 2023; KNIGHT and LIESCH, 2016; KORSAKIENĖ; DISKIENĖ and SMALIUKIENĖ, 2015; ANDERSSON and EVERS, 2015; KORSAKIENĖ and TVARONAVIČIENĖ, 2012; LIESCH, 2011). Table 2 depicts the primary factors, their nature, and their relationship to digital-based businesses.

Table 2 – Driving forces for Internationalization and their relation to digital businesses

Type of Force	Main Aspects	Relation to Digital Businesses
Internal or Proactive Drives	<p>Characteristics of the organization - size, age, geographical location.</p> <p>Competencies - based on knowledge, intellectual capital or contingencies.</p> <p>Physical, organizational and network resources.</p> <p>Entrepreneurial orientation - alignment with new markets.</p> <p>Leadership - orientation to internationalization, social capital, management of innovation and knowledge.</p>	<p>Digital businesses are normally small and medium organization, with less than ten years of operations, located usually in regional technological hubs.</p> <p>Despite their size, they may have considerable resources from venture capital, partnerships or integration with incubators/accelerators.</p> <p>Their entrepreneurial orientation focuses on innovative, sometimes disruptive products and services.</p> <p>Their leadership orientation is focused on international markets and technology exchange.</p>
External or Reactive Drives	<p>Marketing environment - market size, sales potential, logistics (infrastructure, transport, etc.) and market opening.</p> <p>Government - regulations, export policies, customs restrictions, bilateral/ multilateral agreements, ideological drives.</p> <p>Macroenvironment - economic, political, technological, social and environmental factors.</p> <p>Industrial characteristics - dynamism, complexity and characteristics of the industries (capital intensive, R&D capacity, competitions in price levels, commercialization, patents, brand awareness).</p> <p>Competitive Environment - Cooperation, co-dependency, co-learning, risk mitigation and network opening.</p>	<p>The market environment is growing exponentially, there are usually unencumbered by logistic barriers, since they are digitally based.</p> <p>Government regulations are still in the cradle, there are considerable efforts from government programs all over the world to encourage the development of digital businesses.</p> <p>As digital businesses, they tend to adapt faster to macroenvironment changes.</p> <p>The industry is complex, fluid, with a convoluted value chain and highly intensive on networking, innovation driven and disruptive.</p> <p>The environment is highly competitive, however, there are many levels of cooperation in different ecosystems.</p>

<p>Networking or Mixed Forces</p>	<p>Corporate Leadership Inter-relations with customers, competitors, suppliers, government and society in general. Knowledge and innovation management. Networking with emerging markets players. Transfer of technologies, partnerships and expansion of distribution channels.</p>	<p>Digital businesses present a corporate leadership more inclined towards internationalization, with transparent and innovative business models. The exchange of knowledge is quite considerable, including technology exchange between developed and emerging markets.</p>
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Source: Elaborated by the authors, based on Verhoef et al., (2021); Vial, 2019; Costa (2018); Pagani and Pardo (2017); Knight and Liesch (2016); Andersson and Evers, 2015.

Internationalization, especially for digital and born global businesses, is a rational and planned process; it occurs through the interrelation between external and internal driving forces; thus, the planning of this process requires a strategic plan that incorporates these factors, maximizing opportunities and mitigating risks (COSTA et al., 2021; THOMAS; PASSARO and QUINTO, 2020; KNIGHT and LIESCH, 2016).

To some degree, schools of thought on internationalisation converge in order to define the types of barriers, whether internal or external, that companies must overcome (NARAYANAN, 2015; OJASALO and OJASALO, 2011). Despite the fact that these barriers, particularly for SMEs, have been reduced as a result of social, economic, and cultural factors that promote economic globalisation and act as driving forces, they remain complex or even insurmountable for some businesses (COSTA et al., 2018; NARAYANAN, 2015; LIESCH et al., 2011).

Internal barriers, if not addressed properly as a strategic and operational risk, tend to amplify the effects of external barriers, which top management perceives as more pronounced, leading to inaction or loss of opportunities (XIE and SUH, 2014; BAUM; SCHWENS and KABST, 2013). They are frequently more pressing in the early phases of internationalization, not least because they are linked to perceived risks by management. Once internal barriers are overcome, the emphasis shifts to overcoming external barriers, particularly in commercial collaborations. (XIE and SUH, 2014; KAHIYA, 2017; BENZING; CHU and KARA, 2009).

Other difficulties pertinent to SMEs include employees' lack of language skills, lack of experience with overseas markets, expensive promotion expenses, and a lack of information.

about foreign markets (WSOWSKA, 2016; TOULOUVA; VOTOUPALOVA e KUBICKOVA, 2015). Nonetheless, because SMEs' financial and operational capacities are constrained, size remains a major impediment to their internationalization. However, it is thought that SMEs may overcome present challenges by focusing on distinctiveness and networking activities (COSTA et al., 2018; KORSAKIEN, DISKIEN, and SMALIUKIEN, 2015; KORSAKIEN and TVARONAVICIENE, 2012; COVIELLO, 2006; ZAIN, 2006).

Given the great variety of barriers, the current authors will focus on four key constructs that have been validated in previous research (COSTA, CABRAL and ARAÚJO, 2023; COSTA et al., 2021), presented on Table 3.

Table 3 – Internationalization Barriers – key constructs.

Type of Barrier	Construct Description	Main Aspects
Strategic management barriers	Focusing on strategic planning and entrepreneurs' long-term perspective on business growth and international expansion. The main focus of the construct is the interaction between strategic management and the external and internal drivers that affect internationalization.	Lack of mission, vision and strategic orientation, low entrepreneurial orientation and lack of leadership.
Networking	It is related to the entrepreneurs' personal attributes, especially their connection with stakeholders. Given its prominence, networking is seen as a construct in and of itself, yet it is inextricably linked to strategic management boundaries.	Failures in the connection, usually through lack of networking planning, between the company and its stakeholders, often exacerbating the effects of other barriers.
Operation barriers	The construct focuses on organisational constraints, or natural restrictions, which are generally connected to resource availability and allocation, including human resources and intellectual capital.	Lack of financial resources, low use of human capital, technical restrictions, low competitiveness and high operational costs due to inefficient processes.
External barriers	Focusing on elements that are mostly outside the control of the entrepreneurs but may be addressed via strategic planning. Its primary research subjects include business constraints, political and regulatory impediments, as well as	Political, economic, social, environmental and cultural elements that may impact companies' performance and are almost always out of the companies' sphere of influence.

geographical and cultural distances.

Source: Costa, Cabral and Araújo, 2023; Costa et al., 2021

A study on the barriers must focus on elements concerning those four key constructs as well as their interdependence, as those barriers are inextricably linked and cannot be analysed in isolation or completely split into simpler categories (e.g., internal and external) since they exist both within and beyond the organization's boundaries simultaneously (COSTA et al., 2021; TOULOVA, VOTOU PALOVA, and KUBICKOVA, 2015; NARAYANAN, 2015; BAUM, SCHWENS, and KABST, 2013; COVIELLO, 2006).

3 RESEARCH METHOD

The study, mainly exploratory in its nature, focused on small and medium-sized digital firms that primarily focused on the creation and manufacture of technology items or the provision of technology as a service. The sample was non-probabilistic, based on convenience, using snowball sampling (SAUNDERS, LEWIS, and THORNHILL, 2016). In total, 46 companies were analysed between March and June, 2021. Amongst those companies, 24 were suitable for the research, and 21 were included in the cluster analysis.

The research instrument was developed based on (COSTA 2021, 2018), into four fundamental constructs: a) Strategic management barriers, b) Networking barriers, c) Operations barriers, and d) External barriers, using a five-point Likert scale ranging on a symmetrical scale between "I Don't Know" (0), "Strongly Disagree" (1), "Somewhat Disagree" (2), "Somewhat Agree" (3), "Strongly agree" (4) The odd number of possibilities was chosen to guarantee that viewpoints that were neutral or absent were not disregarded (for the full list of questions, see Appendix).

The initial analysis focused on the Mode value rather than the Mean or Standard Deviation (JOSHI, 2015; JAMIELSON, 2004). The cluster analysis was based on Everitt et al., (2011), who presented the definition of groupings (clusters) corresponding to the companies participating in the study - six groups were segmented based on the Ward's Method algorithm implemented in Stata® MP - Parallel Edition 14.0; however, three groups were

excluded because they each had only one company, a situation considered unsatisfactory for analysis (COSTA et al., 2021).

Following that, a cluster analysis of respondents' perceptions was done. The frequency with which these respondents agreed by cluster and construct was observed for this purpose using the measure of central tendency Mode. In order to better portray the data, the analysts created a scale conversion based on the normalisation of the observed frequencies, allowing for accurate performance comparisons amongst the clusters.

4 RESULTS AND DISCUSSIONS

The first construct examined is associated with strategic management. Figure 1 depicts the values per question as well as the total per construct and figure 2 presents the construct box plot:

Figure 1 – Strategic Management Construct.

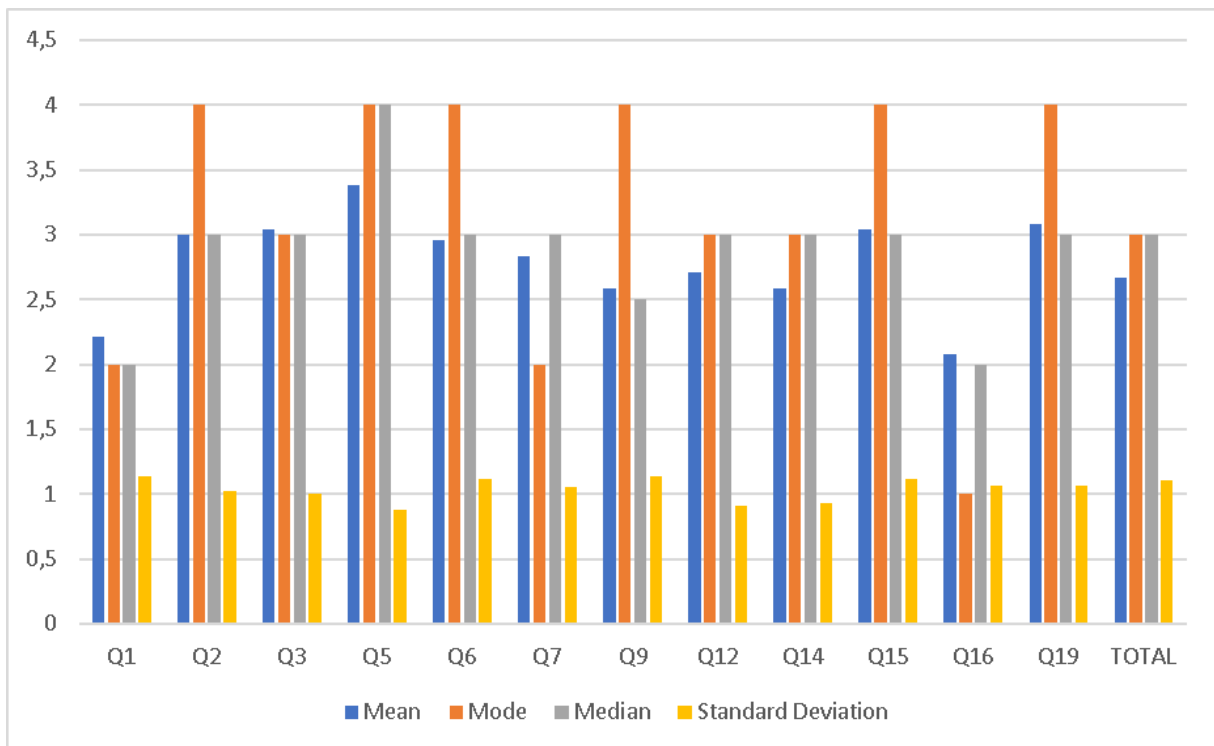
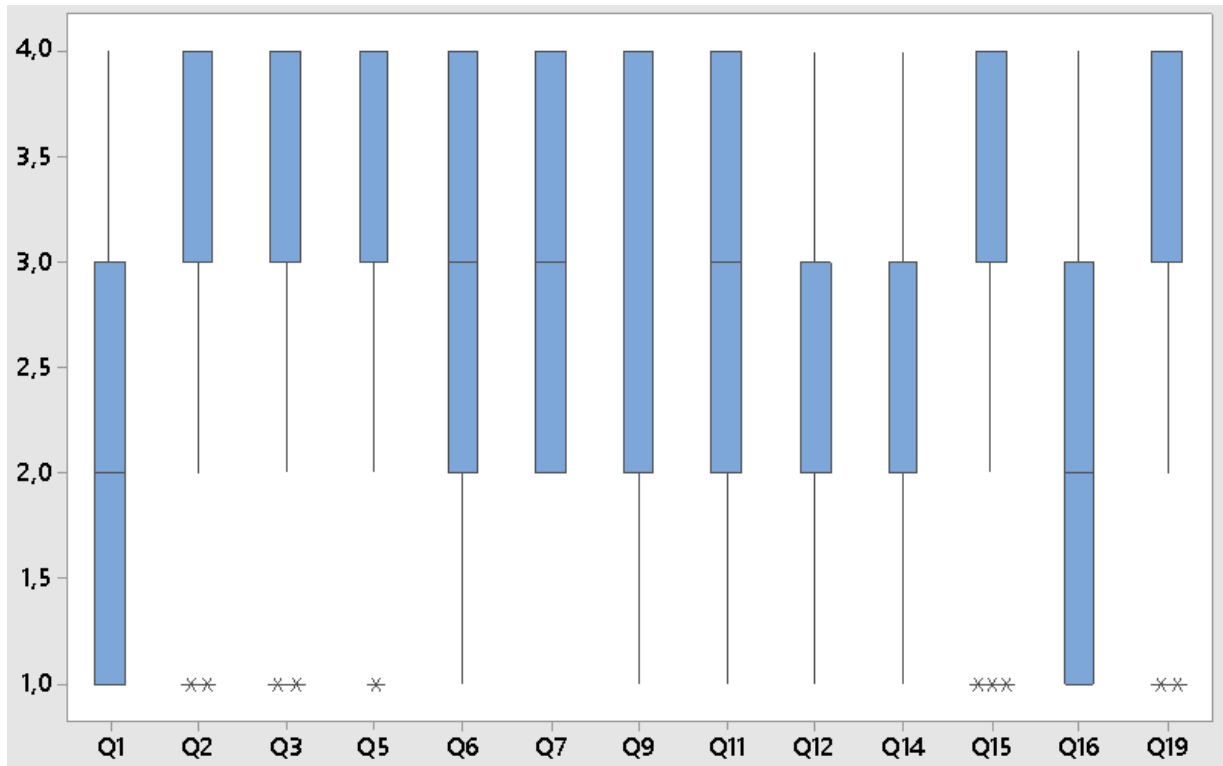


Figure 2 – Strategic Management Box Plot.



According with the data, it seems that entrepreneurs believe their organisations have a reasonably good degree of strategic management geared towards international expansion; however, that strategy is not well structured or systematic. This is clear by the considerable number of outliers in five key questions. In Table 4 we present the main points observed.

Table 4 – Strategic Management Construct Analysis.

Strong Points	Weak Points	Improvement opportunities
Entrepreneurial disposition to think in internationalization terms.	No systematic international strategic planning. Absence of leadership focused on internationalization opportunities.	To incorporate international growth in the companies' strategic positioning.

Figure 3 displays the networking aspects related to internationalization and its potential barriers and Figure 4 presents the construct box plot analysis.

Figure 3 – Networking construct

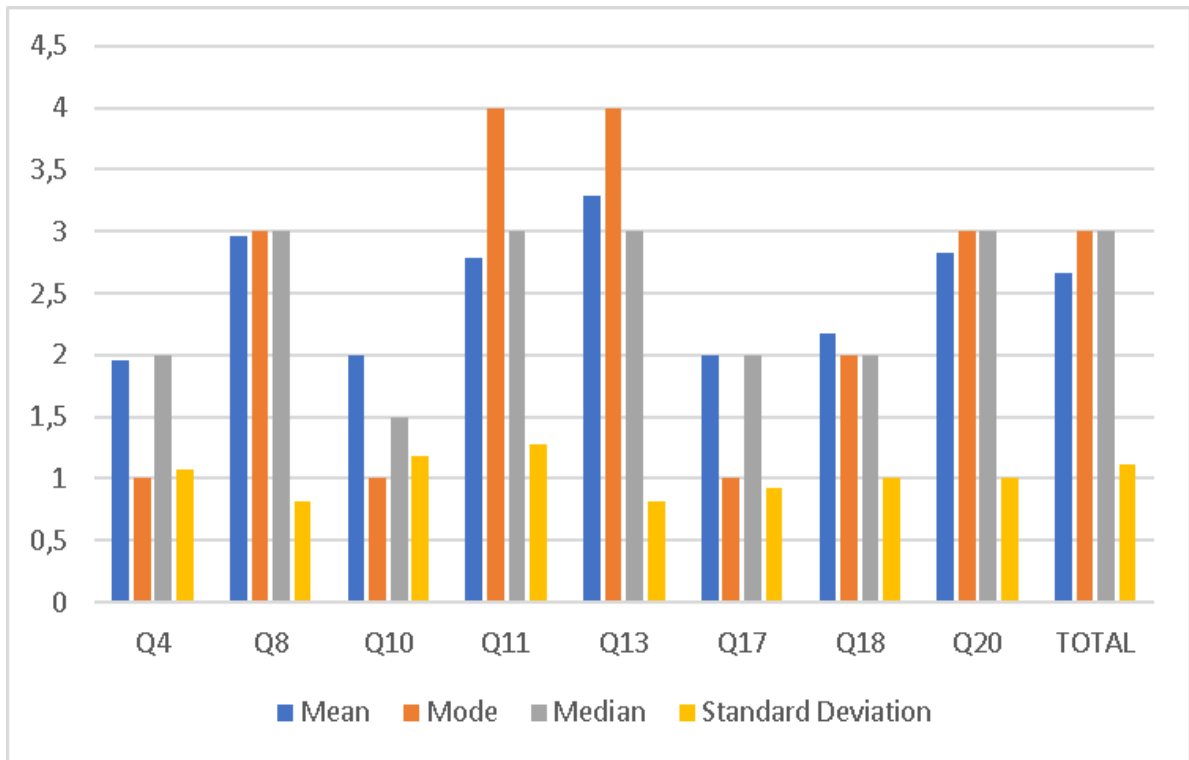
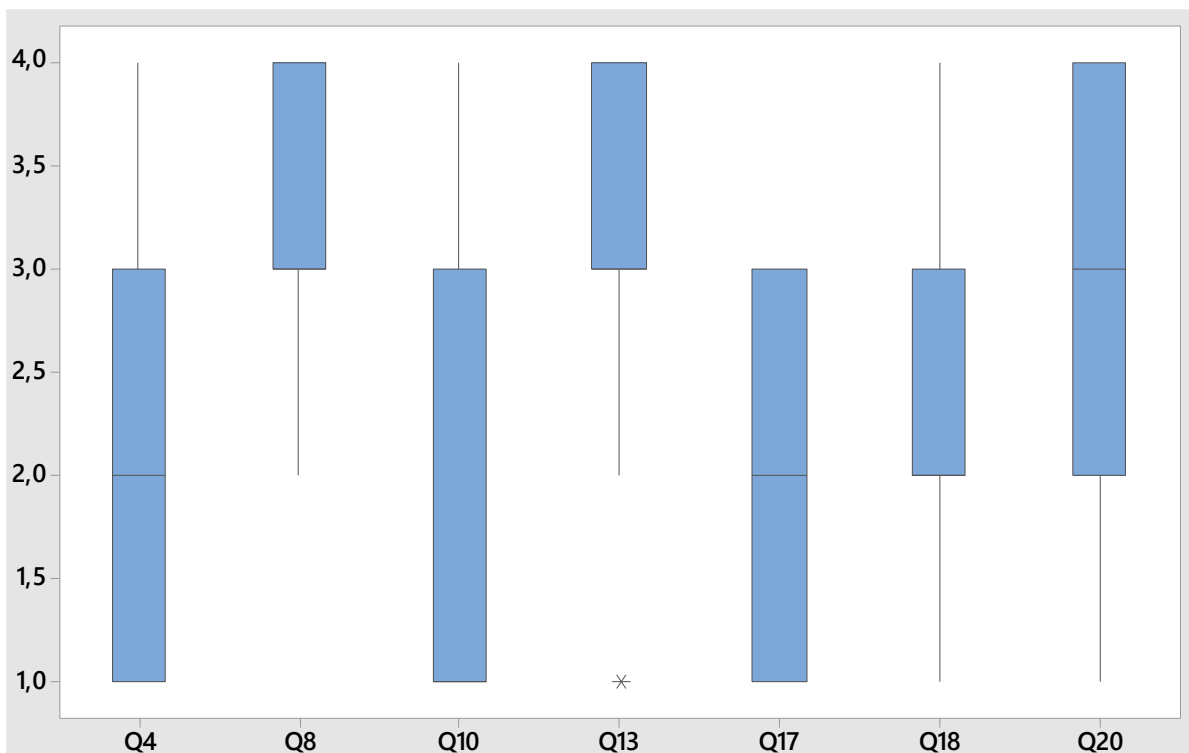


Figure 4 – Networking construct Box Plot.



Once again, both the values and the overall outcome are positive. However, Q4, Q17, and Q18 reveal a broader issue with efficient networking operations. This might be due to a lack of networking planning and a worldwide expansion strategy. They key points observed are presented in Table 5:

Table 5 – Networking Strategy Construct Analysis.

Strong Points	Weak Points	Improvement opportunities
The managers and entrepreneurs appear to display the right profile to lead the internationalization process.	In spite of their profile, they have no substantial experience. Networking seems to be non-systematic and reactive.	To set up networking goals and KPIs.

The operational barriers are presented on Figure 5. It focuses on processes, innovation and quality of products and services and its box plot is presented in Figure 6.

Figure 5 - Operation Barriers Results

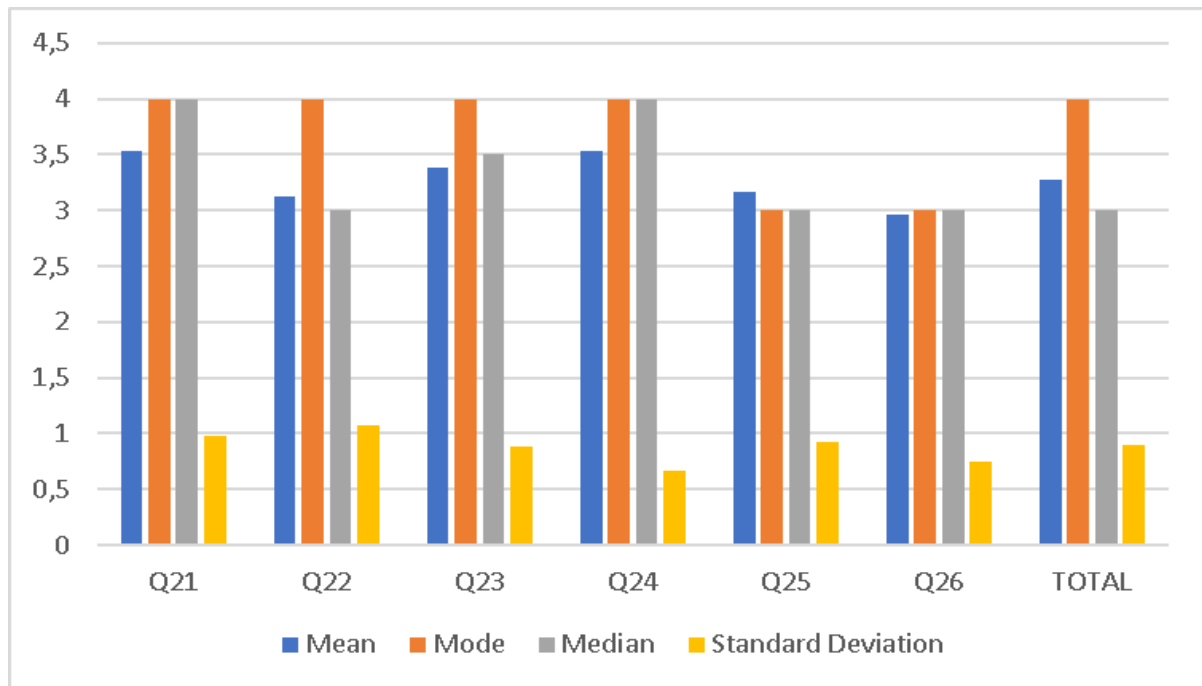
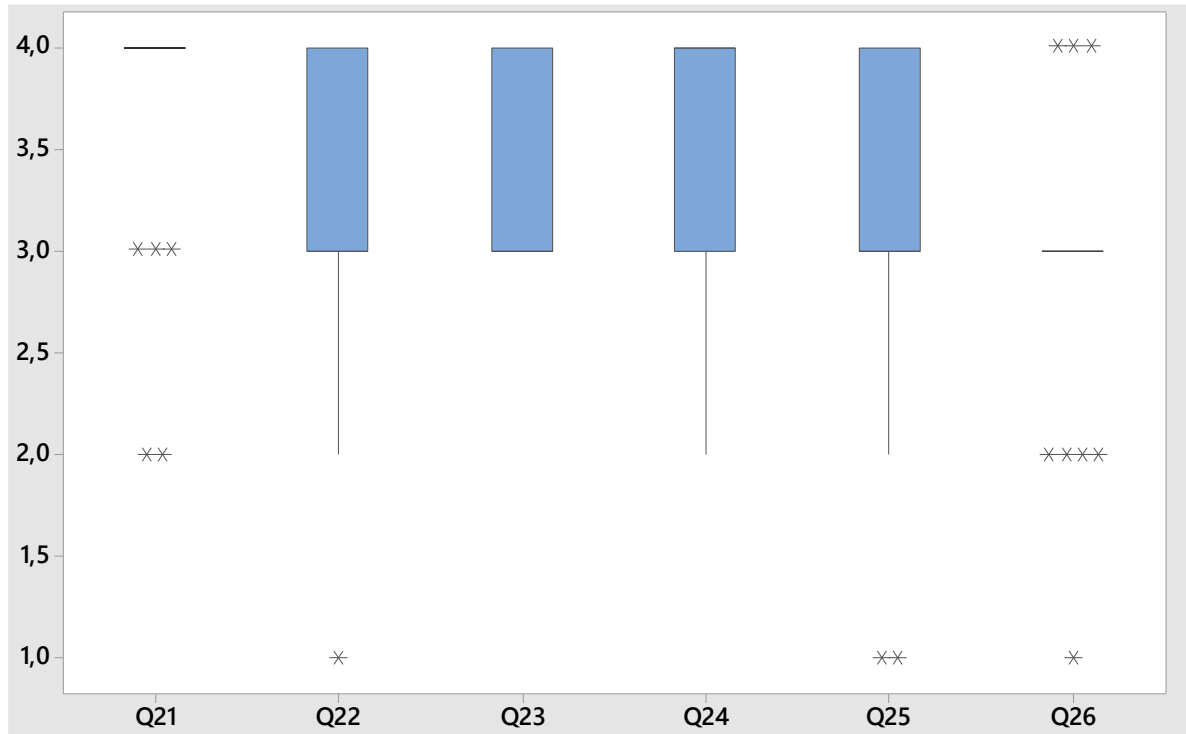


Figure 6 – Networking construct Box Plot.



As in previous studies (COSTA, 2018), the operational barriers appear to be the least important for the firms analysed concerning their internationalisation. The values reflect the managers'/entrepreneurs' strong positive outlook towards the companies operational capabilities and quality of processes. However, there is a considerable presence of outliers, especially on Q21 and Q26, which indicates profound operational differences within these industries. Table 6 presents some of the key insights observed.

Table 6 – Operational Barriers Construct Analysis.

Strong Points	Weak Points	Improvement opportunities
Potentially competitive products. Products and processes with some degree of innovation.	Results refer mainly to companies' performance in their local market, as very few have expanded internationally – only 17% had international commercial experience. They do not present new	Benchmarking studies would be relevant to compare products and processes with potential larger competitors in foreign markets.

	business models. Innovation is only incremental.	
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Figure 7 displays external barriers including legal, political, and economic obstacles, as well as financial/budgetary, human resource, and infrastructural difficulties, over which businesses have no direct influence but can manage possible risks with strategic planning. The construct box plot is presented on Figure 8.

Figure 7 - External Barriers Construct Analysis

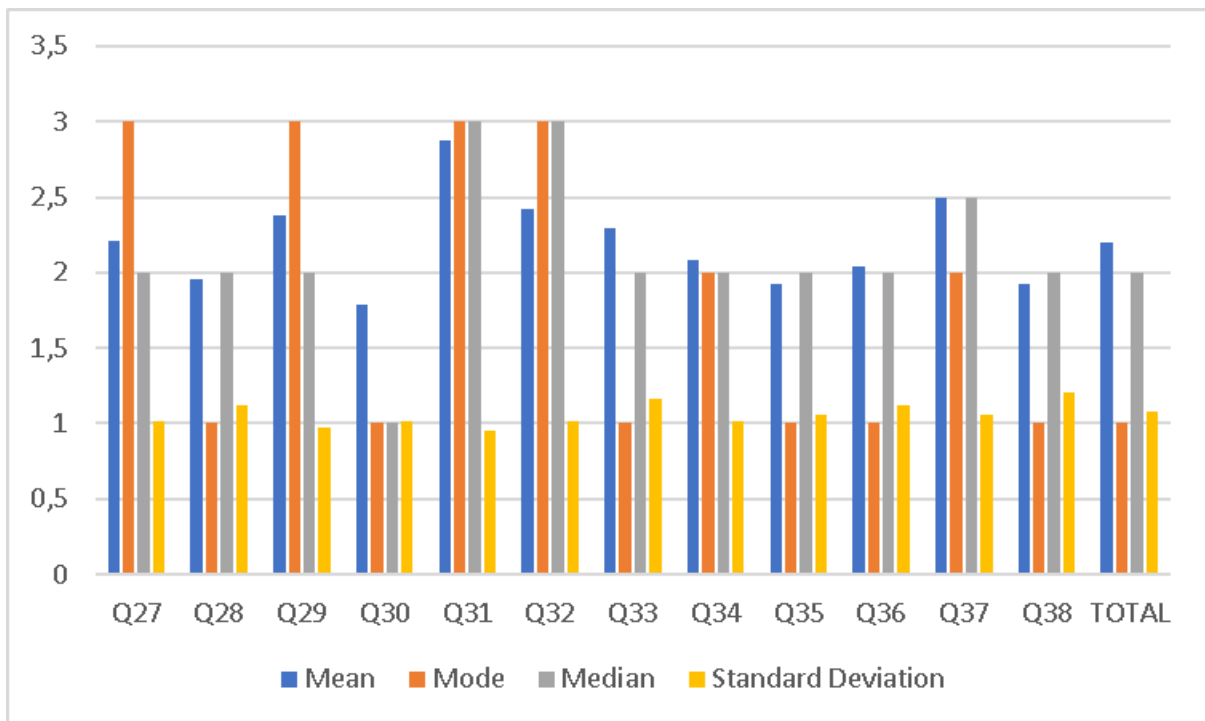
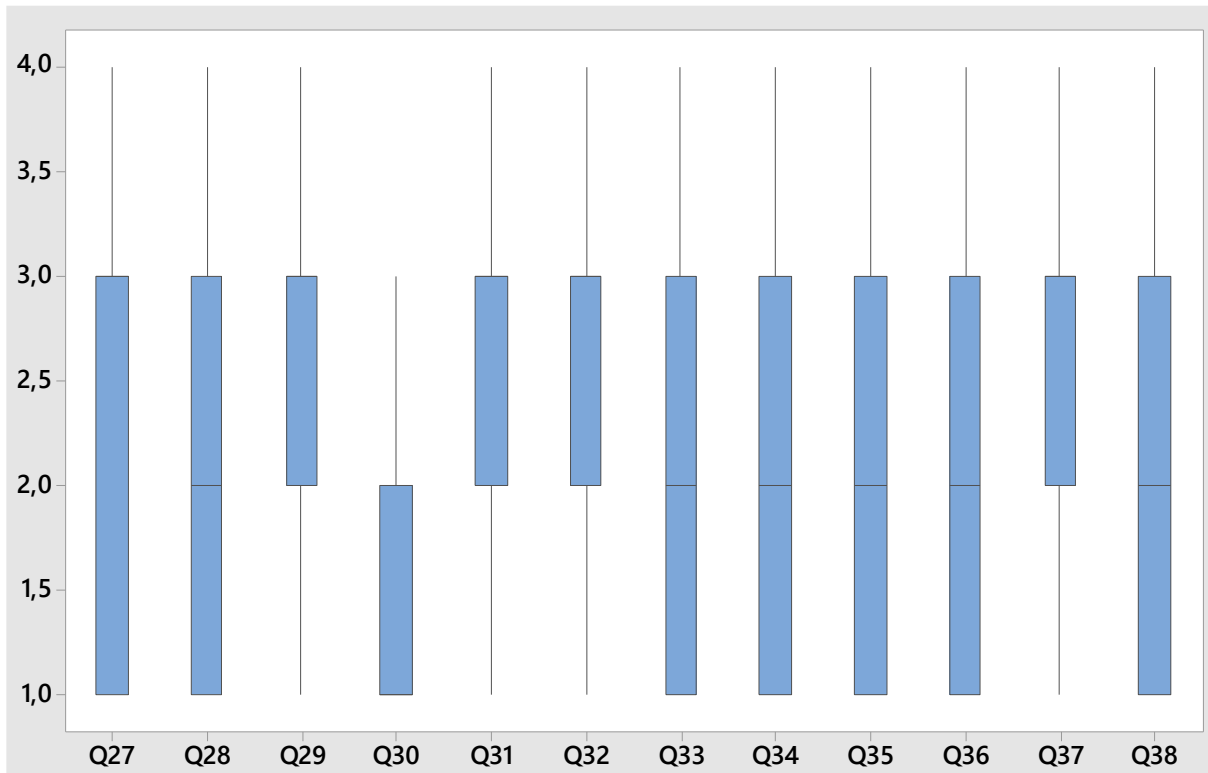


Figure 8 – External Barrier Construct Box Plot.



The figure shows that external barriers appear to be the most significant to the managers/entrepreneurs interviewed. All statistical values examined show general shortcomings. Lack of strategic planning may reflect the overall deficiencies in understanding and mitigating those external barriers. Table 7 presents some of the main observations.

Another key point is that despite the fact that the companies studied were all technology-based companies, they had a very low score on Q30 – international patents – which may indicate some degree of technical unpreparedness. Trade and custom barriers Q33 and legal restrictions Q36 was also rather low, indicating lack of essential business information.

Table 7 – External Barriers Construct Analysis.

Strong Points	Weak Points	Improvement opportunities
No relevant strong point was noted regarding this barrier.	Very low score on international patents. Lack of information on trade and custom barriers as well as legal knowledge restrictions.	It is necessary to have a knowledge management plan focusing on key information to mitigate those barriers.

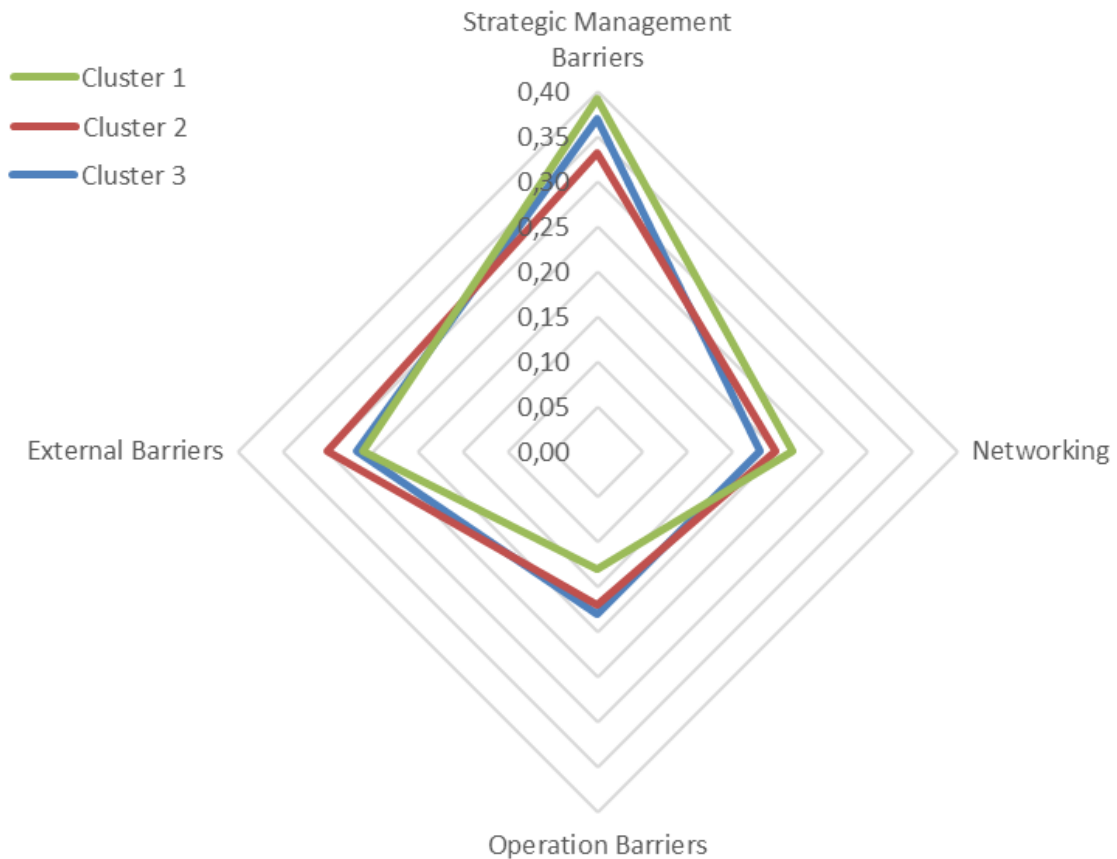
Further to the initial analysis, the authors examined the data for trends amongst the firms, resulting in the formation of clusters in which the data behaved similarly, revealing specific groups with similar characteristics, which may help the development of programs to support internationalization initiatives. Data analysis suggests that organisations present a similar answer profile in the survey questions; however, distinct clusters may also be identified based on comparable patterns of responses. Table 8 depicts the similar characteristics of each cluster based on the common replies assessed.

Table 8 – Cluster Analysis.

	Key Features	Main Barriers
Cluster 1	Seemingly the most competitive companies. Stronger focus on strategy and networking. More confident towards external barriers. Seems more concerned with operations capability	More concerned with operational barriers, especially capacity to attend further demand.
Cluster 2	Lower in strategic planning and networking. More concerned with external barriers. Their operational capabilities seem to be their strongest point.	Lack of strategic planning and networking may reveal an overall deficiency of information about external markets, which may induce to the underestimation of the external barriers and overestimation of operational capabilities.
Cluster 3	Presents high score on strategic planning, and low score on networking. This cluster reveals companies with the highest trust on their capabilities to face external barriers.	Difficulties in networking may hinder internationalization initiatives.

Figure 9 presents a radar chart depicting the number of common replies per construct in each cluster.

Figure 9 – Cluster Analysis per Construct.



Despite the specificities of each cluster, there is a degree of uniformity which may support some initial insights. For instance, external barriers were shown to be the most difficult, with the lowest score across firms, despite cluster differences, indicating a need for further technological preparation, networking development, and knowledge management initiatives. Despite some isolated positive ratings, strategic planning and networking appear to be insufficient, non-systematic and overall, reactive. Although the responses may be biased, since most firms utilise the internal market as a reference, the construct related to operational barriers appears to be the least relevant.

5 CONCLUSIONS

The purpose of this article was to identify the key impediments to digital SMEs' internationalisation in order to examine prospective strengths and weaknesses, identifying potential clusters that could facilitate internationalization programmes and initiatives.

According to the initial bibliographic research, internationalisation barriers are broad and complex; however, they can be classified into four key constructs: strategic management barriers, networking barriers, internal management and operational barriers, and external barriers.

The results showed an apparent lack of overarching strategic planning, leading to fragmented internationalisation initiatives, implying a lack of strategic positioning towards internationalisation goals. There is no planned networking, which makes it difficult for businesses to develop globally. Entrepreneurs/managers do not handle external barriers well; there is a widespread lack of risk mitigation strategy and inadequate knowledge management.

Although it was possible to identify significant similarities amongst the clusters, it is not clear, based on the data collected, whether there are any other patterns or common characteristics that could lead to specific interpretations about the realities of those firms when faced with internationalisation barriers. The investigation was insufficient to assess the maturity or readiness of the firm for the internationalisation process; however, it offered insights on elements that should compose the initial strategic internationalization initiative planning, such a more focused knowledge management initiative to address the external barriers and the implementation of networking goals in order to facilitate the internationalization process.

Methodologically, despite the common features of the clusters analysed, it is interesting to notice that three results were excluded as they focused on single companies. Given the low sample used in the research, it stands to reason that a larger sample may offer not only more feasible clusters, but also further details about the clusters analysed.

Hence, the authors recommend that more research be conducted. firstly, it is required to expand the current study to a greater number of organizations in order to examine how the data will behave. Secondly, it is critical to research how successful internationalised digital-based SMEs overcame such challenges in order to develop a set of best practises to advise entrepreneurs and managers. Finally, comparing the internationalisation tendencies of companies in different areas or industrial sectors is critical in order to uncover new clusters.

In terms of limitation, besides the smaller research sample and the fact that it was based on non-probabilistic snowball sampling; there is also some concerns about the large

variety of digital businesses and their different nature, which makes standardization difficult, limiting the development of overreaching internationalizations programmes by governmental agencies, business incubators and other key stakeholders.

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APPENDIX

Research Questionnaire

Response range:

- I Don't Know (0)
- Strongly Disagree (1)
- Somewhat Disagree (2)
- Somewhat Agree (3)
- Strongly agree (4)

1. My company has a strategic plan aimed at international expansion.
2. My product/service meets a global demand.
3. My product/service has characteristics that make it competitive on an international level.
4. I have established contacts with partners on an international level.
5. My product/service can be marketed through multiple sales channels.
6. The structure of my company is adequate/can easily adapt to meet international demands.
7. My product/service was developed after studying the behaviour of different consumers on a global level.
8. There are cultural similarities between the local market and the market in neighbouring countries that facilitate the sale of my product.
9. My company has its corporate mission defined and it includes an internationalized perspective.
10. I have already performed an entrepreneurial activity aimed at the international market.
11. I've participated in international fairs/congresses/events focused on entrepreneurial activity.
12. My educational background favours understanding and/or acting in international markets.
13. I have mastered at least one foreign language.
14. The expertise present in my products/services is unique.
15. My company can be considered a high-tech start-up.
16. I have strategic planning focused on the international market.
17. I have access/contact with international investors.
18. I consider my networking with the foreign market satisfactory.
19. My brand is suitable for operating in international markets.
20. My networking favours technology transfer.

21. The efficiencies/deficiencies of my product/service were studied in order to favour a continuous innovation process.
22. The organizational planning of my company focuses on the innovation and R&D process.
23. The resources in my company are allocated with a view to innovative activities.
24. My product/service is innovative.
25. My company has developed innovative methods of production/marketing of its products/services.
26. My product/service essentially focuses on new markets not yet served by existing products/services.
27. I know and have access to the mechanisms for obtaining government credit.
28. Exchange rates favour my company's international expansion.
29. For my company, foreign markets are not more competitive than the domestic market.
30. My company has an internationally protected patent(s).
31. The quality of the local workforce does not hinder the internationalization of my company.
32. The quality of the workforce abroad does not hinder the internationalization of my company.
33. The trade/customs barriers that my company would face in the target international markets do not hinder the internationalization process.
34. I know the variations in regulations between my country and my target international market.
35. I understand the legal restrictions involved in the internationalization process.
36. I know the best channels for transferring funds.
37. My company has access to adequate infrastructure to expand internationally.
38. My company has a financial/budgetary planning that encompasses the reduction of logistical costs related to international expansion.