

# Collaboration and information management in the internationalisation of SMEs: a case in industrial business associations

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## Abstract

The limited information management capability of small and medium enterprises (SMEs) and their difficulties to establish and maintain collaborative networks (CNs), hinder strategic activities such as the processes of internationalisation that require comprehensive knowledge sourced from official channels (accurate information) and from peer organisations (past experience and lessons learned). Due to their detailed knowledge of particular industrial sectors, and because of their experience in supporting internationalisation processes, industrial business associations (IBAs) can appear as a main supporting actor for SMEs to obtain a proper access to international contacts and to valued international trade information that can better meet their needs.

Nevertheless, IBAs are currently facing difficulties with problems related with low membership and high opting out, instability over time, and multiple association memberships by companies. All of these problems create additional challenges for associations to stand out in a competitive environment that exists among the different institutional entities and agencies that provide support to internationalisation. Therefore, in order to remain an important facilitator for the international business of both current and prospective members, the present services and support activities promoted by IBAs should reflect and be adapted to the digital transformation that is occurring in every market and business sector. In line with that, this doctoral project intended to study and design collaboration and information management solutions to improve the institutional network support that is provided by IBAs to the internationalisation of SMEs. Particular attention was given to digital platforms, as a means for the digitisation of the international business support activities of associations and for fostering CNs that could improve the international performance of companies.

The research was conducted on a qualitative basis, following the Design Science Research (DSR) paradigm, as a way to create innovative artifacts for addressing the identified unsolved problems in this organisational context. Five distinctive studies were performed by using two complementary approaches: (i) an exploratory-oriented approach; and (ii) a design-oriented approach. Regarding the exploratory approach, a systematic literature review was first accomplished to understand the role of information, knowledge and collaboration, in the effectiveness of the SMEs' internationalisation processes. After that, it was performed a study to realise the information and collaboration needs of Portuguese SMEs, in the context of internationalisation. The exploratory part ended with an investigation about the activities and the use of institutional network resources by Portuguese IBAs to support and facilitate SMEs' international endeavours. The design-oriented approach started with an understanding of the perspective of these types of organisations for the use of digital platforms in supporting international business activities. This study was based on the previous exploratory research, and involved, besides the Portuguese, IBAs from the UK and France in order to increase the validity of the findings. The results of these studies led to the last stage of the research, where design principles were proposed and evaluated for the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms. An additional single case study with an IBA and some of its members was done to achieve this goal.

The main results obtained with this doctoral project were a better understanding about the information and collaboration needs of SMEs in internationalisation; the IBAs' needs and the institutional network support that can be provided for improving the international performance of SMEs; and a rich set of requirements, features and difficulties for the design and development of digital platforms. The central output of this research was thus a new artifact, in the form of design propositions, following the so-called CIMO-logic.

The findings are proved to be relevant for practice, mainly for IBAs, SMEs, and digital platform designers. The knowledge generated in this project can be used for the design and development of more effective collaborative digital platforms and sociotechnical systems in IBAs for supporting CNs and the internationalisation needs of SMEs. One main theoretical contribution was obtained through

an abductive approach by elaborating theory about the network approach to internationalisation, with specific focus on the institutional network perspective. Another relevant contribution to theory was a new design knowledge on digital platforms, contributing with propositions translated into tangible and concrete requirements and capabilities, situated in a specific context and empirical setting.

**Keywords** | international business, internationalisation of SMEs, industrial business associations, design science research, digital platforms, information management, collaborative networks



## Resumo

As capacidades limitadas de gestão de informação das pequenas e médias empresas (PME) e as suas respetivas dificuldades para o estabelecimento e gestão de redes colaborativas (RC) impedem atividades estratégicas, tais como os processos de internacionalização, que requerem conhecimento abrangente proveniente de canais oficiais (informações precisas) e de organizações de suporte (experiências passadas e lições aprendidas). Devido ao seu conhecimento detalhado sobre determinados setores industriais e devido à sua experiência no apoio a processos de internacionalização, as associações empresariais industriais (AEI) podem surgir como um dos principais atores no apoio às PME para estas obterem um acesso mais adequado a contactos internacionais e a informações comerciais internacionais de valor, que possam responder melhor às suas necessidades.

No entanto, as AEI enfrentam atualmente dificuldades devido a problemas relacionados com baixas adesões e altas desistências por parte das empresas, criando uma instabilidade ao longo do tempo e originando situações de múltiplas associações por parte das empresas. Todos esses problemas criam desafios adicionais para as associações se destacarem num ambiente cada vez mais competitivo, existente entre as diferentes entidades institucionais e agências que oferecem apoios à internacionalização de empresas. Desta forma, para continuarem a serem um importante facilitador para os negócios internacionais de membros atuais, assim como de potenciais novos membros, os atuais serviços e atividades de suporte promovidos pelas AEI devem refletir e ser adaptadas à transformação digital que está atualmente a ocorrer nos diferentes mercados e setores empresariais. Assim, este projeto de doutoramento teve como objetivo estudar e desenhar soluções de colaboração e de gestão de informação para melhorar o apoio de rede institucional que é fornecido pelas AEI na internacionalização das PME. Neste projeto, foi dada particular atenção às plataformas digitais, como meio para a digitalização das atividades de apoio à internacionalização por parte das associações e para a promoção de RC que possam melhorar o desempenho internacional das empresas.

A investigação foi qualitativa, seguindo o paradigma da *Design Science Research (DSR)*, como forma de criar artefactos inovadores para abordar os problemas identificados neste contexto organizacional. Foram realizados cinco estudos distintos, utilizando duas abordagens complementares: (i) uma abordagem exploratória; e (ii) uma abordagem orientada para o desenho de soluções. Em relação à abordagem exploratória, em primeiro lugar foi realizada uma revisão sistemática da literatura para perceber qual o papel da informação, do conhecimento e da colaboração, na eficiência dos processos de internacionalização das PME. Posteriormente, realizou-se um estudo para entender as necessidades de informação e colaboração de PME portuguesas, no contexto da internacionalização. A parte exploratória terminou com uma investigação sobre as atividades e o uso de recursos de rede institucional por AEI portuguesas, de forma a apoiar e facilitar os esforços internacionais das PME. A abordagem orientada ao desenho de soluções começou com um estudo acerca da perspectiva das AEI e das PME para a utilização de plataformas digitais no suporte a atividades comerciais internacionais. Este estudo baseou-se na pesquisa exploratória anterior e envolveu, além das associações portuguesas, algumas AEI do Reino Unido e de França, de modo a aumentar a validade dos resultados. Estes resultados levaram à última etapa da investigação, onde uma teoria de design foi proposta e validada para o contexto das AEI que procuram melhorar processos de internacionalização de PME, com o suporte de plataformas digitais. Para alcançar este objetivo, foi realizado um estudo de caso adicional com uma AEI e alguns dos seus associados.

Os principais resultados obtidos com este projeto de doutoramento foram uma melhor compreensão acerca das necessidades de informação e colaboração das PME na internacionalização; as necessidades das AEI e o apoio de rede institucional que pode ser prestado por estas organizações para melhorar o desempenho internacional das PME; e um conjunto importante de requisitos, funcionalidades e dificuldades para o desenho e desenvolvimento de plataformas digitais. Desta

forma, o resultado central desta investigação foi um novo artefacto, sob a forma de proposições de design, seguindo a lógica CIMO.

Os resultados revelam-se relevantes para a prática, principalmente para AEI, PME e designers de plataformas digitais. O conhecimento gerado neste projeto pode ser usado para o desenho e desenvolvimento de sistemas sociotécnicos e de plataformas digitais colaborativas mais efetivas em AEI, para apoiar RC e para ir de encontro às necessidades de internacionalização das PME. Foi obtido um importante contributo teórico através de uma abordagem abductiva, elaborando teoria sobre a abordagem de redes para a internacionalização, com foco específico na perspetiva de redes institucionais. Outra contribuição relevante para a teoria foi a obtenção de novo conhecimento sobre o desenho de plataformas digitais, contribuindo com proposições traduzidas em requisitos e funcionalidades tangíveis e concretas, situadas num contexto e cenário empírico específicos.

**Palavras-chave** | negócio internacional, internacionalização de PME, associações empresariais industriais, *design science research*, plataformas digitais, gestão de informação, redes colaborativas

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## List of Abbreviations and Acronyms

AICEP	Agência para o Investimento e Comércio Externo de Portugal (external trade and investment agency of Portugal)
BCC	British Chambers of Commerce
BMS	Business and Management Studies
CCO	Chief Commercial Officer
CEO	Chief Executive Officer
CIMO	Contexts-Interventions-Mechanisms-Outcomes
CIP	Confederação Empresarial de Portugal (business confederation of Portugal)
CMO	Chief Marketing Officer
CN	Collaborative Network
COO	Chief Operating Officer
CSR	Case Study Research
CTO	Chief Technology Officer
DIT	Department for International Trade
DP	Design Proposition
DSR	Design Science Research
EU	European Union
IAPMEI	Instituto de Apoio às Pequenas e Médias Empresas e à Inovação (Portuguese institute for support to small and medium enterprises and innovation)
IB	International Business
IBA	Industrial Business Association
ICT	Information Communication Technologies
INE	Instituto Nacional de Estatística (Portuguese institute of statistics)
IS	Information Systems
IT	Information Technology
MNEs	Large and Multinational Enterprises
NAO	Network Administrative Organisation
OECD	Organisation for Economic Co-operation and Development
OM	Operations Management
R&D	Research and Development
SLR	Systematic Literature Review
SMEs	Small and Medium-sized Enterprises
TMTs	Top Management Teams
WTO	World Trade Organisation

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## **Chapter 1 | Introduction**

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## 1.1 | Context and motivation

There is growing evidence that internationalisation has become a competitive requirement for the survival of many small and medium-sized enterprises (SMEs), in particular in countries with saturation of domestic markets (OECD, 2009; Schweizer, 2012). Internationalisation is the process of increasing involvement in international activities by developing and adapting firms' operations to international environments (Lehtinen & Penttinen, 1999). Internationalisation processes require accessing, processing and organising large amounts of information (Xie & Amine, 2009). Hence, having knowledge and information of greater explicitness and broader scope is recognised as being crucial to manage international complexity and ambiguity (Hsu et al., 2013) and to reduce risks and uncertainty (Nguyen et al., 2006). The establishment of collaborations is also an important facilitator in the internationalisation of SMEs (Hutchinson et al., 2007) as it can influence decisions and approaches adopted by SMEs' leaders (Child & Hsieh, 2014), as well as overcome resource constraints (Ciravegna et al., 2014). However, many SMEs are still struggling in obtaining the right information and managing it effectively to support collaborative internationalisation processes, thus limiting the creation and accumulation of knowledge about those processes (Costa et al., 2016).

The limited resources and difficulties for SMEs in reaching foreign markets led to an extensive use of external networks to operate in international markets (Hessels & Terjesen, 2010). The network perspective is, in fact, one of the most relevant theoretical developments in the internationalisation of firms (Johanson & Vahlne, 1990). There are three types of networks that an SME can resort to establish collaborations in internationalisation (Oparaocha, 2015): business networks (e.g. suppliers, competitors, customers), social networks (family, friends, colleagues), and institutional networks (governments, agencies for international development, and business associations).

This doctoral project is focused on the role of industrial business associations (IBAs) and on the support provided by these institutional entities to the internationalisation of SMEs. Previous research has been predominantly focused on business and social networks, with little attention given to the role of institutional networks (Oparaocha, 2015). In addition, the current literature is not enough to create a good theoretical basis about the role of IBAs from an international business (IB) perspective (Costa et al., 2017a).

Globalisation has created an additional pressure on traditional business associations to re-think and re-shape their support activities for better representing the interests of companies (Streeck et al., 2006). Many IBAs are currently facing difficulties, related with problems of low membership and high opting out, instability over time, and multiple association memberships by companies (Bennett, 1998; Boléat, 2003; Traxler & Huemer, 2007). All these difficulties create additional challenges for IBAs to stand out in a competitive environment that exists among the different institutional entities and agencies that provide support to internationalisation.

Previous studies on IB show contradictory opinions about the utility of the current internationalisation services provided by IBAs. On one hand, IBAs have been identified as one important export information broker (Leonidou & Theodosiou, 2004) or export promotion organisation (Wilkinson & Brouthers, 2006), and SMEs can use their institutional network resources for overcoming barriers to operate in international markets (Costa et al., 2017a). On the other hand, previous research also shows that IBAs can have a more active role in supporting SME internationalisation, first, by fostering more collaborations between members and, second, by improving their information management role with the sharing of more organised and valued information, and also by fostering information flows between members (Costa et al., 2017a; Costa et al., 2017b).

On the other side, IBAs are immersed in the current digital economy which has reshaped how SMEs conduct their international activities across foreign markets (Giudici & Blackburn, 2013). The success of international activities is mainly based on firms' technological capabilities and technological knowledge (Sedoglavich, 2012). Therefore, if IBAs want to remain an active support for the internationalisation of their members, they need to take into account their new requirements, and to promote the digitisation of their support activities (Costa et al., 2018). Many information communication technologies (ICT), such as digital

platforms, have been designed and developed to improve business and management processes and activities of organisations, as well as to support collaboration in business networks (Bellini et al., 2016; Carneiro et al., 2013; Durugbo, 2015). Regarding the IB, some studies have also been discussing the importance of digital technologies to support the international activities of SMEs (Brouthers et al., 2016; Giudici & Blackburn, 2013).

Therefore, we hypothesise in this doctoral project that collaborative digital platforms may substantially help the management processes of IBAs for improving their support to SME internationalisation. In particular, such platforms can contribute to the effectiveness of information and knowledge management processes and to the creation of new collaborative networks among IBAs' members. We believe that such transition to technology is crucial for the survival of IBAs, as it can avoid the loss of more members and can increase the chances for IBAs to remain an important choice for SMEs that want to internationalise. However, previous research points to the need for extending our understanding on how and whether technology is suitable and viable for supporting SME internationalisation and collaboration (Dutot et al., 2014). In addition, the effect of using of digital platforms on management processes is relatively unexplored and there is still a lack of design knowledge and understanding on how organisations can effectively design digital platforms supporting online communities (de Reuver et al., 2017; Spagnoletti et al., 2015).

## 1.2 | Objectives and research questions

The aim of this doctoral project is to study and design collaboration and information management socio-technical solutions to improve the institutional network support provided by IBAs to the internationalisation of SMEs. The specific objectives of this project are:

- O<sub>1</sub>: to understand the role of information, knowledge and collaboration, in the effectiveness of SMEs' internationalisation processes;
- O<sub>2</sub>: to identify the information and collaboration needs of SMEs associated with IBAs, in the context of internationalisation;
- O<sub>3</sub>: to explore the activities and the use of institutional network resources by IBAs, to support and facilitate internationalisation processes of the associated SMEs;
- O<sub>4</sub>: to understand the perspective of IBAs and SMEs on the use of digital platforms for supporting internationalisation activities;
- O<sub>5</sub>: to propose and evaluate design principles for the context of IBAs, seeking to improve internationalisation processes of SMEs with the support of digital platforms.

Therefore, this research is multidisciplinary and has two complementary approaches: (i) an exploratory-oriented approach; and (ii) a design-oriented approach. Accordingly, the global research questions of this doctoral project are:

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### Exploratory-oriented approach:

RQ<sub>1</sub>: how do IBAs manage institutional network resources, to support and facilitate the internationalisation processes of SMEs?

### Design-oriented approach:

RQ<sub>2</sub>: how to improve the institutional network support provided by IBAs to the internationalisation of SMEs?

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## 1.3 | Research design

This doctoral project is conducted, and its outcomes are analysed and validated, following the Design Science Research (DSR) paradigm. DSR is a well-established research paradigm that intends to create

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innovative artifacts addressing unsolved problems in organisations (Hevner & Chatterjee, 2010). Artifacts in DSR can be constructs, models, methods, frameworks, or algorithms (Hevner et al., 2004; Peffers et al., 2012), as well as guidelines, requirements, social innovations, architectures, design propositions or design theories (Vaishnavi & Kuechler, 2015; van Aken, 2015). Well designed and developed artifacts are expected to contribute with new knowledge to the body of scientific evidence and to real-world applications (Hevner & Chatterjee, 2010). Therefore, the mission of DSR is to develop knowledge that researchers and professionals can use to co-design solutions and construct artifacts together, for facing their field problems (van Aken, 2005).

This specific research paradigm is selected to encompass the multidisciplinary nature of the project. Figure 1.1 presents the research framework, which is based on previous DSR theory and on the proposed objectives and research questions. The result is then a doctoral project divided into five different studies, distributed within three main stages of research: (i) *ex-ante* stage (define the problem and express the motivation for the study; define the objectives of the artifact and perform an *ex-ante* evaluation); (ii) artifact design stage (design and develop the artifact); (iii) *ex-post* stage (demonstrate the artifact and perform an *ex-post* evaluation; report and communicate the results).

Table 1.1 presents some additional information on the research methods and research data used for the five studies performed during this doctoral project. Our DSR artifact is a set of design propositions, following the so-called CIMO-logic (Denyer et al., 2008; van Aken, 2015). CIMO-logic allows us to obtain prescriptive knowledge and a systematic structure for the propositions, combining problematic Contexts with certain Intervention types, to deliver specific Outcomes, following generative Mechanisms. Thus, design principles that are formulated according to CIMO-logic indicate what to do, in which situations, to produce what effect, and offer understanding of why this happens (van Aken, 2013). According to van Aken et al. (2016), one of the key knowledge products of DSR is the design proposition that can allow us to support innovative generic design, to understand where and how it can be used in the field.

**Table 1.1** • The five studies performed during this doctoral project.

Study	Objective	Research methods	Research data
1	O <sub>1</sub>	<ul style="list-style-type: none"> <li>▪ systematic literature review (SLR)</li> </ul>	<ul style="list-style-type: none"> <li>▪ 38 journal articles included in the SLR</li> </ul>
2	O <sub>2</sub>	<ul style="list-style-type: none"> <li>▪ exploratory field research</li> <li>▪ qualitative approach</li> </ul>	<ul style="list-style-type: none"> <li>▪ interviews with 5 Portuguese companies associated with IBAs</li> </ul>
3	O <sub>3</sub>	<ul style="list-style-type: none"> <li>▪ exploratory field research</li> <li>▪ qualitative approach</li> <li>▪ abductive research approach</li> </ul>	<ul style="list-style-type: none"> <li>▪ all previous interviews</li> <li>▪ new interviews with 20 Portuguese IBAs</li> <li>▪ documentation from the IBAs</li> </ul>
4	O <sub>4</sub>	<ul style="list-style-type: none"> <li>▪ exploratory field research</li> <li>▪ qualitative approach</li> </ul>	<ul style="list-style-type: none"> <li>▪ all previous interviews</li> <li>▪ new interviews with 1 French IBA and 3 British IBAs</li> <li>▪ documentation from the IBAs</li> </ul>
5	O <sub>5</sub>	<ul style="list-style-type: none"> <li>▪ case study research</li> <li>▪ qualitative approach</li> <li>▪ abductive research approach</li> <li>▪ design science research</li> </ul>	<ul style="list-style-type: none"> <li>▪ all previous interviews</li> <li>▪ new interviews for the case study with 14 Portuguese companies associated with the Portuguese IBA from the textile industry</li> <li>▪ documentation from the companies and from this IBA</li> <li>▪ new interviews for the evaluation with 8 experts and IBAs</li> </ul>

Following the main objective of this doctoral project, the design propositions were designed and developed for allowing us to represent our vision for the IBAs to improve the internationalisation of SMEs with the use of digital platforms. The next section provides further detail about the studies that were performed, together with the thesis structure.

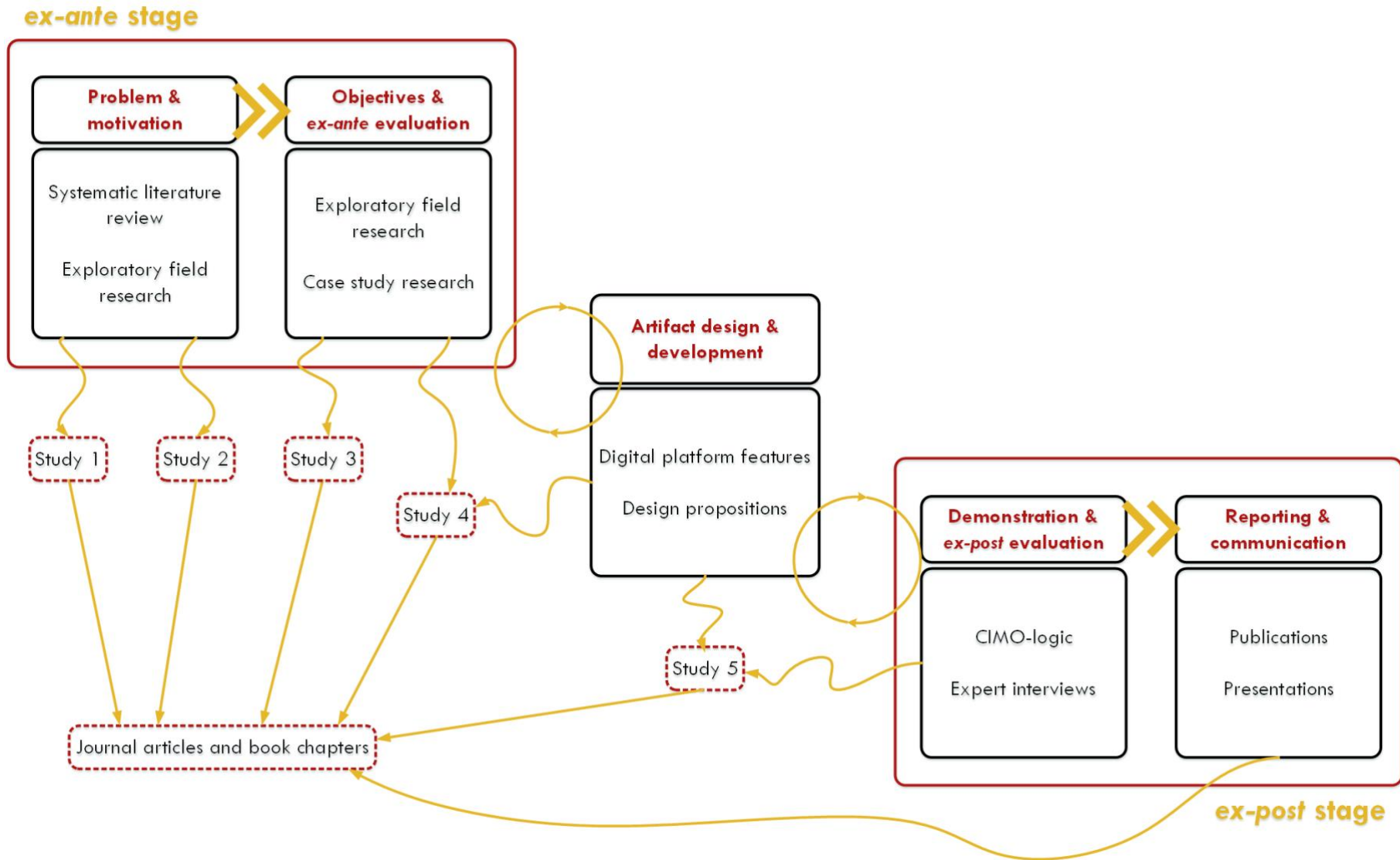


Figure 1.1 - Research framework for this doctoral project.

## 1.4 | Thesis outline

Right from the beginning of this doctoral project, we have decided to elaborate this thesis as a collection of research papers instead of a monograph. Naturally, each approach has its strengths and weaknesses, but a detailed discussion about this topic is obviously out of the scope of this work. Nevertheless, we believe that our choice has the main advantage of presenting some findings or studies that are already published or accepted for publication, having already been subject to peer-review processes and to subsequent improvements. As a result of this option, some unavoidable repetitions of introductory parts and definitions of concepts are present in this document.

This thesis is structured in seven chapters. Besides the introductory and concluding chapters, each of the remaining five chapters correspond to an original research paper, either published or submitted to an international peer-reviewed journal or book chapter. Table 1.2 presents the corresponding publications.

**Table 1.2** ▪ Publications representing the main content for this thesis.

Chapter	Publication
2	<b>Costa, E.,</b> Soares, A. L., & Sousa, J. P. (2016). Information, knowledge and collaboration management in the internationalisation of SMEs: A systematic literature review. <i>International Journal of Information Management</i> , 36(4), 557–569. <a href="http://doi.org/10.1016/j.ijinfomgt.2016.03.007">http://doi.org/10.1016/j.ijinfomgt.2016.03.007</a>
3	<b>Costa, E.,</b> Soares, A. L., Sousa, J. P., & Jamil, G. L. (2017). Information management for network transformation in industrial enterprises associations: The case of the internationalization process. In G. L. Jamil, A. L. Soares, & C. R. M. Pessoa (Eds.), <i>Handbook of Research on Information Management for Effective Logistics and Supply Chains</i> (pp. 415–436). Hershey, PA: IGI Global. <a href="http://doi.org/10.4018/978-1-5225-0973-8.ch022">http://doi.org/10.4018/978-1-5225-0973-8.ch022</a>
4	<b>Costa, E.,</b> Soares, A. L., & Sousa, J. P. (2017). Institutional networks for supporting the internationalisation of SMEs: The case of industrial business associations. <i>Journal of Business &amp; Industrial Marketing</i> , 32(8), 1182–1202. <a href="https://doi.org/10.1108/JBIM-03-2017-0067">https://doi.org/10.1108/JBIM-03-2017-0067</a>
5	<b>Costa, E.,</b> Soares, A. L., & Sousa, J. P. (2018). On the use of digital platforms to support SME internationalization in the context of industrial business associations. <i>Handbook of Research on Expanding Business Opportunities with Information Systems and Analytics</i> . Hershey, PA: IGI Global. [Accepted for publication]
6	<b>Costa, E.,</b> Soares, A. L., & Sousa, J. P. (?). Industrial business associations improving the internationalisation of SMEs with digital platforms: A design science research approach. <i>European Journal of Information Systems</i> . [Submitted]

Following an incremental process and approach, each publication represents a new contribution to knowledge, in terms of theory and practice for this doctoral project, allowing to create logic connections between the chapters. In addition, these five papers correspond to the five studies described in the previous section. Each new paper cites and uses the outputs from its precedent ones. Figure 1.2 presents this incremental process and these relations, by showing the thesis synopsis.

**Chapter 2** reports the results of a systematic literature review (SLR) that aims to address the theoretical relevance of this work. Looking at the general research framework of the project (Figure 1.1), this study relates to the first research stage of the problem identification and motivation. Before developing this SLR, a scoping study (exploratory review) of the field was produced, in order to clarify the existing basis for the work to be developed, as well as to define concepts and determine the research questions to be addressed. In this chapter, 38 journal articles were selected and systematically reviewed to examine the role of information, knowledge and collaboration in internationalisation decisions of SMEs. Some important research gaps and research directions were identified, helping to define the theoretical basis for this project.

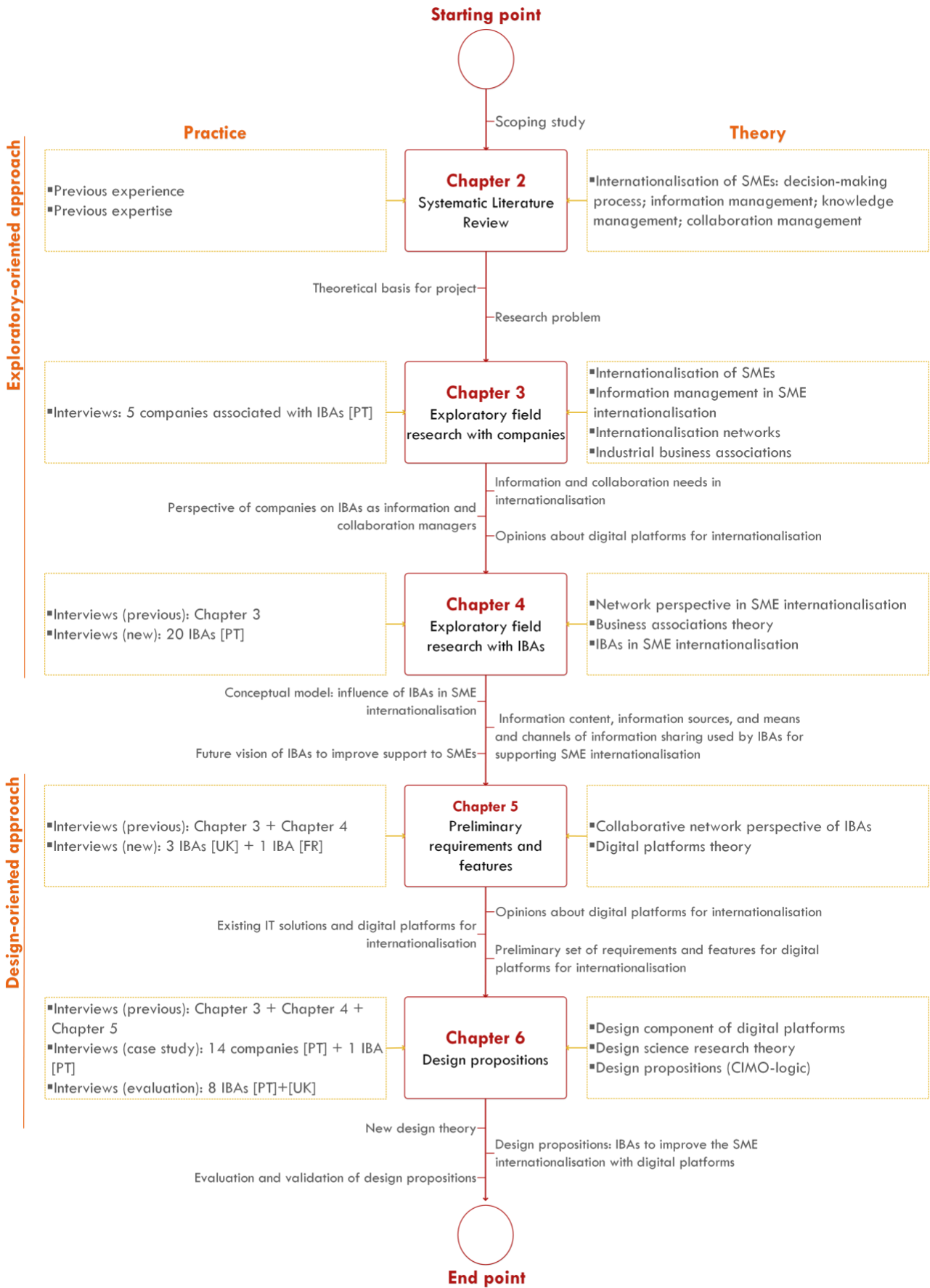


Figure 1.2 • Thesis synopsis.



After performing this first study, and based on the results obtained, two paths could have been followed: (i) to focus on improving the decision-making processes of SMEs in internationalisation activities; or (ii) to focus on improving the support that is received by SMEs in internationalisation processes. We have decided to select the second path because we believed that it could have more impact, both in terms of practice for the internationalisation of SMEs and in terms of knowledge and theoretical contributions. It was then necessary to focus on one of the actors that provide support to the SME internationalisation. We decided to select industrial business associations (IBAs) that, despite receiving some support from governments and from other institutional entities, are the type of actor that could respond to SMEs' call for a stronger support to face their information and collaboration problems in internationalisation. This choice is justified by the lack of studies addressing this topic but also by the experience, contacts and specific knowledge that many IBAs have about their industrial sectors. Thus, in our view, IBAs could be in better conditions to provide a more detailed and focused internationalisation information, as well as to facilitate the establishment of collaborations among their already existing network of associate SMEs.

These decisions lead us to the next study and to the next stage of the research, corresponding to the motivation for developing the artifact. Thus, **Chapter 3** presents the first exploratory field research, performed through interviews with five Portuguese industrial companies (3 SMEs and 2 large enterprises), associated with IBAs from the textile and the information technology sectors. Through this qualitative research, relevant information and collaboration needs, in the context of internationalisation, were derived from the interviews. The opinion of these companies about the role of IBAs as information managers and promoters of collaborations, and about the use of digital platforms managed by IBAs for supporting their internationalisation processes is also presented.

Then, to help defining the objectives of the socio-technical artifact to be designed and to increase our knowledge about the detailed activities and support provided by IBAs to the SME internationalisation, a larger exploratory field research was performed. **Chapter 4** presents the results of this study, showing the findings from 20 interviews with Portuguese IBAs from different industrial sectors. The main outputs of this study are the detailed identification and description of specific categories of the IBAs' internationalisation support, as well as the specific information content, information sources, and means and channels of information sharing used by these institutional entities for supporting SME internationalisation. Moreover, a rich understanding on the internationalisation follow-up process and on the future vision of IBAs to improve this internationalisation support was also obtained. Therefore, this chapter closes the exploratory-oriented part of the doctoral project and defines the objective of the artifact: the improvement of the institutional network support provided by IBAs to the internationalisation of SMEs with digital platforms.

**Chapter 5** starts the design-oriented part of the project, by showing the results of a new field research. This new study extends the analysis of the previous exploratory field studies, by bringing the view of additional prospective digital platforms' managers with additional interviews with 1 IBA in France and 3 IBAs in the UK. Therefore, based on the 24 interviews with the IBAs, this chapter explains the factors that influence the adoption of digital platforms by IBAs to support SME internationalisation. Current digital platforms that are being used are also identified and an evaluation of their potential for supporting internationalisation processes is additionally performed. Finally, this chapter ends with the specification of a preliminary set of requirements and features for digital platforms managed by IBAs for supporting internationalisation. This chapter corresponds to the *ex-ante* evaluation and serves as an input for the development of the artifact to be done in the next stage of the project.

All the findings from the previous chapters were used for the last stage of the design-oriented part of the project. **Chapter 6** presents the result of the artifact design and *ex-post* evaluation. The design propositions were developed and were supported by knowledge from the environment and practice, as well as by knowledge from existing theories and from the theoretical background involved. This was important to obtain more robust design propositions that are field-tested and grounded. The practical knowledge resulted from the previous empirical studies, together with new insights obtained by performing an additional and more focused empirical study through a single case study. For this case study, 14 Portuguese companies associated with the Portuguese IBA from the textile industry were interviewed for a more in-

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depth exploration and understanding of the phenomena, and for acquiring additional insights and empirical knowledge from companies and potential users of digital platforms. By using all the knowledge obtained throughout this project, design principles were proposed and evaluated, in the form of design propositions and following the CIMO-logic, for the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms. This chapter ends with the results of the evaluation of the design propositions performed by 8 experts and IBAs, from different industrial sectors.

Finally, **Chapter 7** provides a summary of the main conclusions and implications of the work developed for this thesis, as well as its limitations, along with a set of recommendations for future research.

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## **Chapter 2 | Information, knowledge and collaboration management in the internationalisation of SMEs: A systematic literature review**

Paper published in the **International Journal of Information Management**

**Costa, E., Soares, A. L., & Sousa, J. P.** (2016). Information, knowledge and collaboration management in the internationalisation of SMEs: A systematic literature review. *International Journal of Information Management*, 36(4), 557–569. <http://doi.org/10.1016/j.ijinfomgt.2016.03.007>

Journal indexed in:

- ISI Web of Knowledge JCR | Information Science & Library Science
- SCImago SJR | Library and Information Sciences + Computer Networks and Communications + Information Systems

## **Abstract**

Information and knowledge can be seen as key resources for improving the internationalisation processes of small and medium-sized enterprises (SMEs). Collaboration has also been considered as an important facilitator of these processes, particularly by nurturing information and knowledge sharing. However, the current literature is unclear about the way SMEs can access information and assimilate knowledge in a collaborative network context, to support decision-making. This paper systematically reviews the literature, examining the role of information, knowledge and collaboration in internationalisation decisions of SMEs. To this end, 38 relevant journal articles were analysed, with the identification of some important issues, as well as gaps in the existing empirical knowledge. This analysis provided valuable input for the development of research suggestions and directions for future work in this area.

**Keywords** | systematic literature review, internationalisation, information management, knowledge management, collaboration.

## 2.1 | Introduction

There is growing evidence that internationalisation has become a key requirement for SMEs to gain competitive advantage which results in an increasing effort in managing the companies' internationalisation processes (Dutot et al., 2014; Schweizer, 2012). The effectiveness of those processes is directly related with the way companies manage internationalisation related information (Benito et al., 1993; Child & Hsieh, 2014; Knight & Liesch, 2002), establish collaborative networks (Ciravegna et al., 2014; Musteen et al., 2010; Spence et al., 2008) and learn and use internationalisation related knowledge (Basly, 2007; Fletcher & Harris, 2012; Rodriguez et al., 2010).

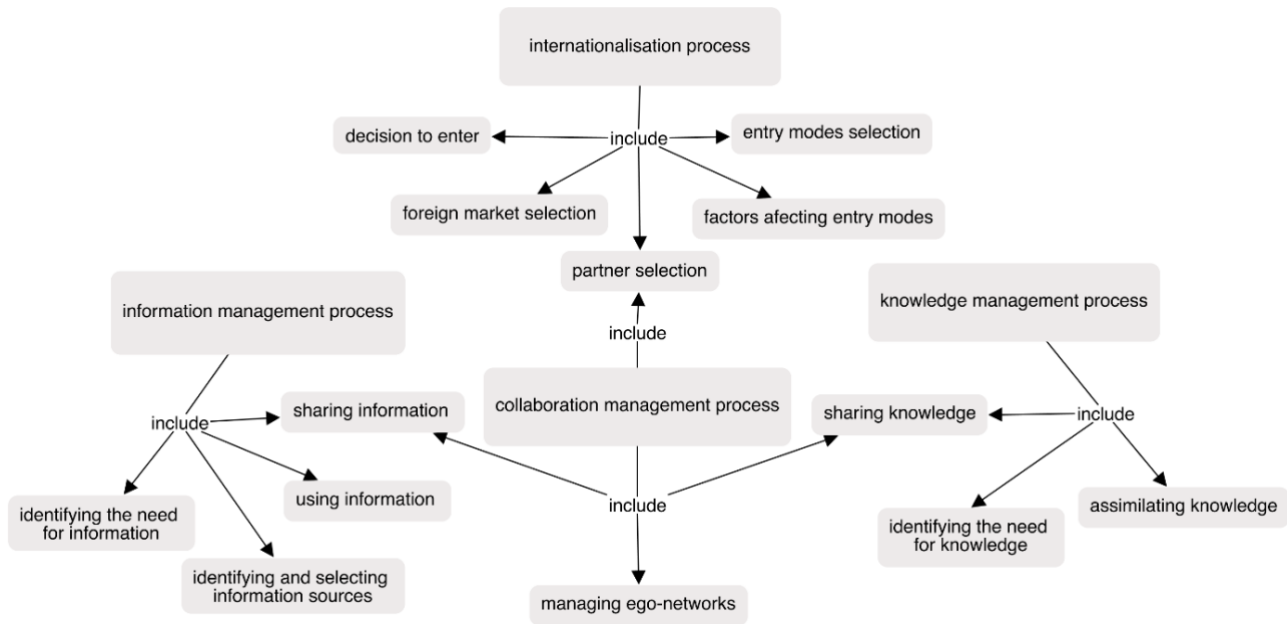
Information of greater explicitness and broader scope allows for a more rational decision-making (Child & Hsieh, 2014), but the decision-makers capability for identifying, seeking and processing information is also essential for more effective internationalisation decisions (Hsu et al., 2013). Information and knowledge are recognised as crucial to manage international complexity and ambiguity (Hsu et al., 2013), to reduce risks and uncertainty (Nguyen et al., 2006), and to stimulate awareness of foreign market opportunities (Zhou et al., 2007). From another perspective, it has been found that collaboration, in particular when it unfolds in the context of networks, is an important facilitator in the internationalisation of SMEs (Hutchinson et al., 2007). In making part of collaborative networks, SMEs' internationalisation processes benefit in ways such as: (i) providing decision-makers with important channels of information and knowledge (Musteen et al., 2010); (ii) influencing the approach adopted by SMEs' leaders (Child & Hsieh, 2014); (iii) influencing decisions on foreign market selection and entry mode (Ibeh & Kasem, 2011); (iv) allowing to increase rapidly international commitment (Kalinic et al., 2013); and (v) overcoming resource constraints (Ciravegna et al., 2014). However, many SMEs still face major challenges and obstacles in obtaining the right information and manage it effectively to support the internationalisation processes, thus limiting the creation and accumulation of knowledge about those processes (Hsu et al., 2013; Nguyen et al., 2006). In addition, in the current literature, it is not clear how SMEs assimilate information from their networks and collaboration activities for making better decisions in terms of internationalisation.

The main objective of this paper is to analyse, synthesise and present a comprehensive systematic literature review (SLR) of the role of information, knowledge and collaboration in internationalisation decisions of SMEs. With this literature review, that is predominantly descriptive and inductive in nature, we intended to identify the big challenges for information management as applied to internationalisation processes and the decisions involved in those processes. The review also aimed at analysing how information and knowledge are used and managed for decision-making, as well as how SMEs manage collaboration activities. Thus, the research questions for this SLR are:

- RQ<sub>1</sub>: what is the role of information, collaboration and knowledge in the effectiveness of the SMEs' internationalisation processes?
- RQ<sub>2</sub>: what topics and issues related with information, collaboration and knowledge are considered when SMEs manage their internationalisation processes?

Accordingly, this paper uncovers challenges for researchers in information and knowledge management in designing new artifacts such as collaborative information management platforms fostering innovative models for decision-making and knowledge creation and dissemination as a way to achieve more rational, less uncertain internationalisation processes. Additionally, this SLR contributes to the scientific knowledge on business management and internationalisation by: (i) studying in detail the influence of the above referred thematic areas in the internationalisation of SMEs, with specific focus on decision-making processes; (ii) identifying some of the research gaps in the existing literature; (iii) suggesting directions for future research.

In a preliminary analysis of the selected literature (38 papers) an overarching conceptualisation (a kind of basic ontology) was developed (Figure 2.1). It is this conceptualisation that will be used to organise the findings (Section 2.3) and it will be referred to in the discussion and future research section (Section 2.4).



**Figure 2.1** - Main topics related with information, collaboration and knowledge considered in the literature addressing the internationalisation of SMEs.

The structure of the paper is as follows. Section 2.2 describes the research methodology applied for this paper, which follows a SLR five-step approach. Section 2.3 presents the findings of the SLR, organized according to the conceptualisation described in Figure 2.1. Section 2.4 discusses the obtained results, presenting meaningful research suggestions and directions for future work. Section 2.5 and Section 2.6 provide some limitations and conclusions of the paper.

## 2.2 | Research methodology

This research followed the systematic literature review (SLR) methodology (Tranfield et al., 2003) as opposed to traditional narrative or descriptive reviews. Using a SLR approach it is possible to create a basic framework for a more in-depth analysis of the literature, adopting a replicable, scientific and transparent process (Tranfield et al., 2003). As suggested by Denyer and Tranfield (2009), a scoping study (exploratory review) of the field was produced prior to the SLR, in order to: (i) clarify the existing basis for the work to be developed; (ii) specify the fit of the proposed SLR into the current body of knowledge; (iii) define concepts; (iv) determine the research questions to be addressed.

Therefore, this paper systematically reviews relevant literature on the role of information, knowledge and collaboration in the effectiveness of making decisions in internationalisation processes of SMEs. The underlying adopted SLR followed a five-step approach, as outlined by Denyer and Tranfield (2009) and Wong et al. (2012):

- question formulation;
- locating studies;
- study selection and evaluation;
- analysis and synthesis;
- reporting and using the results.

The following research questions were defined for this study (Step 1): what is the role of information, collaboration and knowledge in the effectiveness of the SMEs' internationalisation processes? what topics and issues related with information, collaboration and knowledge are considered when SMEs manage their internationalisation processes?

The Step 2 concerns the selection of the bibliographic database or search engine, as well as the definition of the search criteria or search strings. The search was tightly aligned with the research questions. Following similar literature reviews (Camargo-Pérez et al., 2014; Hassini et al., 2012; Kamal & Irani, 2014) two bibliographic databases were used: Web of Science and Scopus. These databases cover a significant proportion of the published material on internationalisation, including the most relevant peer-reviewed journals on the area. Table 2.1 presents the search strings applied and the number of results obtained.

**Table 2.1** ■ Search strings and number of results.

Search strings	Search field	Date of search	Results
<b>Web of Science</b>			
(decision* OR "decision making" OR "decision-making") AND (internationali*) AND (information OR "information management")	Topic	02-03-2015	242
(decision* OR "decision making" OR "decision-making") AND (internationali*) AND (knowledge OR "knowledge management")	Topic	02-03-2015	238
(decision* OR "decision making" OR "decision-making") AND (internationali*) AND (collaborat* OR "collaborative networks" OR network*)	Topic	02-03-2015	175
<b>Scopus</b>			
(decision* OR "decision making" OR "decision-making") AND (internationali*) AND (information OR "information management")	Article title, abstract, keywords	02-03-2015	293
(decision* OR "decision making" OR "decision-making") AND (internationali*) AND (knowledge OR "knowledge management")	Article title, abstract, keywords	02-03-2015	220
(decision* OR "decision making" OR "decision-making") AND (internationali*) AND (collaborat* OR "collaborative networks" OR network*)	Article title, abstract, keywords	02-03-2015	193

The initial search strings using the two bibliographic databases resulted in the identification of 1.361 articles, i.e. 655 for Web of Science and 706 for Scopus. Following the suggestion of Denyer and Tranfield (2009), citation management software packages (Mendeley and EndNote) were used for information management purposes during this step and the following ones.

In the study selection and evaluation (Step 3), some inclusion and exclusion criteria were defined, as a way to select only the more relevant studies to include in the review, i.e. the studies that actually address the research questions. To focus the review on recent studies and recent methodologies and technologies, a 20-year time horizon was first established (1995-2014). Only articles published in peer-reviewed journals in English were considered. Colicchia and Strozzi (2012) argue that by restricting the search only to peer-reviewed journals, the quality control of search results can be enhanced due to the rigorous process to which such articles are subject prior to publication. Some specific research areas were considered for the two bibliographic databases:

- Web of Science:
  - a) International Relations;
  - b) Business Economics;
  - c) Library and Information Science;
  - d) Engineering;
  - e) Operations Research Management Science.
- Scopus:
  - a) Business, Management and Accounting;
  - b) Economics, Econometrics and Finance;
  - c) Engineering;
  - d) Decision Sciences.

This exercise reduced the number of articles for review to 632. After checking duplicates, by using Mendeley and EndNote (first in each search string and after, considering the whole set), titles and abstracts of the selected articles were analysed for relevance. This process was performed by two reviewers to check for inter-rater reliability and agreement. Articles eligible for review had to fulfil four main criteria: (i) articles had to be focused on SMEs (including studies that compared SMEs with large and multi-national enterprises - MNEs); (ii) articles had to be related to the area of management studies (excluding for example Education and Health Disciplines); (iii) articles had to be empirical (qualitative and quantitative studies) rather than theoretical or conceptual; (iv) articles had to be focused on the influence of information, knowledge and collaboration in internationalisation processes of SMEs, with specific emphasis on decision-making processes. At this stage, the number of articles for analysis was reduced to 77.

Finally, in the last stage a more detailed analysis of the 77 articles was made, with the two reviewers performing a full text review. Articles from 1995 to 2004 were first excluded, since they were only representative of a very small percentage of the sample, and also to perform a more focused review and analysis, giving priority to more recent studies and consequently reducing the time horizon from 20 to 10 years (2005-2014). Through the full text review, some other articles were excluded as they were not in accordance with the specific research focus of this study, this allowing to reduce the number of final articles for analysis and synthesis to 38, as listed in Table 2.2.

**Table 2.2** • Summary of the systematic review articles selection and evaluation.

	Search 1	Search 2	Search 3	Total
<b>Bibliographic database analysis</b>				
<i>Web of Science</i>	242	238	175	655
<i>Scopus</i>	293	220	193	706
<b>Inclusion/exclusion criteria</b>				
<i>Web of Science</i>				
Date range	213	225	171	609
Document type	175	190	135	500
Subject area	162	172	118	452
Language	148	161	112	421
<i>Scopus</i>				
Date range	279	215	188	682
Document type	166	166	140	472
Subject area	56	97	69	222
Language	53	91	67	211
<b>TOTAL</b>	201	252	179	632
<b>After checking duplicates (in each search)</b>	175	199	150	524
<b>After checking duplicates (in all searches)</b>	406			
<b>Title and abstract analysis</b>	77			
<b>After detailed article analysis</b>	38			

The content of each paper was analysed by the reviewers in Step 4, extracting and storing information and cross tabulating the studies, in order to identify key issues. Using two reviewers, when their interpretations and findings are compared, it is possible to minimize errors, as well as to resolve any differences, thus producing a more robust data set (Denyer & Tranfield, 2009). A summary of the information contained in each of the 38 articles was then prepared using a data extraction form organized with relevant categories, such as research methodologies used and key findings/contributions. This information was used to systematize, structure, and tabulate the data.

The current paper represents the formal presentation of the results to the academic community (Step 5). The remaining content of the paper reports the findings of the present study in a thematic way.



## 2.3 | Findings

Findings were grouped into four categories, as a way to better understand the fundamentals of each process under analysis and following the conceptualisation of Figure 2.1: (i) decision-making process; (ii) information management process; (iii) knowledge management process; (iv) collaboration management process.

### 2.3.1 | Decision-making process

Internationalisation is a complex process dealing with a large variety of decisions (Santos-Alvarez & García-Merino, 2010). Andersson (2011) states that decision-making processes are complicated, involving interactions with other entities, both inside and outside the firm. An internationalisation process is typically composed by four key constructs (London, 2010): market selection, decision to enter, entry modes, and factors affecting entry modes. Crick and Spence (2005) suggest that no single theory can fully explain decisions in internationalisation processes. In fact, the SLR performed in this work identified different types of decisions made in this context.

#### 2.3.1.1 | Decision to internationalise

As stated by Pinho (2007), different theories and conceptual frameworks have been used to explain the initial decision to internationalise, such as the Uppsala internationalisation model (Johanson & Vahlne, 1977), the resource-based view (Barney, 1991), the network approach to internationalisation (Coviello & Munro, 1997), and the Dunning eclectic paradigm (Dunning, 1988). Findings from the analysed articles show that the decision to internationalise can result from different internal and external factors, such as the entrepreneurial orientation of the decision-maker (Kollmann & Christofor, 2014), the decision-maker's proficiency in foreign languages (Cannone & Ughetto, 2014), and the existing and new relational contacts, relationships, collaborations and networks (Castellacci, 2014; Ibeh & Kasem, 2011; Xie & Amine, 2009). For instance, in a quantitative study with 871 Dutch SMEs, Hessels and Terjesen (2010) found that the decision-maker's perception of the increased international presence of their network members (competitors, customers and suppliers) explains the decision to internationalise. Based on the research of Knight and Liesch (2002), Casillas et al. (2010) suggest that SMEs need to own a good knowledge base from various sources (supra-organisational, organisational and individual) in order to decide to go international, i.e. another decision must be made concerning the collection of knowledge related to the start of the international activity.

#### 2.3.1.2 | Entry mode selection

Another fundamental decision is the entry mode selection, described by Pinho (2007) and Francioni et al. (2013) as one of the most critical decisions in internationalisation strategies. Different entry modes and strategies were described in the analysed articles. However, to better illustrate these modes the classification of Root (1994) was used, with each mode requiring different levels of investment and commitment:

- Export entry mode
  - exportation only
- Contractual entry mode
  - transfer of technological or human skills
  - strategic alliances
  - subcontracting
- Investment entry mode
  - joint-venture
  - sole venture
  - foreign direct investment

The main goal of this paper is not to describe these modes in detail, but rather identify those modes that have been addressed by the SLR, and understand some important factors that have influence in these decisions. Therefore, the entrepreneurial orientation of the decision-maker, as well as his/her networking capacity, were again some factors that have a positive influence in first entry mode decisions of SMEs (Ibeh & Kasem, 2011; Kaur & Sandhu, 2013; Loane & Bell, 2006) and subsequent foreign entries are better explained by accumulated knowledge and experience (Peng et al., 2011). The study of Hessels and Terjesen (2010) also shows that the decision-maker's perception of favourable conditions for accessing knowledge, technology, production costs and capital in the home market explain the choice of entry mode (in alignment with the resource dependency theory). For Kaur and Sandhu (2013) entry mode decisions seems to be dependent on the nature and condition of the industry in which the firm operates.

### **2.3.1.3 | Foreign market selection**

Another critical decision considered in the reviewed literature is the foreign market or host country selection (Francioni et al., 2013; Ojala & Tyrväinen, 2008). Social and business relationships and network partners seem to be the most important factors influencing market selection decisions (Aspelund & Butsko, 2010; Ibeh & Kasem, 2011; Loane & Bell, 2006). However, an exception is reported by Ojala (2009) who states that the decision of Finnish software SMEs to enter the Japanese market was based on strategic reasons rather than following network relationships. This happened due to the fact that their products were niche products, and to the existence of numerous IT-based manufacturing and target customers in Japan. For example, one company developed technology for videogames, and Japan was the first target since it represents the most advanced market in the field.

In a different direction, the empirical study of Francioni et al. (2013) presents cases when SMEs from the mechanical sector decided to change markets or entry modes. The main result is that these changes do not only come from social and business relationships, but also from proactive and reactive characteristics of the decision-maker.

### **2.3.1.4 | Collaboration decisions and commitment decisions**

Two other types of decisions were identified concerning: (i) collaboration; and (ii) commitment. According to Spence et al. (2008), firms decide to collaborate and choose vertical or horizontal collaboration forms depending on the motives for establishing an alliance and on the network partners' positions in the value chain. On one hand, Castellacci (2014) found that SMEs could decide to engage in collaboration with foreign partners to support their international activity. The relative sizes of the enterprise and of the foreign partner can influence the firm's decision to engage in international collaborations. On the other hand, Spence et al. (2008) found out that when alliances occur, the strategic focus is on decisions for developing and managing these collaborations rather than focusing on decisions about which market to enter.

In terms of commitment decisions, Camuffo et al. (2007) are the only authors addressing in detail this type of decisions. The authors conclude that the decision to commit further resources to foreign operations, and the organisation of international business activities, are affected by market knowledge and by the amount of resources already assigned to a specific country. Furthermore, they also found out that local business networks have a clear influence on the decision of firms to make higher commitment decisions.

### **2.3.1.5 | Decision mode**

Child and Hsieh (2014) present a very detailed study on the different decision modes that managers may follow when they internationalise. These authors define four main decision modes, ranging from a low to a high level of planning and rationality: (i) *reactivity*, where decision-makers are more conservative and take decisions by responding to immediate situational demands or environmental changes (Covin, 1991); (ii) *incrementalism*, often mentioned as "muddling through" (Lindblom, 1959), where decision-makers make

successive limited comparisons of possible actions, or limited increments from existing conditions, to avoid negative consequences; (iii) *bounded rationality*, as introduced by Simon (1955), where decision-makers are more rational and goal-directed but have some limitations to secure and process relevant information; (iv) *real options* reasoning, where decision-makers have a rational way of reducing risks associated with both incomplete information and uncertainty, making comparisons between alternatives (Adner & Levinthal, 2004).

The decision mode to be adopted has implications in terms of the required information, and also the other way around, i.e. reactivity and incrementalism modes may require uncodified and relatively narrow information while more planned decision modes (bounded rationality and real options reasoning) may require more codified and wide information. In addition, these authors suggest that reactive or incremental decision modes are more related with traditional SMEs whereas knowledge-base or knowledge intensive SMEs tend to adopt bounded rationality and real options reasoning modes. However, in most of the cases it is not clear what specific decision modes were adopted by SMEs' decision-makers. So, for analysis purposes, a distinction was made between unplanned decisions, related with reactivity and incrementalism, and planned decisions, related with bounded rationality and real options reasoning (Table 2.3).

**Table 2.3** • Decision modes found in the SLR.

Decision modes	References	Empirical findings
Unplanned decisions	Aspelund & Butsko (2010), Andersson (2011), Ibeh & Kasem (2011), Hultman et al. (2012), Schweizer (2012)	SMEs may not follow a systematic and linear pattern for making internationalisation decisions. Instead of making planned decisions, SMEs prefer to trust in their knowledge and intuition (Andersson, 2011; Schweizer, 2012) or social and business relationships (Aspelund & Butsko, 2010; Hultman et al., 2012; Ibeh & Kasem, 2011).
	Crick & Spence (2005)	Some firms' internationalisation takes place as a reaction to opportunities provided by existing networks and serendipitous encounters.
	Mockaitis et al. (2006)	The decision of the analysed SMEs to internationalise into foreign markets does not result from any strategic or planned activity.
	Spence et al. (2008)	Collaborations tend to be managed informally, without planning all decisions but rather keeping the communication channels open at all levels.
Planned decisions	Schweizer (2012)	The increased experience and knowledge obtained through a learning process lead to more rational and planned decision-making.
	Fletcher & Prashantham (2011)	Knowledge is an important key to more formal decisions. Rapidly internationalising SMEs adopted high levels of formality in assimilating knowledge, mainly using formal planned events to share knowledge and to codify tacit into explicit knowledge.
	Rodriguez et al. (2010)	Risks in internationalisation can be avoided or reduced if a company adopts more planned decision-making strategies with the development of a set of standard guidelines, policies, procedures and methodologies in each internationalisation project.
	Ojala (2009)	When SMEs internationalise, they may not passively follow their networks to foreign markets (reactive strategy). Instead, they may consider the adoption of more active strategies to seek for opportunities for going international, with the development of new networks or using the existing ones.

### **2.3.2 | Information management process**

It is important to make a clear distinction between information and knowledge in this paper. Although they are both critical in the SMEs' internationalisation process, they influence it in distinct ways (Knight & Liesch, 2002). Information is inextricably antecedent to knowledge (Dretske, 1981). In one way, information is defined as structured and understandable data, organised in order to be a useful input to knowledge (Child & Hsieh, 2014). Moreover, knowledge is created from information and is about beliefs and commitment, validated in a person's perception or expectation for taking actions (Nonaka & Takeuchi, 1995). Grant (1991) considers that to ensure information is useful, firms need to create models and standards of behaviour converting tacit organisational knowledge into explicit knowledge.

#### **2.3.2.1 | Need for information**

Many SMEs still face difficulties in internationalisation processes, and the lack of information has been identified as one main obstacle in those processes (Hsu et al., 2013; London, 2010; Sommer & Haug, 2011). Decision-makers need to search and acquire information, in order to identify market opportunities in foreign countries. For this purpose, large amounts of information are required to compensate the lack of prior knowledge and experience, and as a way to reduce internationalisation uncertainties (Xie & Amine, 2009). Therefore, due to the imperfect access to information, entering foreign markets can represent a significant risk for SMEs, with extra costs for collecting information and for seeking and evaluating partnerships (Hessels & Terjesen, 2010).

When SMEs move into new international markets, information processing increases and becomes more complex (Hsu et al., 2013). Aspelund and Butsko (2010) found that some decision-makers used to randomly select foreign market locations, due to a lack of experimental market knowledge on internationalisation, as well as a lack of organisational capabilities to process information. SMEs in the study of Santos-Alvarez and García-Merino (2010) although interested in internationalisation, did not allocate the right efforts to gather information, thus limiting their internationalisation process. Another important issue raised by some of the analysed articles is the poor development of suitable information technology tools, to predict and evaluate problems arising from specific destination countries (Rodriguez et al., 2010).

#### **2.3.2.2 | Information sources, information sharing and information subjects**

Different sources of information are used by SMEs in internationalisation processes, ranging from social and business relations to previous international experiences (Santos-Alvarez & García-Merino, 2010). Xie and Amine (2009) found that decision-makers typically choose their information sources as a function of their perceived utility. Firms can use internal and external sources to develop new market-specific knowledge and learning (Akerman, 2014): they can learn from internal sources through direct experience in their operations and using internally stored information, and/or from external sources by using the experience of others and externally available information.

The increasing availability and diversity of information sources, suggest that companies consider more rational decision modes when comparing alternative strategies (Child & Hsieh, 2014). Additionally, based on previous studies, Rodriguez et al. (2010) propose the use of formal (market research) and informal techniques (relying on gatekeepers) to gather information from different sources. However, the SLR suggests that SMEs tend to rely more on their networks to gather and share information about foreign markets from several sources.

Undoubtedly, networks have been playing an important part in the decision-making processes (Aspelund & Butsko, 2010; Cannone & Ughetto, 2014). Casillas et al. (2010) suggest that collective knowledge is more important in internationalisation due to the individual difficulties of SMEs in searching information. Information shared in networks also increases the commitment in foreign markets (Hultman et al., 2012) and reduces information asymmetry (Child & Hsieh, 2014). Information is shared through firms' networks, both at the social and business level, which include customers, suppliers, competitors, family and friends

(Chen, 2011; Ibeh & Kasem, 2011; Peng et al., 2011; Xie & Amine, 2009). Moreover, Xie and Amine (2009) suggest that networks, mainly social networks, must be properly recognized as primary sources of information, knowledge, and fast learning.

Information sharing was found as being of great importance to the development of trust and synergy to sustain collaboration relationships (Spence et al., 2008). Information can be used for evaluating with whom to contact, who has what, and how much of it is relevant to decision-making (Child & Hsieh, 2014). Finally, Spence et al. (2008) suggest that successful collaborative ventures require information sharing and not information control, based on a collaboration-based mentality instead of a competition-based one.

The main subject that SMEs look for within their information sources was about foreign market conditions (Cannone & Ughetto, 2014; Ibeh & Kasem, 2011). Other information subjects identified were the following: attractiveness of specific locations and host countries (Aspelund & Butsko, 2010; Peng et al., 2011; Xie & Amine, 2009); internationalisation strategies and the internationalisation process itself (Peng et al., 2011; Santos-Alvarez & García-Merino, 2010; Xie & Amine, 2009); obstacles faced in internationalisation processes (Santos-Alvarez & García-Merino, 2010; Xie & Amine, 2009); support programmes for helping firms to internationalise (Santos-Alvarez & García-Merino, 2010) experiences and knowledge about foreign industries (Chen, 2011; Peng et al., 2011); and marketing opportunities (Xie & Amine, 2009).

### **2.3.2.3 | Importance of decision-makers' characteristics in information management**

The analysis of the literature shows that decision-makers have experiences, backgrounds, and personal characteristics (Hsu et al., 2013) that form their cognitive perspectives influencing the way how they identify, seek and process information. With this cognitive basis, they influence decisions by directing their vision, filtering their perceptions, and interpreting information. Table 2.4 show these characteristics and how they influence the decision-makers access and use of information.

## **2.3.3 | Knowledge management process**

Knowledge has been considered as a key resource for SMEs to pursue better internationalisation processes (Fletcher & Prashantham, 2011). Several theories on internationalisation have emphasised the relevance of knowledge, such as the Uppsala internationalisation model (Johanson & Vahlne, 1977), the upper echelons theory (Hambrick & Mason, 1984), theories of international entrepreneurship (McDougall & Oviatt, 2000), and the knowledge-based view (Grant, 1996). A detailed description of the role of knowledge in these theories is not within the scope of this article.

### **2.3.3.1 | Need for knowledge**

Based on the analysed literature, knowledge in internationalisation can be understood as the interpretation of information and beliefs, from different experiences (by individual managers, firms, and networks), thus creating a learning process for making better decisions (Akerman, 2014; Casillas et al., 2010). In fact, previous works had shown that internationalisation decisions are the result of a process of acquisition, assimilation, and interpretation of knowledge about foreign markets and international strategies (Knight & Liesch, 2002). This learning process through a knowledge base, allows SMEs to have favourable attitudes for internationalisation (Casillas et al., 2010), to make more rational decisions (Schweizer, 2012), and to reduce uncertainty (Mockaitis et al., 2006). From a different point of view, the results of Child et al. (2012) show the critical role that knowledge has in the decision of a company to retain or release executives after performing an international acquisition. The retention seems to be mainly justified by the knowledge the firms own, in order to avoid losses of critical knowledge that is useful for the business.

Undoubtedly SMEs need knowledge to support their internationalisation processes and the lack of this important element represents one of the main obstacles for SMEs wanting to go international (Hsu et al., 2013; Sommer & Haug, 2011; Zucchella & Servais, 2012). Rodriguez et al. (2010) found that many SMEs

were not capable of neither predicting risks nor turning internationalisation into a sustainable competitive advantage, mainly due to the lack of suitable tools for managing knowledge acquired from previous experiences. Židonis (2007) interviewed some members of a Lithuanian company, and found that knowledge is used to create beliefs on markets, but incomplete, fragmented or contradictory knowledge may result in a system of unrealistic assumptions about international environments.

**Table 2.4** ▪ Decision-makers' characteristics that influence information management in internationalisation.

Characteristics	References	Empirical findings
Age	Hsu et al. (2013)	Age of decision-makers is linked to the capacity for processing and analysing information.
Tenure	Hsu et al. (2013)	Tenure is an indicator of a decision-maker's ability to gather and process information.
	Chen (2011)	Long-tenured top-management-teams (TMTs) of firms can provide competitive advantages in internationalisation due to their more accurate shared cognitive structure about international environments, their capacity of filtering and interpreting information more clearly, and their better assessment of organisational resources and capabilities.
Information processing capability	Hsu et al. (2013)	Information processing capabilities of decision-makers have positive effects in the internationalisation performance. Decision-makers with high information processing capabilities, perform better when doing business in an international environment.
International experience	Cui et al. (2013)	Managerial international experience enhances the ability of a SME to process foreign market information.
	Child & Hsieh (2014)	A larger international experience can improve the decision-makers' capacity in using enhanced network information to adopt more rational decision modes.
	Chen (2011)	International experience facilitates the collection of information from external relationships, thus reducing the anxiety of operating under complex and ambiguous conditions.
Organisational memory	Cui et al. (2013)	Organisational memory related with international experience, kept in the minds of decision-makers of an organisation, can be further accessed to build knowledge structures, and to guide information processing and decision-making for future entries into foreign markets.

### 2.3.3.2 | Knowledge nature and knowledge assimilation

Some studies show that knowledge assimilated by SMEs in internationalisation processes is both tacit and explicit in nature (Child et al., 2012; Fletcher & Prashantham, 2011; Sommer & Haug, 2011). Tacit knowledge is subjective and hard to formalise, being embedded in individuals and relationships, in the form of beliefs, perspectives and ideals (Nonaka, 1994). In general, this is quite valuable for firms, but this type of knowledge is obviously more difficult to be measured and expressed (Child et al., 2012). On the contrary, explicit knowledge is more objective information that can be easily stored, articulated and transferred, through formal and systematic procedures (Nonaka, 1994). The study of Camuffo et al. (2007) shows that due to its high complexity and tacitness, the knowledge involved in an internationalisation process negatively impacts the process of transferring it abroad. This leads SMEs to opt for entry modes with low levels of investment and commitment, such as subcontracting. Fletcher and Prashantham (2011) also identify difficulties for SMEs to assimilate tacit knowledge. Moreover, Child et al. (2012) concludes that less codified knowledge (tacit knowledge) increases the probability of an acquirer company to retain executives after the acquisition. The main justification is that when a new acquirer/owner directly controls and



manages the company, knowledge will be of a more tacit nature and less codified, and therefore retaining executives because of their extensive tacit knowledge seems to be the best option.

The assimilation of knowledge is viewed as a key feature for SMEs wanting to internationalise (Fletcher & Prashantham, 2011). Empirical results by Akerman (2014) confirm that the strategies on how to acquire knowledge significantly influence the outcomes of the SMEs' international operations. By accumulating knowledge, firms can better understand foreign cultures, markets, and operations, thus improving the quality of decision-making (Camuffo et al., 2007). For instance, Cui et al. (2013) concluded that the accumulation of knowledge about foreign markets allows SMEs to reduce uncertainty and consequently increase the probability of future entries in similar markets. Findings by Fletcher and Prashantham (2011) indicate that firms often adopt high levels of formality in sharing and assimilating knowledge, such as formal planned events for sharing both explicit and tacit knowledge and the codification of tacit to explicit knowledge. However, Židonis (2007) states that knowledge accumulation is more complicated than expected, with a case studied showing that the accumulated knowledge was not relevant for the internationalisation process.

### 2.3.3.3 | Knowledge types

Distinct types of knowledge have been highlighted in the literature of firms' internationalisation processes. In fact, different classifications have been applied to describe the type of knowledge used by SMEs in their studies. However, in many cases, articles adopted different terms to describe similar types of knowledge. Based on these references and on some other references (Fletcher & Harris, 2012; Mejri & Umemoto, 2010), a knowledge classification was therefore established to create a more coherent structure for the analysis (Table 2.5):

- **Market knowledge:** objective or explicit information about foreign markets, e.g. market size, labour costs and skills, consumer behaviour, local competitors, payment conditions, regulations, language, norms (Camuffo et al., 2007; Mejri & Umemoto, 2010). It is clear that market knowledge requires activity on the market, but it can specifically be assimilated in an explicit form through cognitive learning (Basly, 2007). Barriers in languages, culture and business practices are overcome and the chance to internationalise early is enhanced due to decision-makers with prior market knowledge (Cannone & Ughetto, 2014).
- **Experiential knowledge:** knowledge that can only be learned through personal experience (Mejri & Umemoto, 2010). Experiential knowledge can come from direct involvement in internationalisation processes (internationalisation knowledge) or from network partners (network knowledge), providing an input for comparing previous international experiences with newly encountered ones (Child & Hsieh, 2014).
  - **Internationalisation knowledge:** knowledge accumulated with international experience (Fletcher & Harris, 2012) and knowledge of the existence of opportunities for exploitation (Mejri & Umemoto, 2010). Internationalisation knowledge from international activities can be the understanding about which knowledge is needed in specific situations in an international context (Akerman, 2014).
  - **Network knowledge:** knowledge obtained from social and business networks to facilitate internationalisation (Mejri & Umemoto, 2010). Using network knowledge, firms gain access to new resources and learn new skills with their network partners, this facilitating foreign market entries without requiring many assets (Kaur & Sandhu, 2013).
- **Technological knowledge:** knowledge that provides specific advantages to firms, such as innovative and unique products or services, which are transferable across borders (Fletcher & Harris, 2012). To run foreign operations successfully, firms must transfer some technological knowledge (techniques, methods and designs) from home to the host country (Camuffo et al., 2007).

### 2.3.3.4 | Knowledge-intensive firms

SMEs can also be classified according to the role of knowledge in their internationalisation activities (Child & Hsieh, 2014). The most common terms applied in the analysed articles are knowledge-intensive or knowledge-based firms. These cases are mainly SMEs from the software industry, with all authors agreeing that knowledge-intensive firms tend to differ from more traditional firms. Decisions to internationalise are largely dependent on networks and collaboration to improve foreign market entries (Torkkeli et al., 2012). Ojala and Tyrväinen (2008) add that successful knowledge-intensive SMEs develop their network relationships and focus their resources, in order to enter the leading markets for their products. Despite of this, Ibeh and Kasem (2011) found a lack of studies in the literature on the internationalisation of knowledge-based or knowledge-intensive SMEs from developing countries.

**Table 2.5** - Knowledge types found in the SLR.

Knowledge types	References	Empirical findings
Market knowledge	Aspelund & Butsko (2010)	Decision-makers randomly select locations to internationalise due to lack of market knowledge, as well as lack of organisational capabilities to process such information.
	Akerman (2014)	Case studies show that the assimilation of market knowledge paves the way for additional sales in foreign markets and for the acquisition of new customers.
	Pinho (2007)	Market knowledge, together with the SMEs' international experience, innovation capacity, and market potential for growth are seen as key predictors for choosing an equity-entry mode.
	Mockaitis et al. (2006)	Most of the SMEs do not consider market knowledge as important, mainly because of foreign orders fulfilment in their home markets. Consequently, investments to learn about foreign markets are not viewed as necessary.
Internationalisation knowledge	Camuffo et al. (2007)	Experiential knowledge, mainly internationalisation knowledge, plays a critical role in the incremental process of supplier and production network internationalisation.
	Cui et al. (2013)	Managers' decisions on new foreign direct investments are strongly based on knowledge obtained from the firm's prior internationalisation knowledge.
	Basly (2007)	Although finding that internationalisation knowledge has a positive influence in the internationalisation degree of the firm, the conservatism of the family SME (firm's type) analysed does not show significant influence on the level of internationalisation knowledge. The only influence of conservatism on internationalisation knowledge is on the decisional dimension of independence orientation (a consequence of the family long-term commitment to the business).
	Židonis (2007)	The lack of knowledge is not an obstacle for the internationalisation process of the firm due to its "trial-and-error" international behaviour.



**Table 2.5.** Knowledge types found in the SLR (continued).

Knowledge types	References	Empirical findings
Network knowledge	Andersson (2011)	Network knowledge is important for fast international expansion and growth.
	Casillas et al. (2010)	Knowledge originated from the experiences of other businesses is the one with stronger influence on the intention of SMEs to export. Therefore, collective knowledge has a more intense influence than the individual knowledge, as a motivation for starting internationalisation processes.
	Peng et al. (2011)	Knowledge sharing in networks provides firms with necessary country-specific experience, facilitating decision-making of initial and subsequent investments in host countries.
	Loane & Bell (2006)	A large proportion of the firms studied actively uses networks to develop their knowledge about foreign markets and improve international competitiveness. Such network knowledge influences market selection and entry decisions, overcoming resource and knowledge deficiencies.
Technological knowledge	Hessels & Terjesen (2010)	SMEs are more likely to export using direct modes if located in home markets with favourable conditions to access to technological knowledge.
	Camuffo et al. (2007)	Decisions on the internationalisation of supplier and production networks are mainly influenced by the nature of the technological knowledge involved.
	Sedoglavich (2012)	Results suggest that international activities are mainly based on firms' technological capabilities and technological knowledge. However, this technological knowledge may also constrain the development of future international strategies if the firms' technology is not affected by their foreign strategies.

### 2.3.3.5 | Other aspects of the collaboration management process

Many aspects of the collaboration management process in internationalisation have already been described along the previous sections, such as collaboration decisions (Section 2.3.1.4), decision modes (Section 2.3.1.5) and the process of information sharing in collaborations (Section 2.3.2.2). This section briefly presents some other important issues to consider in this process.

There is growing evidence in the analysed literature that SMEs need to collaborate with other entities to gain competitive advantage in internationalisation. As stated by Ibeh and Kasem (2011), companies are not isolated entities but rather actors in markets, depicted as social and business relationships systems. Loane and Bell (2006) reinforce this idea, suggesting that SMEs must prioritise the development of networks and collaborations and adopt assiduous and strategic ways of pursuing such opportunities. Castellacci (2014) points out that international collaboration in services firms is an important factor to foster decisions to enter foreign markets.

Rather than only focusing on networks to share information and knowledge, Spence et al. (2008) present a different level of collaboration, namely "collaborative ventures". This type of collaboration is established between firms, to complement core competencies, thus providing complementary and attractive products or services to markets, and increasing competitive advantages to internationalise. Collaborative ventures establish what is considered in other research areas as collaborative networks (Camarinha-Matos & Afsarmanesh, 2005), forming vertical alliances (alliances with upstream and downstream partners), horizontal alliances (relationships with competitors), or even collaboration forms with firms from different sectors (Spence et al., 2008). Based on the analysed articles, and depending on the situations, different intermediaries can be used to form collaborations (Table 2.6).

**Table 2.6** ▪ Intermediaries to form collaborations in internationalisation.

Knowledge types	References
Local partners (distributors, subcontractors and customers)	Cannone & Ughetto (2014); Hultman et al. (2012)
Competitors	Casillas et al. (2010); Malik (2012)
Managers' contacts from previous jobs or experiences	Andersson (2011); Zucchella & Servais (2012)
External parties	Aspelund & Butsko (2010); Peng et al. (2011)
Foreign firms	Castellacci (2014); Ibeh & Kasem (2011)
Institutional agencies and government bodies	Child & Hsieh (2014); Santos-Alvarez & García-Merino (2010)
Personal contacts, relatives and friends	Kaur & Sandhu (2013); Kollmann & Christofor (2014)
Strategic allies and affiliated companies	Peng et al. (2011); Torkkeli et al. (2012)

The success of collaborative ventures and alliances is highly dependent on creating value for all the parties, and it can be measured as a function of choosing the right partners, managing the partner relationship and accumulating relational capital (Townsend, 2003). So, in addition to collaborative strategic decisions that need to be made in collaboration, partner selection is another important decision. Spence et al. (2008) found that this choice is crucial for the success of the partnership, and some of the main partner selection criteria are international leverage, knowledge and access to foreign markets, and technology expertise.

## 2.4 | Discussion and research agenda

This paper presents a SLR using articles about the roles of information, knowledge and collaboration in the process of decision-making in the internationalisation of SMEs. Some important issues that have emerged from this review are discussed in this section. In addition, it was possible to identify a number of gaps in existing empirical knowledge, thus providing suggestions and directions for future research. The discussion will follow the conceptualisation described in Figure 2.1.

First, in what concerns a SME decision-making process, the following types of decisions were identified: (i) decision to internationalise; (ii) entry mode selection; (iii) foreign market selection; (iv) decision to change markets or entry modes; (v) strategic collaboration decisions; (vi) partner selection for collaboration; (vii) commitment decisions. The decision of a SME to start an internationalisation process is influenced by both internal (entrepreneurial orientation of the decision-maker and foreign language proficiency) and external factors (networks and relationships). A good knowledge base is crucial for making better internationalisation decisions and, as suggested by Casillas et al. (2010), SMEs need first to decide on how to seek information and learn from diverse sources (supra-organisational, organisational and individual) to start to internationalise. Entry mode selection and foreign market selection were identified as the most critical decisions for SMEs to internationalise. Although influenced by both internal and external factors, it seems that the decision of choosing the right entry mode is more dependent on the decision-maker capacity and the internal knowledge base possessed by a firm, while deciding on the foreign market to enter was mainly based on information and experiential knowledge from others (social and business relationships).

In addition, Francioni et al. (2013) were the only authors to analyse when do SMEs decide to change an entry mode or a foreign market, showing that these changes may occur not only due to social and business relationships, but also from proactive and reactive factors of decision-makers. In spite of their importance, there has been in fact little attention to these decisions, mainly because research is more focused on decisions in the first stages of the internationalisation process rather than the subsequent ones. This topic remains therefore open for additional research in the future.

The other three types of decisions (strategic collaboration decisions, partner selection for collaborations, and commitment decisions) were the ones less addressed in the articles of the SLR. It was clear the importance given to decisions about entry modes and market selection, and the factors that influence them. Although having a growing evidence in the literature on the importance of SMEs to establish collaborations with others to gain competitive advantage in internationalisation, there is a lack of comprehensive and systematic studies addressing how SMEs can access, organise and use the information generated in a collaborative network context, and how they can collaboratively convert this information into knowledge to support decision-making in internationalisation processes. This represents also one of the main suggestions for future research.

As previously stated, in addition to making collaborative strategic decisions, SMEs in collaborative networks need to select suitable partners for satisfying their needs of internationalisation (Spence et al., 2008). These partnerships can be done in a vertical way, with complementary companies or in a horizontal way with companies acting on their same competence area. According to Spence et al. (2008), an emerging trend is collaboration between SMEs and large firms to respond to the globalisation. Therefore, the development of collaborative decision-making models and approaches, based on a multiple criteria setting for relationship establishment, seems to make sense, and can represent another direction to be followed in future studies.

Lack of information and insufficient knowledge was identified as the main obstacles for firms to internationalise (Hsu et al., 2013; Sommer & Haug, 2011). The lack of suitable tools, methods and practices for managing information and knowledge, both from previous experiences and from collaborations with other firms, is another hindrance in the internationalisation processes (Rodriguez et al., 2010). Internationalisation requires accessing, processing and organising large amounts of information (Xie & Amine, 2009), so better information and knowledge management in collaboration, maybe through collaborative platforms, is likely to contribute substantially to improve the effectiveness of these processes. However, it is rather surprising the lack of exploratory studies on how state-of-the-art information management models and technologies can be used to significantly improve collaborative decision-making in the internationalisation of SMEs. Moreover, there is no evidence that networking and collaboration are systematically explored in the benefit of more effective internationalisation outcomes.

Important insights about the way information is accessed, processed and used by the decision-makers in internationalisation processes were analysed in this review: age, tenure, information processing capability, international experience and organisational memory are the ones to highlight. Again, this is a relevant topic posing interesting research challenges: do decision-makers have the right skills to cope with the increasing amount and diversity of information potentially useful to internationalisation decisions?

Additionally, general information subjects were identified, with the information about foreign markets conditions being recognised as the most relevant. Yet, there is no detailed systematic analysis on the specific content and subject of the information needed for making decisions in internationalisation. This, together with the previous point, set an important path for further research in information management for internationalisation processes. In fact, only a few pieces of research address explicitly the influence of information management in the internationalisation process of SMEs (Casillas et al., 2010; Child & Hsieh, 2014; Dutot et al., 2014; Rodriguez et al., 2010; Santos-Alvarez & García-Merino, 2010; Xie & Amine, 2009). As previously shown, the topics addressed are limited to the identification of informational needs, general information subjects (e.g. attractiveness of host countries, internationalisation strategies, obstacles and support programmes), decision-makers' information capabilities, and considerations about information sharing. Therefore, there is a lot to explore regarding information organisation, information life-cycle, informational behaviour of the decision-makers, design of information models supporting internationalisation processes, and the design of IT platforms, necessarily collaborative, to support all the above.

In terms of knowledge management, it became clear that the knowledge assimilated by SMEs in internationalisation processes could be tacit and/or explicit in nature. In most of the situations, SMEs have more difficulties with tacit knowledge because it is subjective and hard to formalise (Camuffo et al., 2007;

Fletcher & Prashantham, 2011). Different types of knowledge are used, such as market knowledge, internationalisation knowledge, network knowledge, and technological knowledge. One can conclude that there is no specific rule about the use of certain types of knowledge. Instead, SMEs search and assimilate one or more types of knowledge from different sources, according to their specific needs and internationalisation strategies, entry modes or foreign markets to enter. For example, Akerman (2014) shows that the assimilation of market knowledge is essential for SMEs to obtain additional sales in foreign markets and to acquire new customers. In another direction, Mockaitis et al. (2006) found that most of the SMEs do not consider market knowledge as an important asset. Both studies analyse manufacturing firms, without focusing on “special” institutional contexts, such as start-ups, born global firms, or knowledge-intensive firms. The only difference is in the geographic context, i.e. the study of Akerman (2014) is on SMEs from a developed country, while Mockaitis et al. (2006) analyse SMEs from an emerging country. However, no specific conclusions can be drawn from these studies due to the lack of a more representative number of situations and data for supporting this finding. This is also an issue to be added to a possible research agenda, together with another suggestion by Akerman (2014) to study how the role of knowledge varies in the different stages of an internationalisation process.

In fact, the different contexts where SMEs are embedded have been pointed out by many researchers as an important aspect that needs to be studied. From the research directions of the literature, it seems to be a need to explore how different SMEs’ contexts would result in different information and knowledge needs to internationalise. Kaur and Sandhu (2013) suggest that decisions (mainly concerning the entry mode selection) seem to be influenced by the nature and condition of the industrial sector in which the firm operates. In a later study, Dutot et al. (2014) also consider that the industry/sector type is an important context to analyse since SMEs operating in sectors with more uncertain environments might have larger information requirements than other SMEs operating with less amounts of uncertainty. According to Fletcher and Harris (2012) the sources of information and knowledge used by firms are clearly affected by their geographic context, this leading them to identify the need for research exploring how the geographic context would result in different knowledge needs, types and sources. These authors recognize that those sources are also significantly affected by the particular institutional contexts of firms. Finally, Child and Hsieh (2014) suggest that the decision mode to follow has implications for the information required and vice-versa. These different contexts, as described in the literature, were not addressed in this work, this representing an important direction for further research.

Another relevant theme that was not covered by this work is the broad list of different theories and conceptual frameworks that support the analysed articles: the Uppsala internationalisation model, the innovation-related internationalisation model, the network approach to internationalisation, theories of international entrepreneurship, the resource-based view, the knowledge-based view, the Dunning's eclectic paradigm, the upper echelons theory, the effectuation theory, the agency theory, the institutional theory, the theory of organisational learning, the theory of planned behaviour, and the Lindblom's muddling-through concept. Without getting into too much detail, it seems that, as suggested by Crick and Spence (2005), no single theory could fully explain decisions in internationalisation.

To close this discussion and research agenda section, one should mention the importance that governments and institutional supporting agencies, as well as some other public and private initiatives, may have in the internationalisation processes of SMEs. Several authors have recognised such importance (Table 2.7).

**Table 2.7** ▪ Importance of governments and institutional supporting agencies, and other public and private initiatives.

References	Findings and suggestions
Casillas et al. (2010)	One company has frequently contacted public agencies for export activities to request information on markets abroad.
Fletcher & Prashantham (2011)	Firms acquire tacit knowledge from different external sources, including consultants, overseas government agencies and domestic support agencies.
Loane & Bell (2006)	Support agencies, instead of only providing objective knowledge, should also shift their focus to supporting experiential learning and network development of SMEs. Firms should therefore recognise the importance of government support agencies as an integral part of their knowledge development networks.
Child & Hsieh (2014)	Advice and internationalisation programs of government support agencies should be adapted to individual firm needs, through the improvement of their links to networks and channels for other SMEs, in order to obtain the required assistance and to develop key network relationships.
Crick & Spence (2005)	The role of advisors and policy makers should not be overlooked due to the number of private and public initiatives that have been developed to support SMEs in internationalisation. Some examples are activities organised by trade associations to facilitate contacts between domestic and foreign business executives, as well as subsidised government programmes for SMEs that encourage the establishment of networks, resulting in knowledge sharing and joint activities.
Hessels & Terjesen (2010)	In order to help SMEs to internationalise, governments should develop efforts to: (i) improve access to knowledge and technology; (ii) decrease production costs in the home market; (iii) facilitate favourable investor access in the home market.
Kaur & Sandhu (2013)	Existing assistance programmes are not capable to reach firms with efficiency or are not useful enough for driving early internationalisation. Therefore, public policy makers should work on the implementation of improved and more tailored public support programmes, as well as on the promotion of the use of available support programmes.

## 2.5 | Limitations

This work has some natural limitations, and researchers in the area should be aware of those limitations when interpreting the material presented here. The SLR was based on journal articles of only two bibliographic databases: Web of Science and Scopus. Although covering a wide range of articles and journals in different areas, some other databases (e.g. EBSCO) may also present valuable research articles that could have been missed in this review. In fact, some other relevant articles from the analysed bibliographic databases may have been excluded due to the subjective first analysis, or even due to the choice of search strings. The review is only focused on SMEs but some findings obtained by studies focusing on MNEs may also be relevant in the context of SMEs.

Different internationalisation theories, conceptual frameworks and other specific theories support the analysed works. However, a detailed analysis to know those that better explain internationalisation behaviours and decisions was not performed. In addition, a thorough analysis about the different contexts (geographic, institutional, industry/sector) that may impact information and knowledge management needs of SMEs was not accomplished. The CIMO-logic described in Denyer et al. (2008) can be a useful tool to describe the different contexts-interventions-mechanisms-outcomes of the areas considered in this paper. This might be an interesting topic for future research. However, one should note that this paper has already made a first contribution in this direction, presenting results for interventions (I) and outcomes (O) of the CIMO-logic, and that there is a need for exploring the contexts (C) and mechanisms (M). Therefore, this literature review may not be very comprehensive, but it provides new insights complementing knowledge generated by previous studies, and it may help to stimulate further relevant research.

## 2.6 | Conclusion

Based on empirical findings from previous studies, the objective of this work was to analyse, synthesise and present a comprehensive SLR on the role of information, knowledge and collaboration in decision-making for internationalisation processes of SMEs. The SLR methodology proved to be a useful tool for moving away from descriptive reviews of the literature, with contributions including the synthesis of main findings of the literature, the identification of gaps, and the establishment of a basis for future research.

One can hope that the results of this study will assist both academics and professionals to develop new tools and methodologies, based on state-of-the-art technologies. Additionally, the development of collaborative decision-making models and approaches seems to be an important requirement of SMEs to manage collaboration in international strategies, mainly for partner selection. Governments and institutional supporting agencies are likely to play an interesting role in practically supporting international strategies of SMEs, mainly through experiential learning and network development.

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## **Chapter 3 | Information management for network transformation in industrial business associations: The case of the internationalisation process**

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## **Abstract**

There is no doubt that nowadays internationalisation is increasingly attractive for companies that want to become more competitive. However, many small and medium enterprises (SMEs) still are resource-constrained, lacking adequate information and facing problems to establish and manage relationships to operate in a sustainable way in international markets. Despite receiving some support from governments and from other institutional entities, these difficulties faced by SMEs call for a stronger support, which can be played by industrial business associations (IBAs). This chapter brings the perspective of five different companies that are associated with IBAs. The main objective is to have their opinion about the role of IBAs as information managers and promoters of collaborations, mainly for internationalisation processes. Another objective is to understand the acceptance by these companies regarding the use of collaborative digital platforms, managed by IBAs, for supporting their information and collaboration management activities.

**Keywords** | information management, collaboration, internationalisation, industrial business associations, small and medium enterprises.

### 3.1 | Introduction

Small and medium enterprises (SMEs) are one of the main driving forces in economic development, representing in many economies all over the world an important pillar of growth and employment (London, 2010; Sommer & Haug, 2011). Globalisation of markets and the consequent rise of competitive pressure lead SMEs to look at internationalisation as a main priority to sustain their business (Costa et al., 2016a). However, only a few number of firms have been succeeding in internationalise to foreign markets (Rodriguez et al., 2010). In comparison to large and multinational enterprises (MNEs), SMEs are typically regarded as resource-constrained, mainly lacking market power and adequate information and knowledge to operate in a viable way in international markets (Hessels & Terjesen, 2010).

To compensate the lack of information about foreign markets, SMEs can form collaborations and establish network relationships with different types of entities, such as suppliers (Hultman et al., 2012), customers (Cannone & Ughetto, 2014), competitors (Casillas et al., 2010), foreign firms (Castellacci, 2014), institutional agencies (Santos-Alvarez & García-Merino, 2010), and government bodies (Child & Hsieh, 2014). Collaborations can be established between firms to complement core competencies, providing complementary and attractive products or services to markets and increasing competitive advantages to internationalise (Spence et al., 2008). Networks are valuable sources of information about market conditions and information sharing is then crucial in collaborations to create trust and synergy to sustain relationships. Therefore, successful collaborations require using a collaboration-based mentality instead of a conflict-based one, with information sharing and not information controlling (Spence et al., 2008).

Despite of this, SMEs still face difficulties in managing both collaborations and information generated in a collaborative network context (Costa et al., 2016a). Due to the imperfect access to information, internationalisation can be a risk for SMEs, representing extra costs associated with the collection of foreign market information and seeking and evaluation of partnerships (Hessels & Terjesen, 2010). Internationalisation requires large amounts of information, but many firms have a lack of suitable tools for managing information and knowledge from partners or from previous experiences (Rodriguez et al., 2010). When moving into new international markets the information processing demand increases and become more complex (Hsu et al., 2013), requiring suitable management approaches and information technologies tools to better predict and evaluate problems arising from internationalisation strategies. Additionally, among all difficulties in managing internationalisation information (Costa et al., 2016b), SMEs face significant barriers related to the lack of contacts and lack of adequate institutional support (Djordjevic et al., 2012; London, 2010).

These difficulties faced by SMEs in managing internationalisation processes, with specific emphasis on managing information and on creating collaborations, call for a strong facilitating role that can be played by industrial business associations (IBAs). IBAs can have an important role in fostering more collaborations among their associate companies, by disseminating opportunities and acting as an intermediary for establishing good relationships (Costa et al., 2015). Some previous studies have been studying the role of institutional networks in internationalisation processes of SMEs, e.g. Oparaocha (2015), Makhmadshoev et al. (2015), and Gardó et al. (2015). However, these studies are not specifically focused on IBAs, i.e. results are concentrated in understanding the institutional network support of governments and other supporting agencies in general.

Internationalisation processes require managing large amounts of information (Xie & Amine, 2009). Costa et al. (2016a) state that a digital platform may allow better information management in collaboration, contributing to the effectiveness of these processes. Accordingly, we argue that by using a technological and collaborative platform, IBAs can act in a more active way in processes of internationalisation of their members (both SMEs and MNEs). This by providing advanced brokering, facilitation and coordination services, instead of only mere advices and basic services.

Therefore, the main objective of this chapter is to understand the perspective of five different companies associated with IBAs about two aspects: (i) the role of IBAs as information managers and promoters of

collaborations; (ii) the use of a collaborative digital platforms for supporting information and collaboration management activities, with focus on internationalisation processes. The research questions are:

- RQ<sub>1</sub>: what is the perspective of companies about IBAs as information managers and promoters of collaborations?
- RQ<sub>2</sub>: what companies think of using collaborative digital platforms, managed by IBAs, for supporting their internationalisation processes?

The motivation is then based on three main pillars:

- **Information**: SMEs need to access, organise and use information from their collaborative networks to achieve better internationalisation processes.
- **Tools**: SMEs need to have new tools to convert information into knowledge for making better internationalisation decisions.
- **Support**: SMEs need a more active support from institutional networks, mainly from IBAs.

The structure of this chapter is as follows. First, literature on internationalisation of SMEs with focus on networks and information management processes is presented, as well as some background on IBAs as institutional network support for SMEs. After that, the research methodology applied for this paper is described and the selected five cases are analysed according to the research questions. Finally, a discussion and the main conclusions of the chapter are presented.

## 3.2 | Background

This section provides a brief literature review about the topics under study in this chapter. First, recent developments on the internationalisation process of SMEs are provided. After that, the information management process, as well as the network and collaboration processes in internationalisation are discussed. Finally, this section ends with literature on IBAs, with focus on their institutional network support in the internationalisation process of their associate companies.

### 3.2.1 | Internationalisation processes of SMEs

The world is becoming increasingly globalised and the international markets more and more open and accessible. Domestic saturation and the need to reduce competitive pressures lead companies to expand their businesses across borders, in order to increase sales and gain visibility in foreign markets (Olejnik, 2014). Internationalisation is the process of adapting firms' operations to international environments, increasing awareness in terms of direct and indirect influences of international transactions on their future (Beamish, 1990; Calof & Beamish, 1995). However, internationalisation is a complex and hard process dealing with a large variety of decisions and, most of the times, requiring a great amount of resources (Andersson, 2011; Santos-Alvarez & García-Merino, 2010). Particularly in the case of SMEs, standing out in this competitive environment can be quite difficult, with the lack of information and the lack of contacts representing the main hindrances to internationalise (OECD, 2009).

The definition of SMEs differs across countries. E.g. SMEs are defined as firms with fewer than 250 employees in Europe, with fewer than 500 employees in the USA, and with fewer than 900 employees in New Zealand (Jabar et al., 2016). In the European context, in addition to representing firms that employ fewer than 250 employees, SMEs have an annual turnover not exceeding EUR 50 million and/or a total annual balance sheet not exceeding EUR 43 million (Kushnir et al., 2010). Compared with MNEs, SMEs have limited managerial, financial, network and information resources (Knight & Liesch, 2016; Olejnik, 2014).

Internationalisation processes and activities of MNEs have long been studied by many researchers and strong theory was developed on this. However, SMEs are structurally different and behave differently from MNEs, precluding the possibility of theory transferring (Knight & Liesch, 2016). MNEs have a highly

internalised organisation form (Liesch et al., 2011) while SMEs might invest abroad (not to the extent of MNEs) but opting for more basic forms of internationalisation, such as exporting and other non-equity modes (Lu & Beamish, 2001).

The internationalisation process model of Johanson and Vahlne (1977) is well established in the research area of International Business (IB). This model is incremental, describing that firms start the internationalisation process with a low commitment involvement into close markets, progressing (through a learning process) towards higher commitment levels into more distant markets.

Nevertheless, in the last decades external environments where firms operate have changed and consequently more research have been made on cases that display other patterns of internationalisation and on updates of the model of Johanson and Vahlne (1977).

Knight and Liesch (2016) present a comprehensive summary of the evolution of research on early internationalisation and born global firms. “Born global firms” is a term used in the internationalisation literature that is applied to firms (mostly SMEs) aiming for international markets right from their birth or very shortly thereafter (Andersson, 2011; Cannone & Ughetto, 2014; Kaur & Sandhu, 2013). The authors present a conceptual framework that summarises future research on born global firms. The main conclusion of this study is that the internationalisation process is evolving and born global firms are emerging around the world. This because companies of any size, age, experience and resources can participate in an active way and benefit from international business.

Olmos and Díez-Vial (2015) examine the relationship between the internationalisation pathways and the performance of SMEs. Empirical findings show that the “export intensity-export performance” relationship can be characterised by a U-shaped curve for SMEs that have a gradual internationalisation pathway and by a S-shaped curve for SMEs that have an accelerated internationalisation pathway. Based on the configurational theory, Cerrato et al. (2016) develop an important framework that identifies four archetypes of SME internationalisation: (i) marketer; (ii) investor; (iii) networker; and (iv) weak internationaliser. This framework allows to analyse the firm-level internationalisation, according to six indicators: internationalisation from the demand side, resources located abroad, geographical scope, international orientation, internationalisation of the business network, and financial internationalisation.

Nevertheless, many SMEs still face major challenges and internationalisation barriers. In particular, they often do not know how to start an internationalisation process, what are the decisions and entry modes involved, and which are the main types and sources of information about foreign markets that enable more confident decision-making (Child & Hsieh, 2014; OECD, 2009; Olejnik, 2014). In other cases, the lack of suitable tools, methods and practices for managing information and knowledge, both from previous international experiences and from partnerships with other firms, represents another problem in their internationalisation processes (Nguyen et al., 2006; Rodriguez et al., 2010; Souchon et al., 2015).

### **3.2.2 | Information management in internationalisation of SMEs**

Having value information is crucial for successful internationalisation processes. Decision-makers in SMEs need to search and acquire information for identifying appropriate foreign market opportunities and to reduce internationalisation uncertainties (Xie & Amine, 2009). In addition, SMEs with value information are able to increase creativity in decision-making and to reduce risk, facilitating the international expansion (Child & Hsieh, 2014; Perks & Hughes, 2008; Saarenketo et al., 2008).

However, as found by many authors in the literature, SMEs have imperfect access or have difficulties in managing information regarding internationalisation processes (Hessels & Terjesen, 2010). The reasons for this to happen can be centred in the poor development of suitable information technology tools (Rodriguez et al., 2010), in the lack of organisational capabilities to process information (Aspelund & Butsko, 2010), or even by not allocating the right efforts to gather this information (Santos-Alvarez & García-Merino, 2010).

Recent studies show the importance of information in internationalisation processes. Souchon et al. (2015) examine the key antecedents for generation of export information, concluding that export experience, export complexity, and export specificity are positively related with knowledge of export information sources. They point out that in cases of lack of export experience, companies should contact and recruit entities with experience in internationalisation or with knowledge of specific markets. In addition, these authors state that firms exposed to many export markets may face some complexity and challenges regarding information management processes, mainly in what regards the organisation and dissemination of knowledge internally. The study of Peschken et al. (2016) explores the decisions of SMEs' decision-makers in internationalisation using a cognitive perspective. Based on the structural alignment theory and regulatory focus theory, a conceptual model is developed by these authors. Scenarios are identified and findings show that the structure of the available information to internationalise has a strong influence on decisions regarding cognitive resource requirements.

Decision-makers have characteristics that influence the information management in internationalisation, such as their age, tenure, international experience, information processing capability or organisational memory (Chen, 2011; Cui, Li, & Li, 2013; Hsu et al., 2013). In order to learn and develop new knowledge about markets, SMEs can use different internal and external sources of information, which can come from social and business relations, from previous international experiences or experience of others, or from externally available information (Akerman, 2014; Santos-Alvarez & García-Merino, 2010). The main information subjects that SMEs seek within their sources are (Aspelund & Butsko, 2010; Cannone & Ughetto, 2014; Ibeh & Kasem, 2011; Peng et al., 2011; Xie & Amine, 2009):

- Foreign market conditions;
- Host countries attractiveness;
- Internationalisation strategies;
- Internationalisation obstacles;
- Support programs.

To gather information from different sources, a possibility is to use formal techniques, such as market research, or informal ones, such as relying on gatekeepers (Rodriguez et al., 2010). Nevertheless, it seems that for gathering and sharing information about foreign markets, SMEs give more priority to their already established networks (Costa et al., 2016a). Information shared in networks allows to increase commitment in foreign markets (Hultman et al., 2012) and to reduce information asymmetry (Child & Hsieh, 2014), which is more important in internationalisation due to the individual difficulties of SMEs in searching information (Casillas et al., 2010). Spence et al. (2008) consider that information sharing is crucial for developing trust and synergy to sustain collaboration relationships, requiring a collaboration-based mentality instead of a competition-based one.

### 3.2.3 | Internationalisation networks

Another important development in the literature of internationalisation of SMEs is to consider markets as networks of relationships (Johanson & Vahlne, 2009). There is growing evidence that SMEs need to create relationships and establish collaborations to gain competitive advantage in internationalisation (Costa et al., 2016a). These collaborations can be (Spence et al., 2008):

- Vertical alliances: Alliances with upstream and downstream partners.
- Horizontal alliances: Relationships with competitors.
- Other alliances: Collaboration forms with firms from different sectors.

Successful collaborations are achieved when value for all the parties is created, which can be obtained by choosing the right partners, by managing the relationship, and by accumulating relational capital (Townsend, 2003). Quite different types of intermediaries can be used in internationalisation to form these collaborations, such as distributors, customers, competitors, managers' contacts from previous jobs or experiences, external parties, foreign firms, institutional agencies, government bodies, consultants, personal contacts, and friends (Cannone & Ughetto, 2014; Casillas et al., 2010; Castellacci, 2014; Child &

Hsieh, 2014; Hultman et al., 2012; Ibeh & Kasem, 2011; Kaur & Sandhu, 2013). Some of the main reasons for establishing collaborations in internationalisation processes are to achieve rapid international expansion and growth, to obtain information about foreign markets, to provide access to new knowledge, and to assist in mitigating the costs and risks of cross-border activities (Andersson, 2011; Child & Hsieh, 2014; Ibeh & Kasem, 2011; Musteen et al., 2010).

The study of Oparaocha (2015) illustrates the differences and interconnections between the three main perspectives of network research in IB: (i) social networks (individuals, family, friends, colleagues, and employees), which influence the creation and development of social capital and business know-how; (ii) business networks (suppliers, competitors, strategic partners, and customers) that have an effect on the business deal and on supplementing or acquiring resource advantage and business know-how; and (iii) institutional networks (government, incubators, research institutes, agencies for international development, and business associations) that have influence through supporting functions and the institutional-based business environment. Since the work of Coviello and Munro (1997), business networks are those that are more explored in the literature. A recent study shows that, in order to reduce risks, SMEs imitate the internationalisation modes of their peers based on formal network relations (Oehme & Bort, 2015). Social networks have been also receiving much attention. Pinho and Pinheiro (2015) highlight the importance of using social network analysis as a different methodological approach to understand the numerous complex interactions that occur in internationalisation processes. Xie and Amine (2009) suggest that social networks must be properly recognised as one of the primary sources of information, knowledge, and fast learning. Nonetheless, the institutional network perspective is still in an early stage of research.

The importance of governments and institutional supporting agencies in the internationalisation processes of SMEs have been recognized in the literature (Casillas et al., 2010; Child & Hsieh, 2014; Loane & Bell, 2006). However, more studies on the influence of institutional networks in internationalisation processes are needed (Oparaocha, 2015). Current studies examine how this kind of networks are interacting with the internationalisation activities of SMEs, in the context of international entrepreneurship (Oparaocha, 2015), transition economies (Makhmadshoev et al., 2015), and retail internationalisation (Gardó et al., 2015). The focus of this chapter is on IBAs, addressed as institutional networks for supporting the internationalisation of their associate companies. This is a different contribution to the knowledge of internationalisation as tendency of previous research is to consider institutional networks in general, or to give more emphasis to governments and other agencies.

### **3.2.4 | Industrial business associations as institutional network support**

We consider an IBA, also known as business association (Bennett, 1998) or trade association (Lacerda, 2013), as being both an organisation that represents different companies of a specific industrial sector (sectoral IBA) or an entity that act as an intermediary within a multisector network of companies in a specific area of activity (multi-sectoral IBA). In both cases, membership for companies is voluntary (Bennett, 1998).

IBAs act as intermediaries between individual business action and state action (Bennett, 1998), adopting a multilevel strategy of lobbying across different national and international government levels (Grossman & Woll, 2007). Therefore, the potential benefits of IBAs to governments are an enhanced level of compliance with regulations, as well as lower administrative costs of regulation (Bennett, 1998). In addition to establish standards and self-discipline and to promote an effective communication between industrial firms and local governments, one of the main focus of IBAs is to strengthen collaboration among members (Bell, 2006; Wang & Gooderham, 2014). An IBA also promotes activities such as advertising, publishing, and formation (Lacerda, 2013). According to Bell (2006), a capable or well-developed IBA is able to encourage associate companies to collaborate and achieve wider, medium-term collective goals, instead of working only in their narrow short-term interests. Irwin (2014) also considers that to be effective, IBAs must have capacities to represent the interests of their members, must have proper governance arrangements, and must deliver appropriate services and information to their members. In the specific case of SMEs, it appears that due to



their resource constraints, SMEs are more dependent than large firms on the services, information and contacts generated through IBAs (Gashi et al., 2013).

The recent study of Inomata et al. (2016) explores the channels and practices for knowledge sharing in Science and Technology Parks, as well as in IBAs. Knowledge sharing is the process when individuals mutually exchange tacit and explicit knowledge, creating new knowledge in collaboration (van den Hooff & De Ridder, 2004). In this study, based on empirical data, the authors conclude that companies in an IBA share technological knowledge (such a scientific knowledge, technological solutions, and patents), as well as market knowledge (such as investors and investments, business contacts, and business opportunities) with the other members. Different channels are used, such as the personal contact, email, phone, cloud, videoconference, and websites. In fact, results of this study show that an effective process of knowledge sharing in IBAs is mainly facilitated by the existence of collaborative physical workspaces and informal and face-to-face interactions. Moreover, regarding the impacts of knowledge sharing in the organisational results, those are more related with continuous improvement, technology development and increased knowledge base of the associate companies.

Although it is common knowledge that IBAs promote activities and initiatives that are important for the internationalisation of their members (such as fairs, missions and market research), literature on the role of IBAs in internationalisation processes is still very scarce.

### 3.3 | Research methodology

The research methodology applied for this study is an exploratory field research using interviews with five Portuguese companies associated with some IBAs. Therefore, the main goal was to understand the perspective of these companies on the possibility of considering IBAs as information managers and promoters of collaborations. In addition, it was intended to perceive the suitability of using a collaborative digital platform for supporting activities such as information and collaboration management in their internationalisation processes. Table 3.1 characterises the different interviewed companies.

**Table 3.1** ▪ Companies interviewed.

ID	Type of organisation	Industrial sector	Position of the interviewees	Duration of the interview (min)
C1	Large enterprise	Textile industry	Chief Commercial Officer (CCO)	42
C2	Large enterprise	Textile industry	Chief Executive Officer (CEO), CCO, Chief Technology Officer (CTO), Chief Marketing Officer (CMO), Advisor	76
C3	Small enterprise	Information technologies	CEO	51
C4	Small enterprise	Information technologies	Business Manager	33
C5	Start-up	Medical devices	Chief Operating Officer (COO)	71

Empirical evidence was collected using semi-structured interviews with different kinds of interviewees, such as CEOs, CCOs, and advisors. The open-ended style of the interviews allowed the respondents to describe their experiences and ideas freely, without being limited to standardised categories (Hutchinson et al., 2007). These companies were selected to have a sample representing different types of organisations, i.e. the sample is composed by one start-up and by two SMEs, and two large enterprises. The start-up C5 is not currently a member of an IBA but it was interesting to have a perspective from this different type of organisation. All the interviews were carried out personally and were recorded for accuracy purposes. After that, these interviews were transcribed and coded using the qualitative data analysis software MAXQDA.



## 3.4 | Findings

This section describes the main findings of the performed interviews.

### 3.4.1 | Case 1: Large enterprise 1, textile industry

C1 is a large company with 80 years of experience in the textile and clothing industry. It is a successful company in Portugal that has been focused in the last years in creating textile innovative solutions for the automotive industry. C1 has also many experience in internationalisation processes with subsidiaries all over the world.

Regarding its membership with the IBA from the respective industrial sector, the interviewee considers that this IBA does not have the necessary human structure to deal with their needs to develop new projects. In terms of promoters of collaborations among members, the technological centre of this sector, which works in close collaboration with the IBA, seems to be more adequate for this task.

C1 is mainly interested with information about legislation and customs rules. Due to their growing interest in the automotive sector, another valuable information content is the one regarding patents. Therefore, the IBA can play an important role here, acting as an information manager to share this important information with C1.

The interviewee thinks that a digital platform for supporting information and collaboration management aspects can be relevant for their activities, since people are very closed in what concerns the process of information sharing. The perspective is that a technological platform can facilitate the task of finding partners and opportunities, creating good synergies among all the stakeholders. However, there must be the ideal of all parts sharing something meaningful to each other.

Despite having experience in internationalisation processes, C1 considers that these are most of the times difficult processes. The interviewee knows that many companies have been had bad experiences in internationalisation. In the specific case of C1, they had a negative situation in Brazil, where companies were very closed, without sharing information, which made it difficult to perform an international project with success.

### 3.4.2 | Case 2: Large enterprise 2, textile industry

C2 is a large textile company with more than 40 years of experience. The technological level and the know-how acquired throughout four decades of activity have positioned C2 in the forefront of the clothing industry in Europe. Today the company exports almost all its production all over the world. Therefore, C2 has many experience in internationalisation.

In this case, five members of the company were interviewed at the same time, allowing to have a broader scope in the thematic being discussed, representing the longest interview performed.

For C2, the internationalisation is an adventure, a challenge often inglorious. One of the interviewees gives the example of China, where they made some four or five attempts to enter this market but have never been successful. So, they point out the need to understand the tangibility and how a person values the brand, but also to understand the distribution philosophy of each country. This last aspect because nowadays the logistics and distribution costs are very high. Therefore, it is in this lack of knowledge about markets that collaborations can have an interest for the company.

The interviewees consider that the IBA needs to expand its scope by helping companies to execute specific activities because C2 still has some reluctance in terms of associative schemes. In their opinion, one situation is when a company wants to move to a particular market and knows that it cannot do it alone and needs some support. An example can be the United States of America, which is a hard and large project for one company alone. So, the need here is for the IBA to create over there a physical space or showroom to

present and disseminate the activities of a small number of specific companies. This could allow to create more collaborations among members, mainly in terms of resource and risk sharing.

According to the interviewees, another possible way to improve the importance and the visibility of the IBA could be to promote the sector and not specific brands. The IBA can study a specific market, analyse and collect data, present this data to the Portuguese companies, and invite the press and companies of the market under study to come to Portugal and meet the industry, not specific brands. In Portugal, one of the most successful cases is in the footwear industry, where the IBA acts like this. One of the interviewees thinks that this approach can be more interesting for the sector, by giving a bad example that happened for example in a fair (one of the traditional support provided by IBAs):

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*“...there were situations in the past where I was representing the company in events organized by different IBAs and I remember of a fair that I stayed for six days and did not have a single customer... because it was out of context, we spent a lot of money...”*

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So, the perspective from the interviewees is to have quality, not quantity, i.e. the IBA needs to choose and take the best companies of the sector and present Portugal. After that, naturally, other companies will go after and will gain more visibility.

In the evolution of this, the interviewees see a digital platform as being interesting to make the positioning and alignment of the companies that have the same philosophy in terms of both resources and strategies. They think that the IBA can moderate meetings between members with the same philosophy and with the same resources that can be complemented to reach specific markets, promoting here more fruitful collaborations.

These collaborations with other members of the IBA are seen as a good possibility to create joint strategies and structures for making investments in markets to benefit the specific brands. This by complementing resources, sharing risks and also sharing investments. One of the interviewees reinforces the importance of having in these situations companies with the same strategy:

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*“...in this sense, companies must interact and collaborate according to their dimension... this only results if the companies are aligned at all aspects... if they conjugate companies that sell completely different products... it is a completely different world. Then, despite of wanting to share, there will be no benefit between the parties.”*

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So, the perspective of C2 is that for creating collaborations, companies should have common interests, since companies with a different economic power will probably have different requirements and objectives, but also different approaches, values and resources.

In terms of information sharing in IBAs, C2 has interest if it is information about experiences in specific markets. The interviewees consider that if a member is in a specific country, he knows the rules and the particularities of this country. Therefore, through a knowledge sharing process, C2 can learn with him, understand the problems and barriers to face, and consequently avoid making the same errors. So, they approve that the IBA can act as an information manager, by organising and filtering information according to the needs of the members. However, the interviewees think that it will be difficult to transpose all this management of information into a digital platform. They agree with the IBA sharing institutional information and opportunities but they have doubts about the willingness from companies for sharing their information. This mainly due to their lack of time for structuring the information in a pleasant and easy way to read, as well as due to the fact that some information may be confidential. Moreover, they believe that the interactive part, the exchange of experiences, could be easier if performed in a more informal way.

A digital platform can be interesting for C2 if it is not a generalised platform, i.e. if it has the ability to create groups and create market segments, where information is directed to and created within these segments. Other fundamental aspects are for the digital platform to be the way where companies create synergies to approach markets or where all the funding opportunities for the sector are aggregated.

### 3.4.3 | Case 3: Small enterprise 1, information technologies

C3 is a small software developer and software consulting company with 15 years of experience with the objective of providing IT solutions to organisations, based on the latest technologies. Right from the start, the company has been present in international markets. Nowadays C3 has offices in 10 different countries, exporting to a wide range of foreign markets.

The interviewee considers that the creation of collaborations with other members of the IBA is important for the development of the company. It is indicated that in terms of software development companies, there is a set of problems that can be solved in collaboration, such as the management of updates and versions. So, the opinion is that the IBA needs to foster these relationships by disseminating and promoting the skills of its members, in order to increase their visibility for other companies in foreign markets. Therefore, the interviewee points out two important aspects to be improved in the context of IBAs: (i) first, the IBA can identify the innovation vectors and the competences of each member to allow crossing opportunities with the interests of each company; (ii) after that, using some collaborative digital tools, the IBA can perform a matchmaking process to help in the identification of different actors that can collaborate in a specific opportunity. Therefore, the IBA can play here a crucial role for establishing good conditions for the collaboration among members, by:

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*“...finding the opportunities, present these opportunities to those who may have an interest, and have a collaborative tool that allows the matchmaking.”*

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In terms of information sharing, the interviewee clearly thinks that C3 has not yet felt the impact of the IBA as an adequate information manager. When approached with the question for the creation of valued information by the members themselves and transform this information sharing into a knowledge sharing process, the interviewee thinks that this is a viable situation. However, the IBA knows the members and can be responsible for most of the information, by giving itself more wealth to its content. The interviewee considers that this can work for an example in a digital platform but only if the information is really useful:

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*“And how, from my point of view, is it useful? If I receive once a week in my mailbox... a project, its title, its budget... does this and in 30 seconds I'm able to know that is this call, is for this, when, how, where, what time, values... a smart picture... and then have an option to say "I'm interested" or "like".”*

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But this kind of information needs to be related with the activity of each member, i.e. C3 does not want to receive emails or information about calls or other topics from other areas. Therefore, a digital platform managed by the IBA for supporting information and collaboration management can be very useful. For example, a digital platform may push the information that is on the websites of the European Union, i.e. to get this information and re-organize it for the interests of the members. So, having a way of performing this matchmaking process between European projects with the research interests of companies, as well as alerting companies to these opportunities in an IT platform may represent relevant factors for the users' acceptance.

Another opinion from the interviewee is that the IBA of the sector has a long way to go because in this technological area there are issues that are useful for all members and that need to have more focus. The IBA may have the role of knowledge aggregator both in terms of state-of-the-art and in terms of future prospects, such as pointing possible paths and markets of interest.

For the topic of internationalisation, C3 has many experience in foreign markets and the first advice is that the internationalisation is a multidisciplinary chain where some specific skills are required. The interviewee recommends that a company needs to have a product or service prepared to be internationalised and to have people with proficiency, at least, in English:

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*“...we must be prepared either from the product point of view and from the people (skills) point of view... be prepared for the process of internationalisation.”*

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These have been the two main pillars for C3 to achieve successful internationalisation processes. But in practice, the interviewee indicates the following key success factors:

- critical mass in the domestic market:

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*“In the first place, achieve critical mass in Portugal that was our first concern, i.e. have customers here in Portugal that somehow allow us to have really adjusted tools to real market needs.”;*

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- financial capital:

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*“Internationalisation is indeed a very expensive thing, for example, last year we participated in twelve international fairs... each fair costs 10, 15, 20 thousand Euros, from the stand, logistics, hotels, ... therefore we must have financial resources to cope with these things.”;*

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- creativity:

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*“Another key aspect is not worth going to sell things that are abundant in another country and therefore we have to be creative... have innovative solutions, or that somehow differs from the rest, is crucial”.*

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For these processes, C3 collaborates with different institutional entities such as governments and other support agencies to obtain support in terms of financing. In fact, the internationalisation strategy of the company, besides this financial support obtained mainly through projects, has also been using human resources of these support agencies. These agencies have offices around the world and in many cases C3 used their offices and contacted some of their human resources to assist the company in getting new contacts. The interviewee has the opinion that this can be an interesting approach to be adopted by IBAs. Despite not having interest and capacity to have human resources in many countries, IBAs can have shared resources (offices, people, etc.) in key markets. The internationalisation processes of C3 have been performed in most of the cases without the support of the IBA or of any other member (company) of the IBA. Nevertheless, the interviewee thinks that companies can share information and knowledge about the markets where they are present, and consequently, share their experiences and the problems faced. This will allow to avoid making the same errors in a specific foreign market. This can be very useful for C3 but they consider that for reaching this situation, the IBAs must have a closer monitoring process to foster these partnerships and exchange of experiences:

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*“The association may have here technological skills to push companies forward.”*

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#### 3.4.4 | Case 4: Small enterprise 2, information technologies

C4 is a small enterprise with 15 years of experience in the area of software consulting. This company aims to design, implement and optimise information systems for management support. Currently, C4 wants to attract international clients with high technological know-how, so the process of internationalisation has been one of the main priorities to increase its turnover.

In this case, the IBA is very important for them, mainly to promote companies' complementarity and collaborations. Therefore, C4 has been maintaining close relationships with the IBA of the sector. The interviewee considers that small IT companies need to join efforts to gain competitive advantages and reinforces that C4 needs to promote more collaborations. However, the opinion is that many companies fear to share their know-how, which represents one of the consequences for the low levels of partnerships and collaborations that we still assist nowadays. In addition, the cultural aspect and the lack of promotion of entrepreneurship in Portugal can be other problems.

The interviewee points out to the need for improving the mission of the IBAs, transforming them into more collaborative networks. The IBA of the sector must understand who is really interested in participating in internationalisation initiatives (for example) and then promote these successful initiatives for its members. If the IBA is able to present a real added value for companies, its members can really recognise the importance of its services and even pay more to have access to the services of the IBA. Therefore, the interviewee considers that:

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*“...the IBA needs to foster this sense of collaboration and inject adrenaline into its members... this is also essential for the own promotion of the association.”*

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Regarding the information sharing process, the interviewee thinks that, currently, the IBA fails to be a good information manager. Having information content with quality is fundamental for the activities of C4. For example, the IBA has no relevant information about its own members, such as the results obtained with specific initiatives. One suggestion from the interviewee is the IBA to have reports about internationalisation experiences and share this information with its network of associate companies.

Finally, analysing the possibility of using a digital platform, the interviewee thinks that C4 must be able to feel a real need to work with this kind of solutions. Moreover, it only makes sense if Universities and research institutes can participate in the development of such digital platform. This approach of bringing together the business world with the academic world is very important in the interviewee's opinion. Another relevant aspect for this topic is the governance part of the digital platform. The interviewee refers that a content manager is critical and that the IBA must have this role of information manager. However, companies must have interest and also contribute with content.

### **3.4.5 | Case 5: Start-up, medical devices**

C5 is a start-up that aims to develop biomedical engineering solutions to aid medical diagnosis. The internationalisation process of this company has been a challenge but with successful initiatives in the last years.

C5 is not currently a member of any IBA. Nevertheless, this start-up has interest in being associated with one IBA or even with one science and technology park. The board of C5 is now trying to understand what makes sense to decide at this stage for meeting the company's interests. The perspective from the interviewee is that C5 is not associated with the IBA of the sector because of its life stage. This start-up made some errors and wrong choices in the past, which made it difficult to reach a good baseline for obtaining successful associative schemes. However, C5 was able to learn with its own errors and now can think in some collaborative and associative arrangements. The interviewee thinks that another good possibility is for C5 to be part of a science and technology park. C5 is a start-up that started in a University, through a spin-off, but it is now integrated in a business centre. But the problem is that the other organisations of this business centre are mostly medium and large enterprises, which have completely different thinking and functioning strategies. The opinion of the interviewee is that being in a Science and Technology Park can be better for them as a matter that *"it is the same air that we breathe"*. The interaction with other start-ups can be better in terms of ideas and knowledge sharing. However, this is a difficult decision for the manager of C5 as it maybe represents a step back for the company's path and objectives, as it requires some changes in the management and in the structure of the company.

Regarding collaborations with other companies the interviewee considers that this is very important, even in cases of bigger companies helping smaller ones in specific aspects and vice-versa. An example is when there are two companies, one MNE and one SME, which work in the same area but targeting different customers. The MNE can help the SME in terms of specific consulting services, such as quality norms, through a process of knowledge sharing. The problem is still the lack of willingness to collaborate and to help others. The interviewee thinks that large companies already understand the importance of these collaborations. For the rest, people want this work to be done and it is nowadays gaining more acceptance:

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*“What is missing is to point out and to know the path to make this type of infrastructures, be it with the use of technology or with other forms, and understand how you can insert this in people’s social and professional life”.*

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Therefore, the possibility of using digital platforms can help C5 because, according to the interviewee, in many cases, a textile enterprise does not know where to find technology and the technological enterprise probably has difficulties in making the pinpoint for where interested companies are. So, a digital platform may be useful for this matchmaking process. However, the problem stills remain in what concerns the collaboration. The interviewee insists that, although having some successful cases, many companies still face problems in moments when information or knowledge needs to be shared or even to create simple collaborations with others. The reason is that each company only cares about its own business and there is no enthusiasm in *“wasting time to help others”*. The interviewee recognizes that maybe this is a matter of countries’ culture because in some countries (at least in some cases) things happen in a different way, where associations work well and companies give priority to collaboration processes.

Another opinion is that SMEs have not the same management model of the MNEs and some business managers and economists do not understand this, i.e. general theory and concepts learned in their courses are difficult to transpose to the reality faced by SMEs. So, the interviewee thinks that:

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*“...we need someone who encourages and motivates, someone who creates new dynamics... and electronics and technologies can create these dynamics”.*

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From the perspective of the interviewee, a digital platform for information management can be very useful for sectors such as the food industry, where companies need every day to follow and be aware of updates in legislation. Nevertheless, from other side, a digital platform like this always needs human resources, someone exclusively dedicated to content, and at a national level, many failures happen at the level of content management.

Lastly, in terms of internationalisation, the first approach of C5 was to start with the national market but soon realized that, with the intention to increase sales, it would not be possible to only be limited at a domestic level. Therefore, after deciding to start to internationalise, the next decision was to find a way to commercialise the product, i.e. to decide if it would be better to use a distributor, to contact another company, or to choose a door-to-door approach. The first approach was to have an external commercial team to perform door-to-door sales, but it did not work. After that, C5 tried distributors but the doubt here was:

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*“Who is going to sell your product? It is the one that sells similar products or the one that will get your product as a differentiator and will leverage other products that already have sales?”*

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So, in this internationalisation process there are always issues and doubts, and today is still a challenge for the company.

According to the interviewee, there are many difficulties for people dedicated to the international markets because it is necessary to understand how it works, how the collected information is filtered, and where this information is primarily collected. In the case of C5, information and contacts are collected in three different ways: (i) by being present in conferences and fairs; (ii) by direct contact, using their website, where customers and distributors can contact them; (iii) by their own search, for example extensive search in the Internet to find partners. However, there is still many problems and this internationalisation process has been lonely for C5. The interviewee considers that:

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*“if there is an IT tool (like a digital platform), where you can understand, maybe find what is your best market, which has a global list of distributors... but at least direct to a right path... today we would be elsewhere in terms of the company’s development”.*

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### 3.5 | Discussion

Based on empirical evidence from five companies, one of the objectives of this chapter was to have first impressions on the role of IBAs as information managers and promoters of collaborations, mainly for internationalisation processes. Accordingly, it was defined the following research question: *What is the perspective of companies about IBAs as information managers and promoters of collaborations?*

The other objective was to understand the acceptance by these companies regarding the use of collaborative digital platforms managed by IBAs. For this objective, the research question defined was: *What companies think of using collaborative digital platforms, managed by IBAs, for supporting their internationalisation processes?*

Therefore, regarding the first research question, there are mix feelings. C1 sees the technological centre as having good resources and being more adequate than the IBA to promote collaborations among companies. In fact, the two interviewed large enterprises (C1 and C2) do not take many advantages from the services provided by the IBA and have some reluctance in terms of associative schemes. According to C2, a new strategy for the IBA could be to promote the sector instead of promoting specific brands. This by studying specific markets of interest for the sector and by disseminating and inviting foreign companies and the press to come to know this specific industrial sector. Nevertheless, creating collaborations with other members, mediated by the IBA, is considered by C2 as being important to create joint strategies and to share resources and risks. But to promote more fruitful collaborations, C2 thinks that the IBA should join members with common interests and with similar economic capacities and resources, in order to reach specific foreign markets of interest.

On the other hand, both C1 and C2 agree that the IBA can play an important role as information manager. C1 considers that the IBA can share mainly legal information (legislation and customs rules, patents), which is one of the main interests of the company. In the case of C2, they think that the IBA can organise and filter some information according to the needs of the members, such as information about the countries in which each member is present or have sales. Actually, the sharing of experiences among members about particular markets is clearly one of the key interests from the perspective of all the interviewed companies. This can allow to understand specific features and rules of markets and to avoid making the same mistakes.

For C3, there is no doubt that the IBA has capabilities to establish good collaboration conditions among the members and these collaborations are of great importance for the development of the company. Again, the IBA needs here to foster these collaborations by disseminating the skills of each member to increase their visibility within the sector but also for foreign markets. Regarding the perspective about the IBA as an information manager, C3 considers that the IBA must improve this part and be responsible for providing more wealthy information, for example information related with the activity of each member and not general information.

In the case of C4, the IBA has been clearly a good promoter of collaborations. However, they think that small companies like C4 need to join more efforts to gain competitive advantages. But the problem is that many companies still have some reluctance in sharing information and this is considered by C4 as being a cultural aspect. So, in this case they consider that the IBA must have a different mission by presenting a more real added value for companies, such as understanding the interests of the members in participating in specific initiatives and, after that, promoting collaborations for these initiatives. Like the previous cases, C4 considers that currently the IBA does not meet the requirements for being a good information manager. Again, they feel a lack of information about internationalisation experiences (reports) of other members, but even a lack of some information about results obtained with specific initiatives.

Regarding the second research question, all the interviewed companies recognise the potential of using a collaborative digital platform for supporting not only their internationalisation processes but also some other activities. For C1, a technological tool like this can improve information sharing and facilitate the search for partners and opportunities. C2 also points out that, with the support of a digital platform, the IBA can share funding and research opportunities, as well as some institutional information. In addition,

they think that it can also be interesting for the IBA to align companies with same strategies, resources and philosophies, by creating synergies to approach specific markets. This specific matchmaking process is also pointed out by C3 as one of the possible features of such digital platform, but also the feature of having another matchmaking between European projects with the research interests of companies. In the case of C4, the possibility of using a collaborative digital platform only makes sense if entities such as Universities or research institutes have some participation in its development. In their opinion, joining the business world with the academic world is crucial for achieving the success.

Although recognising the value of such solution, for the interviewed companies there are some important aspects to have in consideration. C1 considers that all parts must share something meaningful in this digital platform. For C2, transposing all the information management into a digital platform can be very difficult because they think that most of the companies have no desire in sharing their information for confidential reasons but also due to the lack of time for structuring it in a simple and pleasant way to read. Another reason is that people may prefer to exchange experiences in more informal ways, with personal contact. Therefore, for C2, a collaborative digital platform may result if it has not generalised information, but features to create and direct information within groups and market segments. In the case of C3, an important issue is for the digital platform to allow pushing information from different websites of interest and re-organize it for the associates' interests. Finally, C4 thinks that for using a digital platform, they must be able to feel there a real need. Moreover, in their opinion, the governance part of such solution can be difficult because both the IBA and the members have resources problems in terms of time, people and finances.

To end this discussion, the case of C5 was interesting to include in this study to understand the perspective of a start-up not currently involved with any IBA. Interestingly, C5 is now considering joining an IBA or a Science and Technology Park. In their opinion, they need first to measure all the pros and cons, according to the life stage of the company, to be able to decide. But C5 really believes that collaborations with other companies is fundamental for start-ups, not only with other start-ups and SMEs but also with large enterprises. Although remaining the problem in some companies for not wanting to share information, this aspect of collaboration is gaining more importance and acceptance, and C5 thinks that everybody wants this work to be done. Consequently, a digital platform is considered as a possible good solution, mainly for the matchmaking process of companies finding each other out, as well as for information management activities (e.g. for some sectors, daily follow ups in legislation). However, C5 considers that, to avoid failures, a solution like this needs great human power mostly dedicated to content management.

### **3.6 | Conclusion**

This chapter contributes to the scarce literature of IBAs. Based on empirical evidence from companies associated with IBAs, the contribution was to understand if IBAs can be considered as information managers and promoters of collaborations. Another contribution was to have the perspective from these companies about the possibility of using collaborative digital platforms, managed by IBAs.

In addition, this chapter also contributes to the scientific knowledge of International Business (IB) by focusing on IBAs as the institutional network support for the internationalisation of SMEs. This was achieved by discussing the perspective of associate companies and by understanding how this specific institutional context is influencing their internationalisation processes.

This chapter shows that IBAs can improve their role in the promotion of more collaborations between their associate companies. This supported by better information management practices. In the specific context of internationalisation, SMEs can maximize the success of their internationalisation processes and face competitive pressures. With a more active support of IBAs, SMEs can then access and interpret market information, decide on the best internationalisation strategy and join competencies with other companies. A collaborative digital platform managed by IBAs may foster information sharing and also sharing of experiences between members. This can be general information about foreign market conditions, but also



some more specific subjects, such as attractiveness of specific locations and host countries, internationalisation strategies or support programs for helping firms to internationalise.

However, there is a lot of work to do in these areas. It seems that many companies still fear to share their information and knowledge with others. The cultural aspect has been indicated as one of the main problems. Therefore, future work must be done in studying different contexts and different countries to understand these cultural problems or other possible problems that are precluding the creation of more collaborations among companies. Regarding the use of digital platforms or other types of technologies, companies recognise the impact that these kinds of solutions can bring to their activities. Nevertheless, there are important aspects to consider for developing these solutions, such as the informational needs, governance model, information organisation, information life-cycle, solution's usability and decision-makers' informational behaviour. Finally, future work can also be done in trying to discover new ways for promoting information sharing and collaborations, not only in internationalisation but in other contexts such as product development, innovation or research project development. Moreover, networks from different institutional contexts can be explored such as, clusters, incubators, science and technology parks or innovation networks.

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## **Chapter 4 | Institutional networks for supporting the internationalisation of SMEs: The case of industrial business associations**

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## Abstract

**Purpose:** This paper aims to study and explore the activities and the use of institutional network resources by industrial business associations (IBAs) to support and facilitate internationalisation processes of small- and medium-sized enterprises (SMEs). Other goals are to understand the internationalisation follow-up process and the future vision of IBAs to improve this internationalisation support.

**Design/methodology/approach:** Based on empirical evidence and following an abductive approach, this paper presents a qualitative exploratory field research, providing insights from interviews performed with 20 IBAs based in Portugal.

**Findings:** The findings suggest that the current institutional network support to internationalisation is mainly provided through promotional activities; counselling, training and technical and legal support; information sharing; and cooperation with other institutional entities. Each support category is explored and explained and a new conceptual model is developed to represent these findings. Regarding the internationalisation follow-up, IBAs provide a continuous support for the international operations by using some instruments and mechanisms to assist SMEs after an internationalisation initiative. Finally, collaboration and the use of new information technology are the main aspects to improve IBAs' support in a near future.

**Research limitations/implications:** The qualitative methodological approach adopted in this work can imply a larger difficulty to obtain a generalisation of the findings. Another limitation is that the participating IBAs are based in only one country.

**Practical implications:** Findings can help SMEs to understand the functioning and the benefits of using the institutional network resources of IBAs in overcoming their lack of resources to operate in international markets. IBAs can also understand their current position in terms of internationalisation support and think about new ways for improving this support.

**Originality/value:** This paper contributes to a better understanding of the influence of institutional networks in SME internationalisation by exploring the specific role of one of the institutional actors rather than focusing on the institutional network as a whole. Therefore, this study details the current activities and uncovers other types of support provided by IBAs that are not based on export promotion programmes. New knowledge is also obtained about the specific information content, information sources and means and channels of information sharing used by IBAs for supporting SME internationalisation.

**Keywords |** small and medium enterprises, international business, business associations, industrial business associations, institutional networks, internationalisation networks.

## 4.1 | Introduction

The ability to internationalise has become a competitive requirement for the survival of many small- and medium-sized enterprises (SMEs), particularly in countries with small domestic markets (Javalgi et al., 2011; OECD, 2009). Given their limited resources and difficulties in reaching markets, SMEs tend to rely more extensively on external networks to operate in international markets than large enterprises (Hessels & Terjesen, 2010). Although current research still emphasises the use of networks by SMEs as a means to support internationalisation (Costa et al., 2016), studies have been predominantly focused on business and social networks, with little attention given to the role of institutional networks (Oparaocha, 2015). Gao et al. (2010) emphasise this lack of attention to institutional networks in international business (IB). Different institutional organisations and actors support SMEs in their international activities (Child & Hsieh, 2014; Gardó et al., 2015) and current research has been performed in contexts such as international entrepreneurship (Oparaocha, 2015), transition economies (Makhmadshoev et al., 2015) and retail internationalisation (Gardó et al., 2015). Findings show that institutional networks have a positive impact on the international strategies of SMEs, mainly by reducing risks and facilitate decisions for expanding into new foreign markets. Still, further developments are needed to increase and deepen the understanding on this phenomenon. In addition, these studies tend to focus on institutional networks in general, without exploring the role of any specific institutional actor. This trend hinders our understanding on the specific activities and ways of support used by each type of institutional actor.

To cover these gaps, this paper aims to elaborate on the institutional network perspective by exploring the role of industrial business associations (IBAs) in SME internationalisation. Thus, the focus is on one of the institutional actors rather than the institutional network as a whole. This is the main differencing factor of this work, when compared to previous research. This is based on the assumption that it is fundamental to understand and explore the specific role of each actor that form the institutional network supporting the international activities of SMEs. Such research strategy can allow us to obtain a more comprehensive view and to uncover some specific types of support and activities provided by each institutional actor, as well as to define some points for improvement.

In many European Union (EU) countries, IBAs have been gaining greater importance for their associate companies, mainly for SMEs, by supporting their internationalisation processes. However, the awareness of public support programmes and the use of institutional networks among SMEs is still low (European Commission, 2010). In addition, both IB and business associations' literature do not either pay much attention to the role of IBAs in internationalisation. This has created false judgments and the wrong assumption that we already know all about the international support provided by business associations, thus explaining this lack of attention. There is no doubt that previous research on public support and export promotion programmes (Freixanet, 2012) can be related with this support from IBAs, as these entities represent export promotion organisations. But there is no clear separation between what business association support is and how it differs from government support. Wilkinson and Brouthers (2006) also conclude that although identifying and analysing some export promotion activities, future studies need to consider the influence of trade associations and world trade centres for trade promotion. One of the suggestions for future research from Freixanet (2012) is also to discover the differences in terms of impact and assistance requirements of the different export promotion organisations.

Therefore, although identified in previous literature as an institutional actor (Oparaocha, 2015), as an export promotion organisation (Wilkinson and Brouthers, 2006), or as an information broker for SMEs (Leonidou and Theodosiou, 2004), there is not enough literature to create a good theoretical basis about IBAs from an IB perspective. This creates an opportunity for extending our understanding on how these organisations are promoting SME internationalisation and how they are creating unique value for their members. This study is then guided by the following research question:

- RQ: how do IBAs obtain and use their institutional network resources to support and facilitate internationalisation processes of SMEs?

Accordingly, based on an institutional network perspective, this paper aims to explore the identified gaps through a qualitative exploratory field research using interviews with 20 IBAs in Portugal. The objective is to first clearly describe and explore what activities those IBAs do and how they obtain and use their institutional network resources to support and facilitate the internationalisation of their members. Institutional network resources are considered in this paper as any kind of resources that institutional actors (in this case IBAs) make available for third parties (in this case SMEs) for supporting specific activities or processes (in this case internationalisation processes), being both internal resources or external resources obtained from institutional network relationships. Another objective is to understand if this support is continuous or if it only remains at some specific stages of internationalisation. Finally, this paper has the purpose of presenting the future vision of the interviewed IBAs, in what regards their future role in supporting SME internationalisation. This future vision includes aspects that can change in a near future, as well as the IBAs' intentions and expected new strategies for best representing future interests of associate SMEs in internationalisation processes.

## 4.2 | Theoretical background

### 4.2.1 | Theoretical perspectives of small- and medium-sized enterprise internationalisation

The concept of firm internationalisation can be viewed as the process of increasing involvement in international activities by developing and adapting the firm's inward, outward and cooperative operations to international environments (Lehtinen & Penttinen, 1999). An internationalisation process can be divided into three phases (Melén, 2009): the pre-firm internationalisation phase, the initial internationalisation phase and the continued internationalisation phase. The pre-firm internationalisation phase includes activities that are performed by key individuals prior to the establishment of a firm and that influence the development of experiential knowledge and personal networks. This phase ends with the establishment of the firm. After that, the initial internationalisation phase begins and consists of the firm's first activities and operations in foreign markets. The third phase of continued internationalisation captures all the activities that occur after a firm's first foreign operations.

The theory of the internationalisation process of large and multinational enterprises (MNEs) has long been developed and discussed in the literature with the behavioural and incremental perspectives (Johanson & Vahlne, 1977; Luostarinen, 1979). However, as indicated by Knight and Liesch (2016), SMEs are structurally different and behave differently from MNEs, precluding the possibility of theory transferring. MNEs have a highly internalised organisation form (Liesch et al., 2011), whereas SMEs might invest abroad (not to the extent of MNEs) but opting for more basic forms of internationalisation, such as exporting and other non-equity modes (Lu & Beamish, 2001). Another distinctive factor of SMEs, when compared with MNEs, is their limited managerial capability, market power and financial resources, which challenges not only their expansion abroad but also their internationalisation behaviour (OECD, 2009; Olejnik, 2014; Schweizer, 2012).

This distinctiveness of SMEs' internationalisation processes has challenged previously dominant incremental perspectives, attracting the attention of many researchers and resulting in a variety of new research streams. Therefore, although several perspectives, models and theories exist in the literature (Wach, 2014), three main theoretical perspectives have influenced research on SME internationalisation: the incremental perspective, the network perspective and the international entrepreneurship perspective.

In the incremental perspective, Johanson and Vahlne (1977) developed the well-known Uppsala model (U-model), stating that firms gradually internationalise through a series of evolutionary stages, starting with an initial pattern of low commitment involvement into close markets, progressing to higher commitment into more distant markets, as the firm learns and acquires knowledge with its operations. Coviello and McAuley (1999) consider that this incremental perspective, also known as stage approach or behavioural



internationalisation process theory, has influenced research on SME internationalisation, but many updates have been proposed to illustrate other patterns of firms' internationalisation. Therefore, one of the most important developments is the network perspective, when it became evident that many firms used different networks to facilitate their international activities (Johanson & Vahlne, 1990). Coviello and McAuley (1999) emphasise the complementary nature between the incremental perspective and network perspective to explain the internationalisation process of SMEs. Thus, following previous findings on the role of networks in internationalisation, a more recent version of the U-model is to consider markets as networks of relationships (Johanson & Vahlne, 2009). Finally, the international entrepreneurship perspective started to appear, triggered by changes in external environments where firms operate, originating new patterns of internationalisation. Knight and Liesch (2016) confirm that the changes occurred in global markets, allied with the growing technology developments, enabled more firms to internationalise earlier and more rapidly, particularly in the case of smaller ones. The most common terms to identify these kinds of firms are international new ventures (Oviatt & McDougall, 1994) and born global firms (Knight & Cavusgil, 1996). This phenomenon showed that some SMEs started their international operations right from inception or soon thereafter, showing inconsistencies with the U-model of internationalisation.

The changes that occurred in international environments now allow companies of any size, age, experience and resources to participate in a more active way in international activities (Knight & Liesch, 2016). Accordingly, the last update of the U-model tries to include considerations from all these theoretical internationalisation perspectives, leading to the so-called Uppsala globalisation process model (Vahlne & Ivarsson, 2014).

#### **4.2.2 | Network perspective in small- and medium-sized enterprise internationalisation**

The network perspective is one of the most important developments in internationalisation of firms (Johanson & Vahlne, 1990). Coviello and Munro (1997) highlight the importance of networks in internationalisation of SMEs by suggesting that rapid internationalisation is motivated by formal and informal network relationships, having a vital influence to overcome internationalisation obstacles, thus contributing to SMEs international growth.

Many previous studies were made to explain how SMEs can benefit from their network relationships and which types of resources they can use for internationalisation (Behyan et al., 2015; Costa et al., 2015). Quite different types of intermediaries can be accessed by SMEs to increase their success in international markets, and many network classifications and typologies have been proposed in the literature. However, the network typology of Oparaocha (2015) was the one adopted for this paper, as it illustrates well the differences and interconnections between three main network types in IB:

- business networks are the most explored in the literature, representing intermediaries such as suppliers, competitors, strategic partners and customers;
- social networks have also been receiving much attention and are represented by individuals, family, friends, colleagues and employees;
- institutional networks are not so well explored, with actors including governments, incubators, research institutes, agencies for international development and business associations.

Castellacci (2014) explains that IB networks and collaborations in service firms are important to foster decisions to enter foreign markets, whereas Cannone and Ughetto (2014), by studying born global firms, observe that business network relationships built up by an entrepreneur are one of the key drivers for an early internationalisation and international expansion. Oehme and Bort (2015) also show that to reduce risks, SMEs imitate the internationalisation modes of their peers, based on formal business network relationships.

Regarding the social networks, Xie and Amine (2009) recommend that this kind of networks must be properly recognised as main sources of information, knowledge and fast learning. Pinho and Pinheiro

(2015) describe the importance of using social network analysis as a different methodological approach for understanding the complex social interactions in internationalisation processes of SMEs and to further contribute to the network perspective in IB. In the case of Ibeh and Kasem (2011), these authors study both business and social relationships in international activities of SMEs. Findings suggest that both types of networks have influence in market entry decisions, but social networks have more influence at initial stages of internationalisation, whereas business networks gain more importance at subsequent stages.

According to Oparaocha (2015), there is a lack of studies addressing the role of institutional networks in SME internationalisation. Accordingly, this author makes an important contribution to the institutional network perspective by examining how institutional networks are influencing international activities of SMEs in the context of international entrepreneurship. Findings show that the institutional networks have a positive impact in the internationalisation of SMEs:

- by providing important resources, such as market information, financial support, and business contacts, in a continuous way (not only for new entries);
- by reducing risks and increasing speed of entries to new foreign markets; and
- by leading to a positive attitude towards international entrepreneurship.

Some other recent studies also address the institutional network perspective, showing that it allows a more detailed and holistic understanding of the drivers of born global firm internationalisation (Kaur & Sandhu, 2013). Gardó et al. (2015) analyse internationalisation problems faced by Spanish retailer SMEs and also the type of support provided by some institutional organisations. They explain that although different public and private organisations and agencies that support international activities of firms exist, there is no organisation that specifically targets the retail sector. Therefore, to obtain proper international development of retailers, they suggest that those institutional support organisations must provide more support for the SMEs of the sector, as well as to find new ways to better identify their needs in internationalisation.

The previous paragraphs show recent empirical findings about the influence of the three types of networks in the international activities of SMEs. Business networks and social networks have been extensively explored in IB. Consequently, Gao et al. (2010) recommend giving more attention to institutional environments and institutional networks in IB for better understanding its influence on internationalisation of firms. Due to their limited resources, institutional support is of vital importance to SMEs, particularly in the case of internationalisation. While some of the previously identified studies allow for a better understanding on the institutional networks in SME internationalisation, they all recognise the need for more theoretical and empirical insights about this subject. In addition, the tendency is to study general institutional environments without focusing in the specific institutional actors, which creates additional difficulties on understanding how the support differs among each institutional entity.

### **4.2.3 | Business associations**

Globalisation and the development of the EU have put pressure on traditional business associations to re-invent themselves, as a way to remain relevant institutional actors in representing the interests of companies and organisations (Streeck et al., 2006). This created a wide range of business associations (Fries, 2008), as well as the rise of a lobbying culture that challenged traditional forms of interest representation in Europe (Grossman & Woll, 2007). For example, Bennett (1998) and Boléat (2003) present different types of classifications of business and trade associations, which includes associations of companies, legal-based associations, professional associations of individuals, federations and chambers of commerce and industry. The main characteristics of business associations are (Bennett, 1998; Boléat, 2003; Traxler & Huemer, 2007):

- They are collective and member-based organisations.
- Membership is voluntary.
- Members have a common interest.

- They are intermediaries between business sectors and state/government action through representation, rulemaking and information.
- They provide services for their members.

The services provided are (Bennett, 1998; Boléat, 2003; Fries, 2008; Mikamo, 2013): government lobbying, newsletters, technical support, information services, conferences and exhibitions and training. The potential benefits of business associations to governments are an enhanced level of compliance with legislation, as well as lower administrative costs of regulation (Bennett, 1998). In addition, one of the main focus of business associations is to strengthen collaboration among members (Wang & Gooderham, 2014). In terms of network governance, business associations can be classified as Network Administrative Organisations (Provan & Kenis, 2008). This means that the flows of control and information are essentially dyadic, centred on the IBA.

However, business associations can also have some limitations, mainly related with problems of low membership and high opting out, instability over time and inequalities due to the existence of associations of different types or sizes of businesses (Bennett, 1998). Boléat (2003) indicates that many companies have multiple association memberships, both at the individual/staff and business levels. Naturally, this creates some sort of competition environment among the different types of associations. Some governments can also prevent a good functioning of business associations by creating barriers and political and structural different roles of associations among countries (Fries, 2008).

The main causes that lead companies to join a business association is the desire to exchange ideas for solutions to imminent problems, aiming at their expansion and development, as well as to evaluate their new needs (Booléat, 2003). Other advantages for members of associations are the opportunity to find new business models to meet new partners and to have support in applying the legislation in force (Traxler & Huemer, 2007). SMEs and large enterprises clearly differ in their need for services from the business associations. Due to their resource constraints, SMEs are more dependent than large firms on the services, information and contacts generated through business associations (Gashi et al., 2013). Large enterprises can easily make or buy these services independently of associations, and previous research indicates that, in this case, the focus of business associations is mainly on lobbying activities (this does not necessarily mean that those dominated by large firms provide fewer services to their members than the ones focused on SMEs) (Traxler & Huemer, 2007).

#### **4.2.4 | Business associations in small- and medium-sized enterprise internationalisation**

Looking at the literature on business associations, there is not much evidence about their specific influence in the international environments of firms. For example, Streeck et al. (2006) focus on the impact of globalisation in the functioning of business associations from both political and sociological perspectives but without dealing with their role in firms' international activities. Bennett (1998) and Wang and Gooderham (2014) explore the contributions of business associations to the competitiveness of firms, but again, not focusing on IB. In fact, most of the previous studies have focused on policy development and social capital.

##### **4.2.4.1 | Business associations as institutional actors**

Previous IB literature does neither pay much attention to the role of business associations in international activities of SMEs. Actually, only a few pieces of research address explicitly this link, with a tendency for adopting quantitative approaches. For example, Gashi et al. (2013) investigate the impact of the availability of external financing and membership of business associations on SME export behaviour. They make a quantitative study with SMEs considering many variables (firm size, sector, state ownership, access to external financing, etc.), with the membership of business associations being measured by a dummy variable. Findings suggest a positive influence of membership in business associations to the propensity of SMEs to export, and suggestions for further research are given to create more measures to promote these

memberships. Patel-Campillo and DeLessio-Parson (2016) also use a quantitative approach by conducting a survey of Pennsylvania winemakers. Again, many measures are included in this study, where one of the main conclusions is that trade association membership influences both the extent to which geographical branding is adopted by firms and in what forms (if it is regional or state-based). Finally, Costa et al. (2017) give some first insights on the institutional influence of IBAs in internationalisation, using a qualitative study and focusing on the perspective of companies (associates/members) from an informational and collaboration standpoint. Findings show mixed feelings from companies, i.e. some do not take many advantages from the services provided by IBAs, whereas others consider that IBAs have capabilities to establish good collaboration conditions between members and that these collaborations have been crucial for their international development.

#### **4.2.4.2 | Business associations as information brokers**

Other previous studies have looked at information sources to support internationalisation processes of companies, where chambers of commerce and business associations are referred to as one of those sources. Regarding the usefulness of the information provided, there are mixed opinions. For example, Leonidou and Theodosiou (2004) conclude that although the experience of chambers of commerce and trade associations offer first-hand information about foreign markets, this information was not extensively used nor regarded as useful by companies. By analysing the information source behaviour of 80 export firms in Cyprus, Leonidou and Katsikeas (1997) demonstrate that companies tend to rely more on personal contacts rather than impersonal sources, such as chambers of commerce and industry associations, when gathering information for internationalisation. In fact, the analysed companies, from one side, recognize the existence of information services from those institutional entities, but from the other side, they often consider to be information of low value. In contrast, Walters (1996, 1993) shows that industry associations are considered by companies as a useful information broker to have access to more general, cheap and easy to acquire information about markets and exports (e.g. exports/imports, trade barriers) and to obtain contacts in foreign markets. However, this author also argues that companies also consider that more expensive information sources, with more detailed and market related experience, can be more helpful for their international expansion. But the counterpart of using this kind of sources is the intrinsic costs that will limit their use. Riddle and Gillespie (2003) measure the company owners' awareness of the role of two business associations that act as information brokers for SMEs in the Turkish clothing export industry. Results show that these business associations are perceived as very important information brokers for companies' exports, mainly to have access to information about the export laws, foreign markets and the export process.

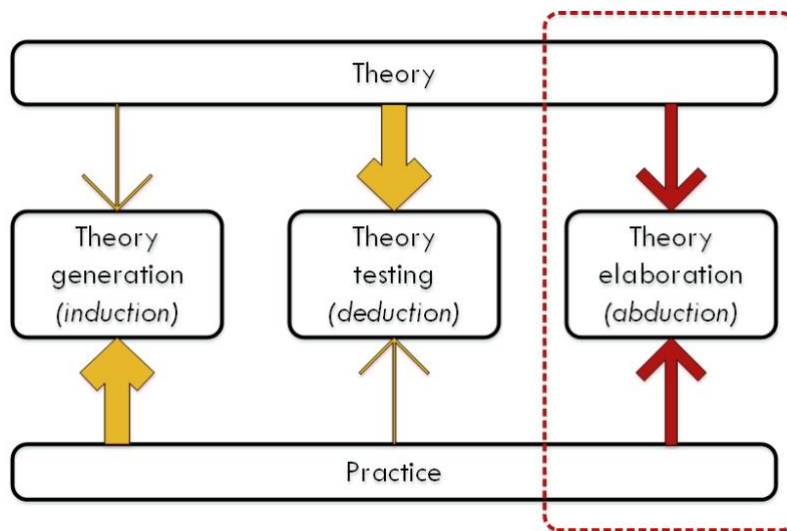
#### **4.2.4.3 | Business associations as export promotion organisations**

Business associations are also considered export promotion organisations, which many times overlaps with the export promotion programmes from governments (Wilkinson & Brouthers, 2006). These programmes are recognised by previous research as having a positive effect in trade promotion, increasing the competitive advantage of both companies in initial export stages and consolidated exporters (Freixanet, 2012). However, the problem remains in the lack of awareness from many companies on the existence of such programmes, which results in its low level of use (European Commission, 2010). In addition to that, it is known that business associations resort to some of those export promotion programmes to support the international operations of their members (Freixanet, 2012). Nevertheless, it is still not clear if these institutional entities use some other ways to give this international support. This is supported by Wilkinson and Brouthers (2006), who despite analysing some export promotion activities, they recognise that other variables warrant more research, such as the influence of trade associations and world trade centres in trade promotion. Moreover, as stated earlier, from other studies on the institutional network perspective of SME internationalisation, it is not clear how the support activities and the related benefits differ among each institutional entity.

## 4.3 | Methods

### 4.3.1 | Research design

This study is an exploratory field research. This approach was chosen as a way to better understand and explore the specific influence of business associations as an institutional network support for the internationalisation of SMEs. Ketokivi and Choi (2014) explain the interplay between theory and practice, in three different research approaches, illustrating their emphasis by the thickness of the arrows, as represented in Figure 4.1: theory generation (inductive research), theory testing (deductive research) and theory elaboration (abductive research).



**Figure 4.1** ▪ Inductive, deductive and abductive research, and the selected approach (Adapted from Ketokivi and Choi (2014)).

This study follows an abductive research approach, as shown in Figure 4.1. Thus, data is collected in a way that allows for theory elaboration. As referred in the previous section, the “network perspective of internationalisation”, with specific focus on “institutional networks”, provides some of the theoretical foundations for approaching the empirical context (Theory component, in Figure 4.1). However, the context of business associations in SME internationalisation is not sufficiently well known to obtain enough evidences to be used together with these theories, as a way to deduce testable hypotheses or propositions (Practice component, in Figure 4.1). Moreover, other objectives are to conduct an exploratory investigation about this empirical context and to explore the relationships among concepts (Whetten, 1989), thus challenging existing theories (not only testing them). Theory elaboration also differs from inductive research, as used in theory generation because some general theories were selected to approach the empirical context.

A qualitative research approach is adopted in this paper to better fit with this exploratory-oriented study. The popularity of qualitative research is continuously growing and spreading across disciplines (Golden-Biddle & Locke, 2007). The objective of this kind of research is not to generalise the results, but its main value is the specific description, related to the particularity of a specific context (Merriam, 1998; Yin, 2009). A qualitative approach allows researchers to face the complexity, context, and social roles and relationships, of a specific phenomenon (Gummesson, 2006).

### 4.3.2 | Research setting and sampling

The focus of this paper is on national IBAs, i.e. business associations with a specific focus on industry, representing firms rather than individuals and with geographical scope at a national level rather than

international scope. Accordingly, an IBA is an institutional actor, considered in this paper either as an organisation that represents different firms of a specific industrial sector (sectoral IBA) or as an entity that acts as an intermediary within a multi-sectoral network of industrial companies (multi-sectoral IBA) (Costa et al., 2017). Due to the high diversity of business association types, it is more fruitful to concentrate attentions in one (but broad) type of business association and, in this way, to better conceptualise and make inferences for a higher generalisation of the findings. In fact, it is beyond the capacity of one single research project to study the multiplicity of existing business associations in the EU (Traxler & Huemer, 2007).

The research universe is Portuguese IBAs. There is a wide range of business associations and IBAs in this country. In 2015, the Portuguese business associative system was composed of more than 993 organisations (of which 13 confederations, 39 federations, 10 chambers of commerce and industry, 24 bilateral chambers of commerce and industry and 907 business associations) (Deloitte, 2015). From this group, 49 per cent operate at a regional level and the remaining 51 per cent at a sector level. Due to the small domestic market of Portugal, many SMEs have been struggling to face the competitive pressures, and internationalisation becomes a necessary step for their survival.

A theoretical sampling strategy was used to select the cases for this exploratory study, allowing for a theoretical replication logic (Corbin & Strauss, 2015; Eisenhardt, 1989; Yin, 2009). The selection procedure started with the identification of possible IBAs best fitting the established criteria:

- associations focused on one or more industrial sectors rather than focusing on business in general or rather than associations only focused on legal issues;
- business associations representing mostly firms rather than individuals;
- national business associations rather than international federations and associations; and
- business associations with a high number of associate members (more than 30 associate companies).

The last criterion was considered as a way to obtain a sample with enough sector representativeness. This screening led to a list of about 100 Portuguese IBAs from different industrial sectors. After this initial screening phase, 20 IBAs were selected for the study from three main cities/regions of this country: Lisbon, Porto and the Minho region. The sample was large enough to reach theoretical saturation (Corbin & Strauss, 2015; Eisenhardt, 1989) and to obtain a good analysis on the use of institutional network resources from IBAs to support SME internationalisation. Most of the cases are sectoral IBAs, and five IBAs are multi-sectoral. Table 4.1 shows the main information about the 20 selected IBAs.

### 4.3.3 | Data collection and data analysis

Data collection was based primarily on semi-structured interviews, with IBAs' managers and people involved in international activities in IBAs. Additionally, some official documentation and information from IBAs' websites were also used as secondary sources for data triangulation (Yin, 2009). At the beginning of each interview, participants were asked to sign an informed consent document, showing their knowledge about the purpose of the study, as well as to confirm whether they allowed the interview to be recorded for accuracy purposes. For this study, all participants allowed the audio recording of the interviews.

The interviews had durations between 18 to 72 min, with an average of 50 min per interview, in a total of over 16 h of recordings. Only one interview (IBA9) had a duration of less than 30 min (i.e. 18 min) because during this interview, the interviewers realised that the IBA did not have much experience in supporting internationalisation, and consequently, there would be no point in asking some of the subsequent questions. Nevertheless, this case was kept in the sample to understand in which areas this internationalisation support was made and to allow the discover of some other interesting issues, such as their needs and requirements to be able to give more international trade support to their members.

**Table 4.1** ▪ Main information about the selected IBAs.

ID	Industry sector	Members	No. of	Position of the interviewee(s)	Duration of the



			<b>interviewees</b>	<b>interview (min)</b>	
IBA1	Automotive	70	1	Technical Secretary	72
IBA2	Construction	7000	3	Secretary-general; Economist; Board Advisor	52
IBA3	Metals	900	1	Internationalisation Project Manager	46
IBA4	Wood and furniture	700	1	Director	40
IBA5	Food	400	1	General Coordinator	61
IBA6	Metallurgical and electromechanical	500	1	General Director	54
IBA7	Electrical and electronic	90	1	Economics and Association Service	43
IBA8	Cork	270	1	General Director	63
IBA9	Chemicals	40	1	General Director	18
IBA10	Footwear	400	2	CEO; Project Manager	71
IBA11	Furniture	200	1	Marketer-internationalisation	49
IBA12	Mining	200	2	Director of Communication and Advice for International Relations; CFO and International Relations	45
IBA13	Multisector	800	1	Director of International Relations Department	52
IBA14	Multisector	100	1	Secretary-general and Director of International Relations	49
IBA15	Defence and weaponry	70	1	General Director	44
IBA16	Aerospace	40	1	General Executive Manager	66
IBA17	Multisector	280	3	President of the Administrative Council; Board Administrator; Technical Administrator	39
IBA18	Agro food	130	1	Executive Coordinator of Markets Division	54
IBA19	Multisector	370	1	Project Manager	49
IBA20	Multisector	2000	1	Information Manager	36

Appendix 4.1 presents the questions and the interview guide of this study. Due to the exploratory nature of this study, some additional questions were asked in some interviews to clarify and complement our understanding regarding some specific aspects. The interviews were transcribed as soon as possible, not only to ensure a constant comparison (Eisenhardt & Graebner, 2007) but also for a first analysis and for the improvement of subsequent interviews (Corbin & Strauss, 2015). These transcriptions were made using the qualitative data analysis software MAXQDA. After the transcriptions, the interviews were coded, using again the MAXQDA software, allowing an extraction of the relevant results and insights from the

interviewees. At this stage, IBAs' documentation was also used for data triangulation (Yin, 2009). Using the saturation technique (Eisenhardt, 1989), data were coded and analysed until sound results were achieved.

The analytic cycle of qualitative data analysis was used to help developing theory from empirical data (Bendassolli, 2013), the cycle consisting of data coding, categorising and conceptualising processes. Therefore, the data analysis started with an initial contact with the interviews' transcripts by a general reading, followed by a more careful reading. During this stage, notes were taken through an initial memoing (Corbin & Strauss, 2015) to record impressions and insights and to let emerge categories that facilitated later stages of the analysis. The second stage of data analysis was performed using within-case and cross-case analysis (Barratt et al., 2011; Eisenhardt, 1989). Therefore, the coding procedure was complemented by clustering themes and codes into categories, as a way to develop conceptualisations (Bendassolli, 2013). This step was important to understand the main differences between each of the IBAs under analysis. To facilitate the operationalisation of the concepts, visual concept mapping was also performed using the knowledge-modelling software Cmap (Wheeldon & Faubert, 2009) to develop conceptual maps showing categories from theory and new emerging categories from the analysis. Therefore, themes and patterns were identified using an abductive reasoning, this leading to a mix between inductive research (allowing some themes to emerge from the data) and deductive research (relying on some other themes from the "institutional network perspective of internationalisation" theory). The last stage of data analysis was performed by:

- contrasting the findings with the network perspective of internationalisation, and with other relevant findings in the literature; and
- contextualising the findings and developing conceptual maps to encompass a wider picture about the institutional network influence of IBAs in SME internationalisation

Some validity and reliability procedures were also considered, such as using documents and information from the IBAs' websites for data triangulation (Yin, 2009), using a diversity of informants for a more complete vision of the environment and for guarantying the construct validity (Barratt & Barratt, 2011) and using a study protocol to repeat the data collection procedures, ensuring the reliability of the study (Yin, 2009).

## **4.4 | Findings**

### **4.4.1 | Current institutional network support**

This section presents the empirical findings from the interviewed IBAs, regarding their current role and the use of institutional network resources to support their associate SMEs. Four main categories related to internationalisation support were identified based on the interviews' transcripts, notes from the research team and IBAs' documentation. These categories are briefly conceptualised in Table 4.2 and then discussed in further detail in the following sub-sections.



**Table 4.2** ▪ Conceptualisation of the main categories of IBAs' internationalisation support.

Category	Conceptualisation
Promotional activities	In the case of internationalisation, IBAs promote the following initiatives that help SMEs in their international promotional activities: trade fairs; trade missions; promotional actions; events, meetings and collaborative workspaces
Counselling, training, and technical and legal support	IBAs have an important counselling and training role for supporting SME internationalisation. The legal support provided is also fundamental for companies to operate within the laws and rules of foreign countries. Some technical support is also provided for research and development (R&D) and internationalisation projects
Information sharing	Different types of information are shared in IBAs to support SME internationalisation, such as market opportunities, market conditions, legal information, business contacts, initiatives and other relevant information according to each industrial sector. This information comes from a vast diversity of information sources and is shared by different mean and channels, such as email, websites, social networks, personal contact and journals/magazines
Cooperation with other institutional entities	IBAs act as intermediaries and cooperate with a vast variety of other institutional actors to provide the necessary information, contacts and conditions to the international activities of their associate SMEs. The identified cooperative entities are governments, other associations and IBAs, agencies for internationalisation, embassies, chambers of commerce and industry, foreign companies, consulting firms, clusters, technological centres, training centres, individual ambassadors, funding bodies and regulatory bodies

#### 4.4.1.1 | Industrial business associations as export promotion organisations

##### Promotional activities

Trade fairs are one of the main initiatives promoted by IBAs to support the internationalisation of SMEs. In these fairs, SMEs create moments of interaction and relationships with potential clients, and in many cases, they even establish important collaborations with other companies.

*"...in the case of trade fairs, we use an event manager that visits the companies and presents them the project. This event manager is responsible for doing a turnkey service, i.e. he accompanies the company from the moment of the expression of interest to go to a specific trade fair or market, until the organisation of travels, visas, stand renting, reservation of the space for the fair, hiring round trip transportation to take the products, stand decoration, etc." (IBA4)*

IBAs also mention other types of research and development (R&D) and internationalisation projects that help SMEs in their internationalisation processes, such as developing digital platforms to support internationalisation and promoting the companies and the sector in different ways. These promotional actions can result from an IBA representing the sector in trade fairs and events to bring the message to the markets and to the clients.

*"What we have been doing, with much effort and budget, is to communicate the sector in a more macro-perspective... and all this logic of communicating the sector is mostly made by us... What is required by companies is for the association to make a broader communication and promotion of the sector... In recent years, it is no longer requested for the association to organize a trade fair... or to organize a trade mission." (IBA8)*

IBA10 mentions that contacting journalists and the press are interesting ways of communicating their sector. IBA18 organises promotional actions in hotels, with product exhibitors and meetings between companies and buyers of a particular foreign market.

Trade missions and reverse trade missions are another internationalisation support pillar, considered fundamental by the interviewees. The first of these types of initiative consists of going with the associates to foreign markets of interest, allowing the associates to know new countries, to understand the

functioning and the dynamics of foreign markets and to make commercial contacts for their international activities.

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*“There is always the concern to ensure the contact between companies that are already in certain markets (usually large companies) and companies that we take to the missions, encouraging the establishment of these contacts locally in the country of destination.”*  
(IBA2)

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Reverse trade missions consist of bringing foreign companies and entities, who are looking for new clients and suppliers to meet the Portuguese players and visit their facilities. The trade fairs, trade missions and promotional actions are mainly funded by the government or other specific national and European projects through export promotion programs. IBAs apply to this projects system that allows companies to have reduced participation costs.

Finally, the IBAs of this study also promote different kinds of events and meetings to strengthen the collaboration, between associates and between associates and potential partners. IBA2 and IBA3, for example, promote internal sessions where companies share their experiences with other associates, about previous trade missions and fairs. IBA8 promotes meetings, where companies give inputs to the IBA on how and where they should be working. Many other types of meetings and events are organised by IBAs, thus creating collaborative workspaces for associate SMEs, such as seminars, committees, working groups and round table discussions for sharing and obtaining knowledge about international opportunities or other key points for their internationalisation.

### **Counselling, training and technical and legal support**

Findings also point to counselling and training as another relevant SME internationalisation support from IBAs. Some IBAs organise workshops in the labour and tax areas, about foreign markets where the companies intend to internationalise. IBA3 has an “academy of internationalisation”, where professionals in IB give lectures to companies that are starting their internationalisation process. This training is mainly focused on marketing, trade fairs, credit insurance and transportation. In the case of IBA6, individual and group training is provided for the participating members to learn how to outline an international strategy. The IBA makes a full diagnosis of each company and prepares the company for its international expansion.

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*“...and one of the areas is internationalisation, see what is missing, how to prepare that company, what are the markets that may be of interest (one or two), how the company should restructure itself to have a sector linked with sales, with marketing, having catalogues, having a website to give visibility to the company, knowing languages, etc.”*  
(IBA6)

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The interview with IBA11 stresses the counselling and training role of the association. This IBA interacts with its members since their initial internationalisation process and helps both companies that are starting and companies already with some international experience. Companies starting these processes are trained to face the reality of international markets (identifying the best market, product typology and event), to identify possible partners and to contact more experienced members to share past experiences and know-how. For the more experienced companies, besides information and experience sharing, the IBA supports them in finding new markets or helps them to remain in already settled ones.

Findings also suggest that IBAs provide an essential legal support and counselling for their associates. This support mainly involves sharing the legislative changes, the commercial changes in markets, tax information and entities that act as intermediaries for the demanding regulation and legislation in foreign countries. The main concern of IBA9 in terms of internationalisation is to defend the interests of companies at an international level, mainly regarding the European legislation. Thus, their role is essentially played in Brussels, through European associations of the sector. Finally, the IBA14 federation participates in the definition of the internationalisation support policies and advises the Government on those public policies. Their main role here is to develop European political partnerships by informing their associates about

international trade agreements and bilateral agreements, as well as by negotiating the reduction of trade barriers and the reduction of all types of barriers, to allow the access to markets.

Some of the interviewed IBAs also distinguish another type of initiative, the technical support and incentive for SMEs to participate in international projects. IBA7 and IBA16 are examples of associations that act as promoters or facilitators and collaborate with some of their associate SMEs in making joint applications for international R&D projects. In some cases, and due to competitive issues, companies push the IBA to be the consortium leader, as in most cases the IBA represents all the involved partners, and it has no direct commercial interest in the initiative.

#### 4.4.1.2 | Industrial business associations as information brokers

Another fundamental support for the international operations of SMEs is the information that is shared by IBAs. Many of IBAs in this study perform market studies and reports for their members to better know the foreign markets regarding industrial sectors, trends, opportunities, legal issues and key players in each market of interest. These market studies can be performed either by the associations themselves or by gathering the information from international studies performed by others. Naturally, the dissemination of the initiatives promoted by IBAs is another relevant information content for the associate companies.

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*“...we generate some market information, studies that we do, we gather legal information, commercial changes in markets, etc. so, generating and sharing this information with the associates.” (IBA8)*

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As stated earlier, some IBAs were able to develop digital platforms, each with a specific purpose to support internationalisation. In cooperation with international associations and other institutional entities in Portuguese-speaking countries, IBA6 was able to create a tool that supports companies in getting information about those countries regarding legal aspects, tax information, conditions to create a company, industrial areas and other useful information for an adequate international expansion. IBA13 created a platform for supporting large companies in subcontracting SMEs for specific international operations. In the case of IBA20, a digital platform was developed to aggregate different types of information about each associate individually, thus increasing its visibility for potentially interested foreign companies and organisations.

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*“...we give support with a range of business information that can help the companies to define their internationalisation strategy... we have access to a set of databases with information about foreign companies that can help entrepreneurs to make decisions... We share market studies about foreign countries and we also often share information about effective and concrete companies that are abroad.” (IBA20)*

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Some associations, such as IBA6, also perform important survey studies and build databases on both internal associates and industrial companies in foreign markets. This type of information, together with information about calls for international projects or other opportunities, are most of the times shared by IBAs, using their websites or even their digital platforms. IBA17 emphasises the fact that being present in international and European organisations allows them to have access to valuable information about norms, policies and guidelines, which is also important for the international expansion of companies. Based on all the information provided by IBAs, companies can make better decisions and can establish more effective internationalisation strategies.

Therefore, there are several topics within the internationalisation area and the information content depend on the theme and target that a member wants to achieve. Below is the main information content shared by IBAs to support SME internationalisation:

- Statistical data of the industrial sector:
  - evolution of the sector;
  - exports/imports by country;

- number of companies in a specific country; and
- main foreign importers.
- News and information about the industrial sector:
  - about national and international companies of the industrial sector;
  - success stories; and
  - events.
- Opportunities for internationalisation
- Legislative changes
- Regulatory and political aspects:
  - international trade agreements;
  - analysis of international trade agreements;
  - analysis of bilateral agreements; and
  - agreements between the EU and other countries.
- Information about promotional actions
  - trade fairs;
  - trade missions;
  - events and exhibitions;
  - calendar of actions; and
  - detail of each action (dates, location, requirements, costs).
- Visits of potential clients
- Information about specific companies (national and foreign companies)
- Contacts in national and international markets
- Information about training activities:
  - workshops;
  - seminars; and
  - other training actions.
- Information of opportunities about applications for national and European projects:
  - deadlines;
  - requirements;
  - benefits; and
  - costs.
- Information from own market studies:
  - new trends;
  - key players in markets;
  - how the market works;
  - credit insurance; and
  - market data and financing conditions.
- Information from own databases:
  - companies' characterisation;
  - products that export;
  - countries of exports;
  - product labels and product details; and
  - practiced prices.

The main means and channels to share this information to their members are email (the most used); telephone; social networks (mainly Facebook and LinkedIn); personal contact (visits to members, meetings, events, etc.); IBAs' websites; books, journals and magazines; newsletters; the press and media; and other digital platforms and portals.

#### 4.4.1.3 | Industrial business associations as cooperative institutional actors

The influence of IBAs in SME internationalisation can also be measured by the vast number of contacts and cooperation agreements that are established with other national and international entities. As referred, these entities provide important contacts and information for IBAs to be shared with associate companies. The main cooperative actors mentioned in the interviewees are governments, foreign associations and IBAs and the External Trade and Investment Agency of Portugal (AICEP). Due to its vast knowledge and experience in the area, this agency is viewed by many interviewees as being crucial if a company wants to have a successful international expansion.

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*"...AICEP and its delegations give much support and also support the process. AICEP has been instrumental in all this" (IBA6)*

*"The first information source normally on the market is the local office of AICEP." (IBA10)*

*"AICEP has very relevant information online, exporter guides... it has delegates in several countries and therefore locally, AICEP is obviously in a privileged situation to have this information on potential partners" (IBA14)*

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Other relevant institutional connections and cooperative protocols are often established with entities such as embassies and chambers of commerce and industry, as a way to obtain other specific information about market conditions, barriers and business opportunities. IBAs themselves are often members of international associations and agencies of different types, this clearly increasing the chances of establishing new contacts, sharing experiences and obtaining relevant information (see above) for their associate companies.

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*"The association is part of various international institutions, in which it has contact with other European clusters and by being in contact with these clusters, it can identify opportunities much easier than companies would do it per se." (IBA16)*

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Finally, findings suggest that IBAs act as an important intermediary for SME internationalisation by cooperating with many other entities and by using different information sources that allows them to have a rich amount of contacts and information to be shared with their members. Table 4.3 synthesises the cooperating entities and the information sources used by IBAs to support SME internationalisation, divided by internal and external sources.

The IBAs' network of contacts is referred as one of the most important information sources. Most of them have many established and trusted contacts that comes from decades of experience, acquired in previous studies and internationalisation projects. So, the own experience and know-how is a vital information source for the IBAs. A particular case to highlight here is the specific IBAs' members that often serve as a relevant information source. These members not only express their needs to the IBAs but also indicate some specific countries that can be of interest for the exportations of the sector, or even some specific internationalisation projects and opportunities. What they expect in return is for the IBA to use its contacts, services and knowledge base and to act as intermediary between them and entities of interest. The use of databases is also mentioned by the interviewees, but only some of them are actually using this data source because it has high costs of acquisition. Some particular entities and organisations are also mentioned by the interviewees as being relevant important sources of information about international trade and activities:

- International sources:
  - European Commission; Horizon 2020; OECD (Organization for Economic Co-operation and Development); WTO (World Trade Organization); BusinessEurope (confederation of European business), nTrade (statistics).
- National sources:
  - CIP (business confederation of Portugal), AICEP (external trade and investment agency of Portugal), INE (national institute of statistics), Republic Diary and Assembly of the Republic

(for more legal information), IAPMEI (public agency for competitiveness and innovation), Bank of Portugal, and Portugal 2020 (a partnership agreement between Portugal and the European Commission that provides funding opportunities for the Portuguese business).

**Table 4.3** • Information sources used by IBAs to support SME internationalisation.

Type of source	Category	Information source		
Internal sources	Own experience and know-how	Previous market studies and industrial sector studies		
		Previous internationalisation projects		
		Previous promotional activities		
		Previous international experiences and visits to foreign countries		
Contacts	Contacts	Network of contacts with different entities		
		Associates (members)		
Human resources	Human resources	Export agents		
		People from commercial and international trade areas		
Promotional activities	Promotional activities	Trade fairs and exhibitions		
		Trade missions		
		Events, meetings and collaborative workspaces		
		Other promotional actions		
External sources	Entities and organizations	National institutional entities (government, embassies, federations, chambers of commerce, and other business associations)		
		Foreign institutional entities (governments, embassies, federations, chambers of commerce, and other business associations)		
		Consulting agencies		
		Other companies (not members of the IBA)		
		The press (e.g. press TV, journalists, news media)		
		Overseas agents and distributors		
		Universities and research institutes		
		Banks		
		Internet	Internet	International market studies and surveys
				Statistics
Websites				
Search engines				
Databases, directories and repositories				
On-line journals and newspapers				

#### 4.4.2 | Internationalisation follow-up

Another objective of this study is to understand how IBAs follow-up the internationalisation process of their associate SMEs. Findings show that most of the interviewed IBAs provide a continuous support for the international operations of SMEs. Many of the interviewees send surveys to their members to know if they had success in some specific initiative promoted by the IBAs. In these surveys, SMEs are inquired about the benefit of participating in the initiative, the contacts that were obtained and the concretised internationalisation opportunities. Such instruments are important for IBAs to send reports and indicators of the initiatives promoted to the funding institutions. There are surveys for each action, and annual surveys to have a global perspective for each internationalisation year. However, many companies do not respond to these surveys, creating difficulties to the IBAs' perception of the success or failure of their initiatives.

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*“We try to get feedback, it's not always easy. There is an instrument that we use which is a questionnaire and many of the companies do not respond. But it's something we try to do it two weeks after a specific initiative... but it does not work. And it does not work because people are busy doing the follow-up of the initiative, and the results do not appear right after.” (IBA18)*

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Nevertheless, IBAs suggest other ways of accompanying the internationalisation of their members. Quite often, the feedback is obtained through personal contact in future initiatives, or by a contact from the companies if things are going wrong, “If there is silence it's because everything is fine”. IBA6 asks the export volume of their associate SMEs to understand whether it has increased. In the case of IBA10 and IBA12, both the interviewees explain that they can obtain feedback on their support based, for example, on the continuous participation of SMEs in trade fairs and missions promoted by them.

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*“The editions of the trade fairs are held most of the times by semesters, which means that if they participated in a trade fair and if they did not participate in the next, in principle it is because it has no interest. That is, the increase or decrease of participations in the next edition, end up giving us some feedback on whether the fair is progressing well or badly.” (IBA10)*

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The internationalisation follow-up from IBAs is normally performed by providing more information and new contacts about markets of interest, not only for exports but also for more complex internationalisation strategies.

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*“In more complex internationalisation processes, we can give more support with our contacts and we have better ways of minimizing risks, which is what matters to companies... So, the company is supported by who has the right contacts and the experience. This is our added value to the companies.” (IBA13)*

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Finally, the interviewee from IBA10 states that they have mechanisms to help and assist SMEs after an internationalisation initiative, in the sense of collecting and providing new information or trying to mobilise local agents to help them to solve some specific problems or barriers.

#### 4.4.3 | Future vision

Finally, we report on the vision and perspective of the interviewed IBAs, regarding their future role in supporting SME internationalisation. In general, IBAs expect that their support to the international activities of their members will improve in a near future and that new strategies are planned to achieve this improvement. Many IBAs recognise that the organisation of trade fairs and missions will continue to be part of their support strategy. However, the interviewees also acknowledge that with new market dynamics and with constant developments in technology, the adoption of new approaches is crucial to remain an active support to SME internationalisation. The interviews showed that IBAs want to implement different strategies, and what they think it is important to achieve. Table 4.4 presents a summary of the most important focal points and the new strategies that are planned in the future to support internationalisation.

Looking at Table 4.4, it is clear that the focus of the IBAs' future support to SME internationalisation is based on two important dimensions: information technology (IT) and collaboration. These two dimensions and all the main findings obtained in this study are discussed in more detail in the next section of Discussion.



**Table 4.4** ▪ Future vision about the IBAs' support to SME internationalisation.

Strategy	Detail
Collaboration cluster	IBA1 will participate in the creation of a collaboration cluster for the sector, together with entities such as companies, other business associations, universities, research institutes, technological centres and consultancy companies. The internationalisation of SMEs will be one of the main topics to be addressed to improve those processes through a cluster dynamic and collaborative way. The final aim will be to improve the competitiveness of companies and promote exports. The IBA will also create contacts and links between the partners to form consortiums for applying to new research projects on internationalisation
Digital platform	IBA2 will start to use a digital platform for grouping companies in collaborative networks. The IBA will try to systematise the information about markets in this platform. The main goal will be to identify a business opportunity and channel this opportunity to potential interested companies that can collaborate. The role of this IBA will be to launch the opportunity and to create contacts between companies IBA20 will also launch their digital platform to support SME internationalisation in a near future. This will be mainly for purposes of information management and information sharing, but also for increasing the visibility of their associate SMEs for potentially interested foreign companies
Detailed market studies	Companies from the sector of IBA5 do not have much information about markets. The expectation of this IBA in the future is to perform detailed market studies mainly to help SMEs with information about distribution chains and contacts. Within those distribution chains the benefit can be to have a study of what is best sold, what types of products, what are the target audiences, etc. However, this IBA currently does not have the necessary funding to achieve this. So, IBA5 plans to apply for external funding in a near future
Improved communication strategy	IBA6 aims to adjust its activities to the new realities of the markets. The opinion of the interviewee is that the future of the IBA will require the use of new IT to improve their communication strategy to transmit an increasingly modern image of the country, of the industrial sector of activity and to be more "aggressive" in communication IBA7 also refers this aspect, by arguing that they need new functionalities in the website, to enable the communication to be done through this channel, and decrease the use of emails
Focus on new markets	In the IBA8's view, and based on the feedback of their members, the goal in the future is to have a mixed logic of markets, i.e. to continue working on "traditional" markets for the sector but also considering emerging and new markets. This will be done by contacting some new markets such as China and Brazil, which are examples of potential destinations for the products of the sector, as well as be present in events and promotional actions of different but related sectors
Technical actions	IBA12 thinks that due to the high costs of trade fairs, companies are increasingly reducing their participation in those events, and the tendency is to focus their attentions in two or three main events per year, as a way to meet all the main buyers and sellers of the sector. Therefore, the idea of this IBA is to focus their attentions in new types of actions, such as design or technical actions, more directed to the product, to strengthen the companies' technical capacity over their own products and to better understand the product they want to sell
Convergence/integration of business associations	IBA13 provides a different view by arguing that there is a need in IBAs in general for an adaptation to what are the real needs of the companies. They explain that companies only associate to IBAs if there is a clear advantage for them and that, in the future, one of the crucial aspects that can benefit them is the integration and convergence of different business associations. They think there are many business associations in the country and that there are too many offers for such a small market, in what regards the promotion of internationalisation initiatives. This overloads companies with large amounts of information and creates a confusion in what is the real capacity of each business association to provide a good and quality service. In the opinion of the interviewee, the aim is "to show an image of an IBA that stands next to the companies, who does not want to only depend on state subsidies, who do not want to only rely on European funding, who wants to provide a service in which companies pay to have an advantage"
Collaboration between associations	IBA14 defends more collaboration between business associations in the future. This can be achieved by finding synergies and advantages of working together in foreign markets, by sharing more information, by increasingly working in a network of support to internationalisation The interviewee from IBA15 also argues that the collaboration between business associations will be fundamental to create conditions to look for niche markets and to gain scale in markets by joining capacities



## 4.5 | Discussion, conclusions and implications

### 4.5.1 | Conceptual map

The findings reported in the previous section allow to add new knowledge about the institutional network resources and activities used by IBAs to support SME internationalisation. Figure 4.2 results from contextualising the findings of this study and contrasting them with relevant theoretical streams (institutional network perspective of SME internationalisation and business associations) to present a detailed and wider picture about this institutional network influence. Therefore, this map is the result of the abductive reasoning and is both built on previous theory and collected data for elaborating on theory.

In this conceptual map of Figure 4.2, the grey parts demonstrate the existing knowledge on the institutional network perspective of SME internationalisation, whereas the coloured parts represent the extension of theory, from the results obtained in this study. The next sections go more in detail about the discussion of the obtained results.

### 4.5.2 | Elaborating the institutional network perspective theory

#### 4.5.2.1 | Industrial business associations as institutional network actors and promoters of internationalisation

The existent knowledge from previous literature on the institutional network perspective in SME internationalisation (Figure 4.2, grey parts) is that SMEs have formal and informal institutional network relationships (Coviello & Munro, 1997; Gao et al., 2010), with different institutional actors (Child & Hsieh, 2014; Gardó et al., 2015), in both the home and host countries, and that use the available institutional network resources to improve their internationalisation processes by reducing risks, by increasing the speed of entries into new foreign markets and by having a more robust knowledge base to operate more efficiently at international levels (Kaur & Sandhu, 2013; Oparaocha, 2015).

This study supports the findings from Oparaocha (2015), who argues that institutional networks (in general) have a positive impact in SME internationalisation by continuously providing vital resources, such as business contacts, market information and financial support. Nevertheless, this study elaborates on the institutional network perspective theory and adds an incremental contribution on this matter (Figure 4.2, coloured parts) by adopting a qualitative approach to cope with the predominance of quantitative studies, and by focusing on the specific role of IBAs, to understand the specific resources and services provided by this institutional actor to support SME internationalisation.

What we know from the literature of business associations (Figure 4.2, grey parts) is that they are institutional actors (Bennett, 1998; Streeck et al., 2006) and export promotion organisations that use some export promotion programmes from governments to support SME internationalisation (Freixanet, 2012; Wilkinson & Brouthers, 2006). Findings from the literature show that export promotion programmes can have a positive impact in SME trade promotion (Freixanet, 2012), but in many cases, there is a lack of awareness of such programmes (European Commission, 2010). Other findings also show the benefits of business association membership for the creation of new collaborations (Costa et al., 2017) and for improving the propensity of SMEs to export (Gashi et al., 2013; Patel-Campillo & DeLessio-Parson, 2016).

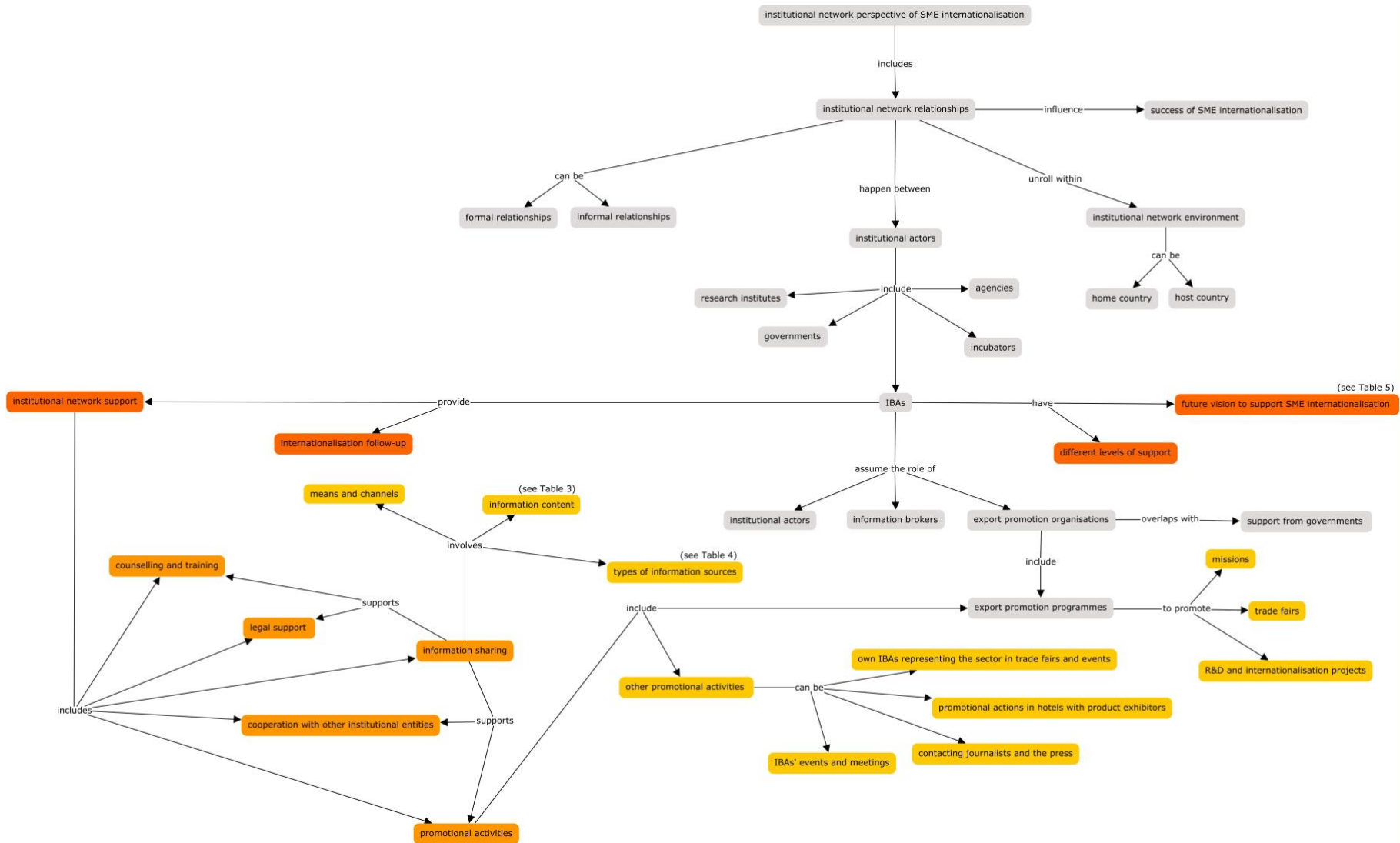


Figure 4.2 • Conceptual map for elaborating theory about the institutional network perspective of SME internationalisation.

The results obtained in this paper show that, in fact, IBAs use public support and export promotion programmes to promote some of their initiatives such as trade fairs, trade missions and promotional actions. Nevertheless, this work uncovers other types of support that are not based on these support programmes (Figure 4.2, coloured parts). Specific events, meetings and collaborative workspaces are organised by IBAs to address internationalisation issues and to promote the sharing of knowledge and experiences between associate SMEs and large companies. In some IBAs, it was found that consortiums are formed for applying to new research projects related with internationalisation. In some cases, the IBA adopts a fundamental role of project leader by establishing new links among its members and by taking the leadership in developing the research proposals.

Another important support provided is related with counselling and different activities on legal support, which is also important to reduce barriers to operate in new foreign markets, also allowing SMEs to internationalise according to the legislation of each market. Some IBAs also give extensive training sessions to SMEs, addressing topics related with marketing, trade fairs, credit insurance, transportation and other topics related with internationalisation. This type of support reflects the active role of IBAs in helping SMEs in acquiring important knowledge and in identifying suitable partners to approach markets, as well as in preparing them for a proper international expansion.

Therefore, looking at the institutional network influence of IBAs, the main focus is not only for supporting the institutional environment and recognising foreign market opportunities for SMEs but also for training and providing them with the necessary institutional network resources such as information, contacts, services and conditions for a proper internationalisation. These institutional network resources are obtained not only internally by the own studies and initiatives developed by the IBAs but also externally through the intensive cooperation with other institutional actors. The different cooperating entities presented in this study act mainly as information sources for IBAs. However, it is natural that, sometimes, competitive environments may exist together with some overlaps in the roles of the different network players. For example, IBAs and export agencies can provide the same type of information to support the international expansion of SMEs. Another example is two different IBAs that can promote the exact same trade fair to a specific SME. Accordingly, future developments of the institutional network perspective must address these overlaps in terms of the activities promoted and the resources used by the different institutional network actors that support internationalisation processes of SMEs.

#### **4.5.2.2 | Industrial business associations as information brokers and information managers**

Business associations are also identified in the literature as information brokers for international trade activities (Leonidou & Theodosiou, 2004; Riddle & Gillespie, 2003). However, there are divergent opinions on the usefulness of the information provided to support internationalisation processes. Some studies find that this information is considered as low value by companies (Leonidou & Katsikeas, 1997), whereas others conclude that this information facilitates the obtaining of contacts in foreign markets (Walters, 1996), as well as to have access to export laws and to more general information about markets (Riddle & Gillespie, 2003). Nevertheless, these findings are still insufficient to obtain a clear vision about the information management process of business associations to support internationalisation processes of SMEs.

It is known that business associations provide information services to their members (Boléat, 2003). What we do not know is the detail of the information provided to support SME internationalisation, the sources used to have access to such information and how this information is shared. Accordingly, new knowledge is also obtained in this study about the specific information content, information sources and means and channels of information sharing used by IBAs for internationalisation support (Figure 4.2, coloured parts). All the information that is shared by IBAs can allow SMEs to make better decisions and adopt more effective internationalisation strategies. Finally, many institutional entities cooperate with IBAs and act as important information sources, allowing them to have an important network of contacts and network of knowledge, which can also contribute for a better support to the international activities of SMEs.

Diamantopoulos and Souchon (1999) explain that information gathered via different sources differs in terms of its alignment with the different information needs of organisations, and information from different sources varies according to its perceived quality. Souchon et al. (2015) show three different export information acquisition modes:

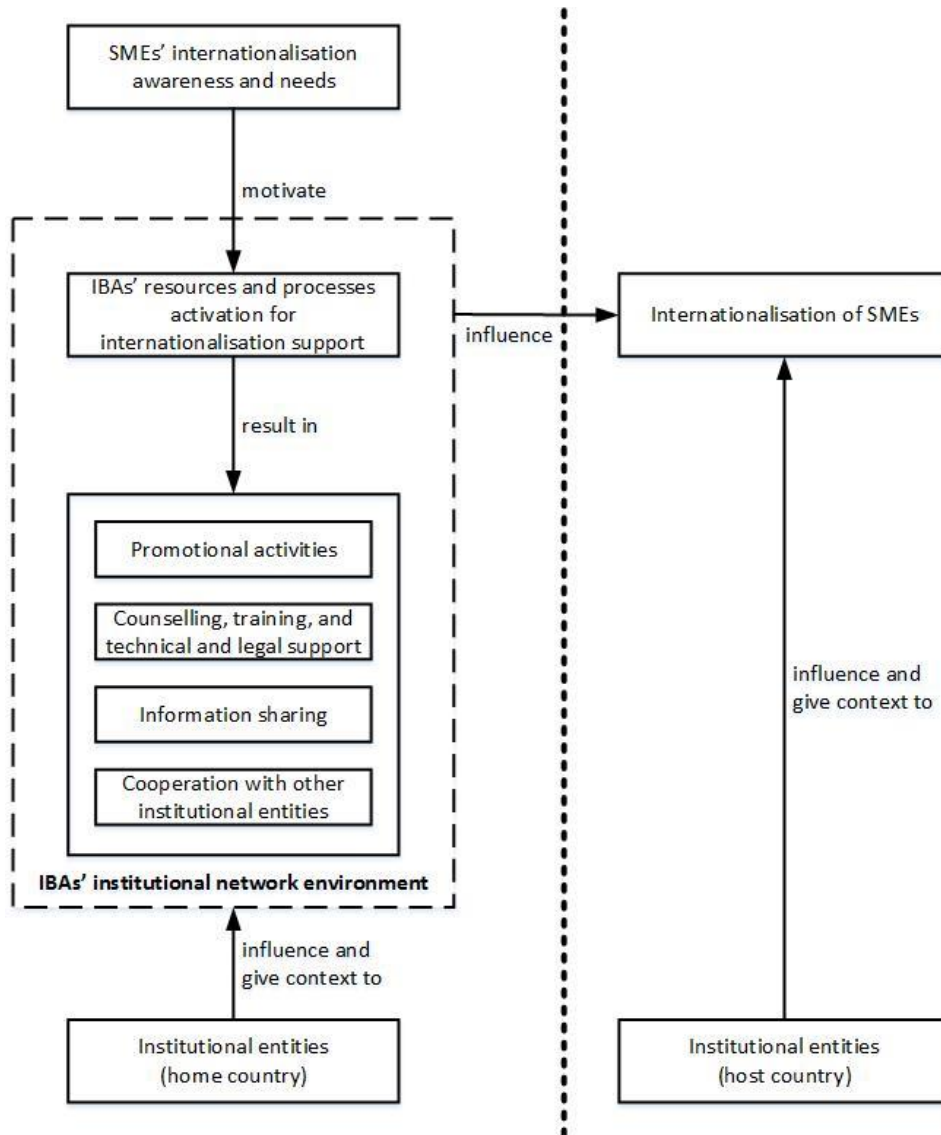
- export marketing research, which is formal, systematic and objective and can be carried out both internally and/or externally;
- export assistance, which includes market information and guidance on exporting and export marketing; and
- export market intelligence, which is an informal, experiential export information acquisition mode that comprises obtaining information from network sources, such as customers and distributors, through participation in international trade fairs and shows, or in a more direct way, through foreign visits.

According to the authors, these three export information acquisition modes cover a comprehensive array of export information sources. Accordingly, this study also makes an important contribution to the literature of export information generation, showing that IBAs have a prominent role in acquiring export information for their associate SMEs, using the three types of export information acquisition modes.

### **4.5.3 | Conceptual model of the institutional network influence of IBAs**

Based on our findings and on previous studies (Oparaocha, 2015), a conceptual model was developed to represent the influence of institutional network resources provided by IBAs for supporting the internationalisation of SMEs (Figure 4.3). The conceptual framework of Oparaocha (2015) is focused on the general influence of institutional networks in SME internationalisation and is based on the results of interviews with five SMEs. The model presented in Figure 4.3 results from the findings of the present work, and it details the specific influence of one of the institutional actors, the IBAs. This new conceptual model is based on the 20 interviews performed for this study, allowing a more comprehensive view on the phenomenon and the possibility to add new knowledge.

The process starts with the SMEs' awareness and needs for internationalisation. Due to the SMEs' limited resources and lack of power to approach markets, the IBAs trigger some support processes and make resources available to support the SMEs' international activities. IBAs also cooperate and have contacts with other institutional entities, from both the home and the host countries, which influence and give context to support this internationalisation process. Such institutional network support by IBAs is provided through promotional activities (Section 4.1.1.1); counselling, training and technical and legal support (Section 4.1.1.1); information sharing (Section 4.1.1.2); and cooperation with other institutional entities (Section 4.1.1.3). The support from IBAs can influence the internationalisation of SMEs by reducing barriers and by providing the necessary information, contacts and conditions to internationalise.



**Figure 4.3** ▪ Conceptual model of the institutional network influence of IBAs in internationalisation of SMEs (based on Oparaocha (2015)).

#### 4.5.4 | Follow-up process

Another objective of this study was to understand the IBAs' follow-up process in terms of internationalisation support. Personal contact, instruments such as surveys and other mechanisms, such as collecting and sharing new information and new contacts, and mobilising local agents to foreign markets, are used to assist SMEs after an internationalisation initiative. Therefore, it seems that most IBAs provide a continuous support for the international operations of SMEs, not just a support at initial stages of internationalisation. Naturally, this support may differ among each IBA. Given the many different types of support and activities developed by each IBA, the nature and effectiveness of the follow-up process can be quite different, but this detail is not provided in the present study. However, what was found is that new instruments are needed to improve, for example, the response rate of companies to the surveys sent to the SMEs and to better perceive the success or failure of the initiatives promoted.

For instance, it is possible to conclude that regarding the different phases of the internationalisation process (Melén, 2009), IBAs do not have a direct influence in the pre-firm internationalisation phase, as it is up to each company to plan its activities prior to its establishment. However, at this phase, SMEs can resort to their personal networks, where an IBA would appear as a knowledge source, influencing indirectly this

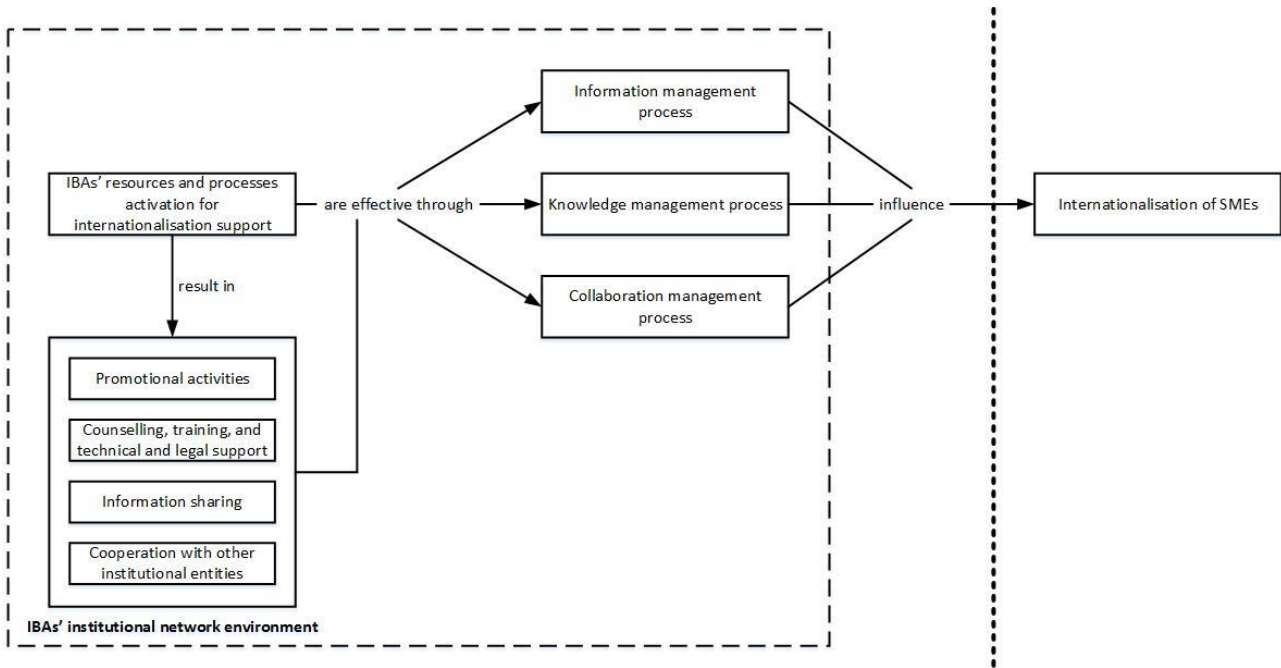
phase of internationalisation. In contrast, it is clear that IBAs can influence the initial internationalisation phase of an SME, as demonstrated in the findings of this study. The initiatives, counselling and training provided by IBAs give an initial boost for the international expansion of the associate SMEs. For example, IBA3 reinforces that hundreds of companies started their internationalisation activity with their support. These findings are in accordance with the findings of Wang et al. (2012), who state that firms' internationalisation is facilitated by institutional environments when the institutional entities encourage those firms to start their international activities. Regarding the continued internationalisation phase, the insights obtained for the follow-up process indicate that an IBA can also have influence in this last stage of SME internationalisation.

#### **4.5.5 | Future vision**

Finally, this paper contributes with new knowledge about the future role of IBAs in supporting SME internationalisation. Collaboration and the use of new IT were referred as the main focal points to improve their support in near future. These two dimensions reflect the changes that have been occurring in the business world, where every company and organisation is forced to join efforts with strategic partners, as well as to adopt new IT for their operations, to remain competitive. The interviews reveal the importance for IBAs to focus in different types of collaboration to improve the support to SME internationalisation, with entities such as universities and with other IBAs. Collaboration between associate SMEs should also be promoted. Regarding the IT, some IBAs are planning to launch digital platforms to support specific international operations of SMEs. This points out an important development to be studied in detail in further research, which is the use of IT to support SME internationalisation.

These findings can also be contrasted with the study of Costa et al. (2016), who systematically review the literature, examining the role of information, knowledge and collaboration in internationalisation decisions of SMEs. These authors conclude that the lack of information and insufficient knowledge are some of the main obstacles for SMEs to internationalise. Moreover, they suggest that before starting an internationalisation process, SMEs need to seek information and learn from different sources, including the experience gathered in previous internationalisation processes. For that, a collaboration favourable environment should be promoted by the IBA to foster adequate information sharing behaviours. However, in many cases, SMEs still face difficulties in managing information and knowledge from their networks and collaborations, mainly due to the lack of suitable tools and poor information management practices (Costa et al., 2016). The present study suggests that IBAs can have an important facilitating role by acting as an information manager and promoter of collaborations among their associate companies. With this support from IBAs, SMEs can face their difficulties and have access to three fundamental resources for improving their international activities: information, knowledge and collaboration. Naturally, these resources can only be obtained and are only effective if supported by efficient information, knowledge and collaboration management processes from IBAs. This discussion adds new elements to the conceptual model presented in Figure 4.3 and enhanced as represented in Figure 4.4.





**Figure 4.4** ▪ Information, knowledge, and collaboration management processes of IBAs to support SME internationalisation.

An important development for the positive impact of IBAs on the internationalisation process is thus the evolution towards a more collaborative network, fostering flows of information and new collaborations between members. This aspect defines another important direction for further developments of this research.

#### 4.5.6 | Practical implications

This study shows that IBAs have a wide variety of initiatives and types of internationalisation support for SMEs that are not only based on promotion programmes. However, there is quite often a lack of SME awareness about this support. Thus, the findings of this study can help SMEs to understand the “*modus operandi*” and the benefits of using the services and initiatives promoted by IBAs. This can also push them to use this support in facing their lack of resources to operate in international markets. Although in a different way, large enterprises can also benefit from IBAs’ support. Due to their highly internalised organisation form, market power and high investments abroad, large enterprises do not often use IBAs’ assistance for internationalisation processes. Nonetheless, these large and multinational companies can benefit from all the information and the network of contacts of IBAs. Regarding IBAs themselves, the findings of this study can be used to better understand their current position in terms of internationalisation support and think about new ways for improving this support. Additional efforts should also be done by IBAs to increase the awareness among companies about their available services and institutional network resources.

#### 4.6 | Limitations and further developments

The adopted methodological approach is qualitative, this normally implying a larger difficulty to obtain a generalisation of the findings. Nevertheless, the main value of qualitative research is the specific description and analysis of the particularity of a specific context, which in this case seemed to be a better option for addressing the exploratory nature of the specific context of IBAs. However, future research can be performed in a more quantitative basis to complement the obtained qualitative insights.

Another limitation of this approach is that the participating IBAs are based in different industrial sectors in only one country. Therefore, the findings might not be easy to extend to a specific industry and to other countries. So, more qualitative and quantitative work with larger samples should be done by:

- performing a similar study and testing the conceptual model in different countries; and
- focusing on a specific industrial sector with IBAs from different countries.

However, we believe that this study has produced potentially generalizable contributions for European countries where IBAs have similar approaches, such as Spain, France and Italy. But this remains a topic for future research.

Although using a theoretical sampling strategy, differences among the selected IBAs were verified regarding their focus and level of support in internationalisation. Therefore, the conceptual model may not exactly represent the reality of each IBA.

Due to space limitations, the perspective from SMEs was not introduced and analysed in this study. Instead, we tried to look at the full range of internationalisation-based activities of IBAs and the institutional network resources that are used to support SME internationalisation. In addition, although not specifically focused on the role of IBAs, some previous studies already present this perspective of SMEs about the influence of institutional networks (Gardó et al., 2015; Oparaocha, 2015). Nevertheless, having more data on the SME view is clearly needed for further developments of this work to study if the IBAs' support is viewed as important from both sides of the support.

Finally, future research should possibly address the specific role and influence of other institutional actors that form the institutional setting where SMEs are embedded, such as governments, incubators, agencies for international development, science and technology parks and other types of business associations. This will certainly lead to a more comprehensive view of institutional networks in SME internationalisation.

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## Appendix 4.1 | Interview guide for the exploratory field research

### Interview Guide

Date | \_\_\_\_\_

Hour | \_\_\_\_\_

Location | \_\_\_\_\_

Interviewer(s) | \_\_\_\_\_

Interviewee(s) | \_\_\_\_\_

#### A | The association and the internationalisation of its members

- 1 | What is the total number of members of this association? What is the percentage of SMEs?
- 2 | What is the role of this association in the internationalisation process of SMEs? What initiatives are promoted?
- 3 | Do you disseminate the internationalisation opportunities and initiatives to all SMEs or are some specific companies selected for each initiative?
- 4 | Do you believe that the SMEs take advantage of the support promoted by the association?
- 5 | Is there any kind of follow-up by the association after an associate has internationalised?

#### B. Information management in the internationalisation process

- 6 | What kind of information the association provides to the associate SMEs?
- 7 | What is the specific content of the information shared?
- 8 | What sources of information are used by the association?
- 9 | What types of means and technologies are used in the process of information sharing?
- 10 | Do you think that this association can have the role of information manager for the SME internationalisation?

#### C. Future vision about the internationalisation support

- 11 | What is the future vision of the association regarding its role and support to the SME internationalisation?
- 12 | Do you think that the internationalisation support of the association can improve with the use of technology (such as digital platforms)? What are the most important requirements to be considered in such technologies?

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## **Chapter 5 | On the use of digital platforms to support SME internationalisation in the context of industrial business associations**

Paper accepted for publication in the [Handbook of Research on Expanding Business Opportunities with Information Systems and Analytics](#)

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## Abstract

The digital economy is creating disruptions in traditional industries and markets. Industrial business associations (IBAs) may face serious challenges in a near future to meet the needs and requirements of their members, particularly in supporting their growing international trade activities and internationalisation processes. Digital platforms are already transforming different types of businesses across all markets. An IBA may use a digital platform, not only to keep up with the current technological trends of markets, but also to improve the internationalisation support provided to their associate small and medium enterprises (SMEs). Therefore, the aim of this chapter is to present the view of these potential digital platforms' managers, by presenting the results of an exploratory field research based on 24 interviews with IBAs from Portugal, France, and the UK. Another goal is to identify current digital platforms that are being used by IBAs and to critically evaluate their potential for supporting internationalisation processes of SMEs. By using these findings, a set of requirements and features for digital platforms supporting SME internationalisation in the context of IBAs are derived in this chapter. These results can be used by platform designers and by IBAs for designing and developing more effective digital platforms that can meet the specific internationalisation needs of their users and managers.

**Keywords** | digital platforms, international business, internationalisation, industrial business associations, small and medium enterprises, collaborative networks.



## 5.1 | Introduction

Today, we live in a world with constant developments in technology and with a society increasingly connected. In a rising generation of micro-entrepreneurs, freelancers working anyplace at any time, and new business models, we are witnessing to at least three important changes in the business world: (i) a more shared economy, where collaboration is the emerging paradigm; (ii) the use of digital information and communication, social media and new technology platforms to improve businesses and management processes; and (iii) an increasing competition environment for all types of companies and organisations. This can also be a challenge for industrial business associations (IBAs).

Globalization and the development of the European Union (EU) have put pressure on traditional business associations to re-invent themselves for remaining relevant institutional actors in representing the interests of companies and organisations (Streeck et al., 2006). IBAs are characterised by their collective and member-based nature, where membership is most of the times voluntary, and members have a common interest (Bennett, 1998; Traxler & Huemer, 2007). These institutional entities will need to adapt to the new requirements of their members, in order to remain an active support for their activities. This can specifically occur in the case of satisfying the needs of small and medium enterprises (SMEs).

SMEs have been gaining more power and representativeness in international markets by assuming different manifestations as international new ventures and born-global firms, meaning that many of them now start their international operations right from inception or soon thereafter (Knight & Liesch, 2016). According to Giudici and Blackburn (2013) *“It is often asserted that the advent of the digital economy has substantially reshaped how SMEs conduct their sensing and seizing activities across international markets.”*. Therefore, new requirements are needed by IBAs to keep up with the evolution and changes that might occur with their associate SMEs.

In fact, IBAs have been already facing increasing difficulties, mainly related with problems of low membership and high opting out, instability over time, and inequalities due to the existence of associations of different types or sizes of businesses (Bennett, 1998; Traxler & Huemer, 2007). In addition to that, many companies have multiple association memberships, both at the individual/staff and business levels (Boléat, 2003), which naturally creates some sort of competition environment among the different types of associations. Other potential challenges faced by IBAs are related with limited revenue channels, limited audience, declining trade show attendance, not demonstrating value and benefits of membership, not aligning industry issues with member needs (Schutzius, 2016).

Notwithstanding the challenges and the wide variety and number of organisations that make up the business associative system, the common denominators for these institutional entities is the fact that most of them are surviving through membership fees (increasingly smaller due to the high number of competing associations), are dependents on communitarian funds and provide services and training (Bennett, 1998; Boléat, 2003; Fries, 2008; Mikamo, 2013).

Internationalisation processes require accessing, processing and organizing large amounts of information (Xie & Amine, 2009). However, the lack of information and the lack of suitable tools for managing information and knowledge are identified as the main obstacles for SME internationalisation (Costa et al., 2016a; Hsu et al., 2013; Rodriguez et al., 2010; Sommer & Haug, 2011). Given their limited resources and difficulties in reaching markets, SMEs tend to rely more extensively on external networks to operate in international markets than large enterprises (Hessels & Terjesen, 2010). SMEs and large enterprises also differ in their need for services from the IBAs. In the case of SMEs, due to their resource constraints, they tend to be more dependent than large firms on the services, information and contacts generated through business associations (Gashi et al., 2013). From the other side, large enterprises can easily make or buy these services independently of associations (Traxler & Huemer, 2007).

Previous studies on international business show that, although existing different opinions about the utility of their services, IBAs are identified as one of the export information sources (Costa et al., 2017a; Leonidou & Theodosiou, 2004) and SMEs can use their institutional network resources for overcoming barriers to

operate in international markets (Costa et al., 2017b; Gashi et al., 2013). Such institutional network support by IBAs is provided through (Costa et al., 2017b): promotional activities; counselling, training, and technical and legal support; information sharing; and cooperation with other institutional entities.

Nevertheless, previous research also shows that IBAs can have a more active role in supporting SME internationalisation by fostering more collaborations between members (Costa et al., 2015). This support can also be enhanced by improving their information management role to better meet companies' informational needs (Costa et al., 2016b; Costa et al., 2017c). Therefore, to improve their role in supporting SME internationalisation, one important development is for IBAs to evolve towards collaborative networks by sharing more organised and valued information with their members and also by fostering information flows and more collaborations between them (Costa et al., 2017b).

Many information communication technologies (ICT) have been designed and developed to improve business and management processes and activities of companies and organizations, as well as to support collaboration in business networks (Bellini et al., 2016; Carneiro et al., 2013; Durugbo, 2015). Regarding the international business, some studies have been discussing the importance of digital technologies to support the international activities of SMEs (Brouthers et al., 2016; Giudici & Blackburn, 2013). This makes even more sense when dealing with information, as internationalisation processes require to manage large amounts of information about foreign market conditions, available funding and opportunities and partners for collaborations (Costa et al., 2016a; Xie & Amine, 2009). However, previous research points to the need for extending our understanding on how and whether technology is suitable and viable for supporting SME internationalisation and collaboration (Dutot et al., 2014). In addition, the effect of the use of digital platforms on management processes is relatively unexplored (Spagnoletti et al., 2015).

Therefore, we hypothesise in this paper that collaborative digital platforms may substantially help the management processes of IBAs for improving their support to SME internationalisation. In particular, it can contribute to the effectiveness of information and knowledge management processes and to the creation of new collaborative networks among their members (Costa et al., 2016a). We believe that such transition to technology is crucial for the survival of IBAs, as it can avoid the loss of more members, or even prevent the worst scenario of the IBAs' services to no longer make sense for companies.

Accordingly, this paper aims to understand the perspective of IBAs on the use of collaborative digital platforms for supporting the internationalisation of their associate SMEs by recognising their problems, needs and opinions about this subject. Another goal is to identify current digital platforms that are being used and to critically evaluate their potential for internationalisation support. The research questions that guide this study are:

- RQ<sub>1</sub>: what are the current digital platforms used by IBAs to support SME internationalisation?
- RQ<sub>2</sub>: how do IBAs perceive the use of digital platforms to improve the support to the internationalisation processes of their associate SMEs?

To answer these research questions, and based on empirical evidence, this paper presents a qualitative exploratory field research, providing insights from interviews performed with 20 IBAs in Portugal, 3 IBAs in the UK, and 1 IBA in France. By using these findings, the objective is to obtain a preliminary set of requirements and features for digital platforms supporting SME internationalisation, managed by IBAs.

The structure of this book chapter is as follows. After this introduction, literature on IBAs supporting SME internationalisation is presented, as well as some background on collaborative networks and digital platforms. After that, the research methodology is described, and the results are presented and discussed. Finally, the main conclusions and directions for further research are presented in the last section of the chapter.

## 5.2 | Research background

### 5.2.1 | Industrial business associations supporting SME internationalisation

There are thousands of business associations, trade associations, industrial associations, federations and chambers of commerce in the European Union (EU). While different in nature, each type of business association represents the interests of companies and organizations (Streeck et al., 2006). An IBA is a business and trade association specifically focused on industry, representing firms rather than individuals, assuming two different types (Costa et al., 2017b; 2017c): (i) sectoral IBA, by representing firms of a specific industrial sector; or (ii) multi-sectoral IBA, by acting as intermediary within a network of companies from different industrial sectors. On top of that, they act as intermediaries between business sectors and governments (Traxler & Huemer, 2007), and they provide services for their members (e.g. newsletters, technical support, information services, conferences and exhibitions and training) (Boléat, 2003).

Research on the role of IBAs in internationalisation processes of SMEs is still in its infancy. Gashi et al. (2013) and Patel-Campillo and DeLessio-Parson (2016) suggest that the propensity of SMEs to export is positively influenced by their membership in business and trade associations. The study of Costa et al. (2017b) goes deeper on this topic, by developing a conceptual model that explores the activities and the use of institutional network resources by IBAs to support and facilitate internationalisation processes of SMEs. Findings show that SMEs can benefit from the institutional network resources and support of IBAs to start or continue their internationalisation strategy. This support is mainly provided through promotional activities, such as trade fairs, trade missions, promotional actions and organisation of events. Services such as counselling, training and information sharing also help associate companies to successfully approach foreign markets. In addition, SMEs can benefit from the network of contacts that IBAs have with other institutional entities such as governments, other associations and IBAs, embassies, foreign companies, consulting firms, funding bodies and regulatory bodies. In this same study, the future vision of IBAs in terms of topics of improvement is also presented. Results show that collaboration and the use and development of new ICT are the main components of their future strategy for improving the services and activities for helping companies in their international endeavours.

Finally, based on the perspective from some companies that are members of IBAs, Costa et al. (2017c) show that, although recognised as a useful source of information, the IBAs' information management role can be improved to better meet their internationalisation needs:

- Improved information organisation e.g., by filtering and organising information according to countries in which each member is present or have sales;
- More effective information dissemination e.g., by more selectively disseminating information about more specific subjects such as legal aspects (e.g. legislation and customs rules, patents);
- Promoting information sharing among the members e.g., experiences and lessons learned;
- Improved information quality, by providing information specifically tailored to the needs of SMEs.

Another conclusion from this study is that IBAs can also improve their role in the promotion of collaboration in internationalisation. Accordingly, arguments from previous studies (Wang & Gooderham, 2014; Bell, 2006) state that a successful business association must be able to strengthen and foster collaborations and collective actions among members. However, the engagement of these institutional entities as collective action facilitators is still limited (Pieth, 2012).

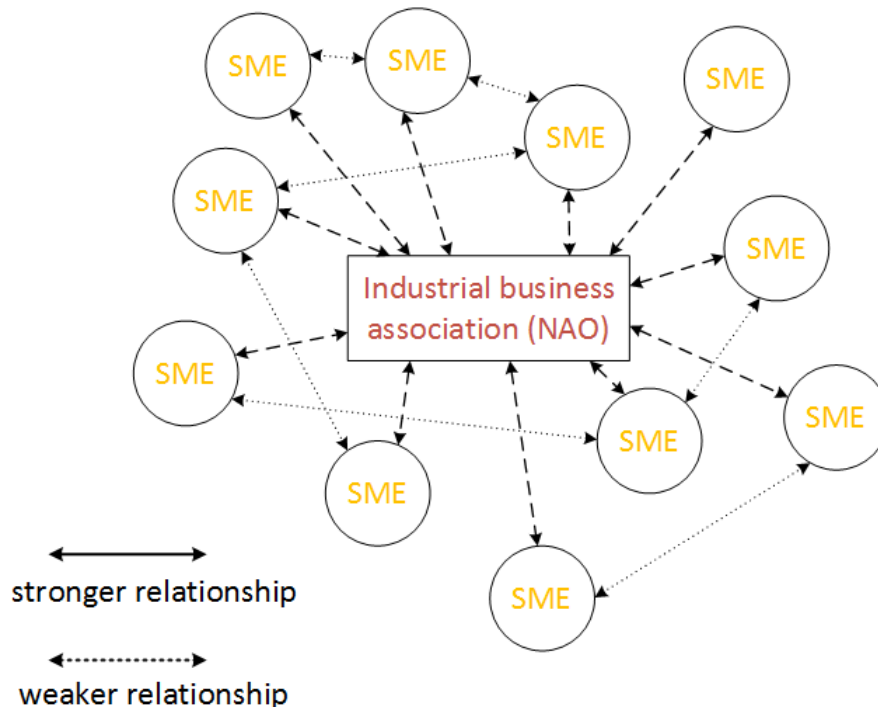
### 5.2.2 | Collaborative network perspective of IBAs

Costa et al. (2017b) suggest that, in a network perspective, IBAs may improve their support to internationalisation by acting as a broker among associate SMEs to create collaborative networks (CNs) with the aim of facing internationalisation challenges. A CN is formed by independent organisations that interact and cooperate most of the times through collaborative ICT to share risks and benefits (Carneiro et

al., 2013; Camarinha-Matos & Afsarmanesh, 2005; Romero et al., 2009; Parung & Bititci, 2008). One of the main interlocking themes related to an effective network implementation is the network governance (Popp et al., 2014). Provan and Kenis (2008) define network governance as using institutions and structures of authority and collaboration, with the aim of allocating resources and managing joint actions across the whole network. Three different types of governance structures within organisational networks are proposed in the literature (Popp et al., 2014; Provan & Kenis, 2008):

- shared governance: a participant-governed network without a formal administrative entity, where all members contribute to the network management and leadership, requiring a high level of trust;
- lead organisation: a network where a hub organisation or key member act as the manager and administrative entity by keeping the network partners aligned;
- network administrative organisation: a network where an independent, neutral and separate administrative entity is established to manage the network by acting as a network broker and by managing conflicts.

Therefore, IBAs can be classified in this study according to their network governance as a Network Administrative Organisation (NAO). Most of the times, this means that the flows of control and information are essentially dyadic, centred on the governing role of the IBA (Figure 5.1).



**Figure 5.1** ▪ IBAs as network administrative organisation (adapted from Provan and Kenis (2008)).

Carneiro et al. (2013) point two important assumptions from previous studies on CNs. The first one is that collaboration is a fundamental process for successful organisational networks. The second one is that technologies that have the specific purpose of supporting collaborative processes are a key fostering factor for CNs. In a similar way, Fedorowicz and Sawyer (2012) present some recommendations for implementing CNs that encompass both the technology and the organisational setting. One of those recommendations is also to leverage technology for advancing a collaborative network, including the design of management processes and technologies of collaboration and information sharing to support routine use and to increase system usage. Therefore, the ideal situation for organisations is to have an integration of technological tools that support three primary collaboration dimensions (Carneiro et al., 2013; Rabelo & Gusmeroli, 2008): communication; information sharing; coordination. Accordingly, in most cases, a well-designed and well-developed digital platform may allow to achieve this integration.

### 5.2.3 | Digital platforms

There are various conceptualisations for the term “digital platforms”. Sun et al. (2015) and de Reuver et al. (2017) provide extensive lists of digital platform definitions, which can be derived either from management researchers or from information systems (IS) researchers. The presented digital platform definitions also look at this term from different perspectives, for example by considering digital platforms from a technical point of view as an extensible codebase to which complementary third-party modules can be added, or from a more sociotechnical perspective, as technical elements (of software and hardware) and associated organisational processes and standards (de Reuver et al., 2017). Both studies end up by recommending that researchers and scholars need to provide clear definitions of the term “digital platform” to avoid misinterpretations and to clarify and make explicit whether the technical or sociotechnical view is being considered. Nevertheless, some of the most complete or most used definitions are:

- *“Digital platforms are software-based external platforms consisting of the extensible codebase of a software-based system that provides core functionality shared by the modules that interoperate with it and the interfaces through which they interoperate.”* (Tiwana et al., 2010; Ghazawneh & Henfridsson, 2015);
- *“A platform is a building block that provides an essential function to a technological system and serves as a foundation upon which complementary products, technologies, or services can be developed.”* (Spagnoletti et al., 2015; Gawer, 2009);
- *“An IT-platform is defined as comprised of a technological base on which complementary add-ons can interoperate, following standards and allowing for transactions amongst stakeholders, within the platform-centric ecosystem.”* (Sun et al., 2015).

Many digital platforms have been designed and developed for many purposes in a variety of industries. The disruptive power of platforms has been demonstrated by the rapid dominance of platform businesses over traditional industries (Parker et al., 2016). Digital platforms have become important for the activities of organisations, facilitating the communication inside work groups (Mansour, 2009), supporting online communities (Spagnoletti et al., 2015), creating knowledge (Tseng & Johnsen, 2011), managing knowledge in clusters of firms (Cremona et al., 2014), and establishing collaborations (Carneiro et al., 2013). Parker et al. (2016) provide a detailed and comprehensive analysis on the rapid rise of the platform model, explaining that this has already transformed many major industries and will transform many others in the next few years. In this way, digital industry platforms are a technological trend that is having a profound impact on companies. According to Mergel (2017), digital transformation requires a holistic effort of rethinking and changing the main processes of organisations, beyond the traditional digitisation efforts performed in the past, requiring cultural, managerial, process and developmental changes by the organisation as a whole.

Due to the variety of the growing user base, and with the constant development and addition of new IT capabilities and complements, the design context of digital platforms is subject to wide range of change (Spagnoletti et al., 2015). Therefore, efficient platform designs must meet the needs and requirements of their community of users. Nonetheless, according to Spagnoletti et al. (2015), there is still a lack of understanding on how organisations can effectively design digital platforms supporting online communities.

Some digital platforms have been developed to support the internationalisation of SMEs in the EU, mainly to facilitate cooperation between European clusters (European Commission, 2014). For instance, some more active and developed IBAs also gained interest on this kind of technology and are currently using digital platforms to support members with information about markets and by allowing large companies to subcontract smaller ones for specific international operations (Costa et al., 2017b). Nevertheless, it seems that most of the existing digital platforms to support SME internationalisation are only focused on information dissemination, failing to integrate other key collaboration components, such as communication and coordination. In addition, many IBAs are still using basic forms of communication and information dissemination with their members, such as phone calls and emails, and are not active enough to support their international activities (Costa et al., 2017b; 2017c). As stated by Sedoglavich (2012), the success of international activities is mainly based on firms’ technological capabilities and technological knowledge.

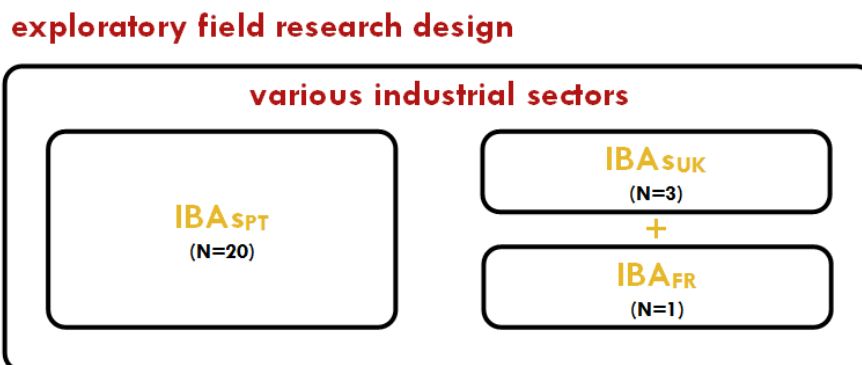
Therefore, to face the competition from other institutional and private entities, this shift to technology can be crucial for IBAs to remain as the first choice for SMEs in what regards the internationalisation support.

### 5.3 | Research methodology

This study comes in the sequence of previous exploratory studies performed by us. In a first exploratory field research, we had the perspective from 5 Portuguese companies associated with IBAs, regarding the use of digital platforms managed by IBAs to support their information management and collaboration activities in internationalisation processes. The results of this exploratory study can be found in (Costa et al., 2017c). After that, also based on empirical evidence, we extended the previous study by adding new interviews performed with 20 IBAs in Portugal. The objective of this new study was to explore the activities and the use of institutional network resources by the selected IBAs to support and facilitate internationalisation processes of SMEs. The findings of this second exploratory study can be found in (Costa et al., 2017b).

Therefore, with the current chapter, the aim is to bring the view of prospective digital platforms' managers (i.e. the IBAs), by explaining the factors that influence the adoption of digital platforms to support SME internationalisation. Another goal is to identify current digital platforms that are being used and to perform an evaluation of their potential for supporting internationalisation processes. This is important to understand the current market offer.

Therefore, this exploratory study started in Portugal and the sample was large enough to reach theoretical saturation (Corbin & Strauss, 2015; Eisenhardt, 1989). Nevertheless, to increase the validity of our findings, we decided to make a few more interviews in other countries, specifically for this new study. So, 1 IBA from France was interviewed (because one of the authors had the opportunity to interview it in a specific international event), as well as 3 IBAs in the UK (as the same author also had a research visiting period in this country). Therefore, the sample for this study is composed by a total of 24 IBAs. Figure 5.2 shows the research design considered for this exploratory field research.



**Figure 5.2** • Research design of the exploratory field research.

Accordingly, a qualitative design is used to help specifying a preliminary set of requirements and features derived from the interviews, for digital platforms managed by IBAs to support SME internationalisation. The qualitative approach is adopted to better fit with this exploratory-oriented study. Qualitative research has been continuously growing and spreading across disciplines (Golden-Biddle & Locke, 2007), where the aim is not to generalize the results, but its main value is the specific description related to the particularity of a specific context (Merriam, 1998; Yin, 2009). Table 5.1 shows the main information about the selected IBAs.

**Table 5.1** ▪ Main information about the selected IBAs.

ID	Country	Industry sector	Members	No. of interviewees	Position of the interviewee(s)	Duration of the interview (min)
IBA <sub>PT1</sub>	Portugal	Automotive	70	1	Technical Secretary	72
IBA <sub>PT2</sub>	Portugal	Construction	7000	3	Secretary-general; Economist; Board Advisor	52
IBA <sub>PT3</sub>	Portugal	Metals	900	1	Internationalisation Project Manager	46
IBA <sub>PT4</sub>	Portugal	Wood and furniture	700	1	Director-general	40
IBA <sub>PT5</sub>	Portugal	Food	400	1	General Coordinator	61
IBA <sub>PT6</sub>	Portugal	Metallurgical and electromechanical	500	1	Director-general	54
IBA <sub>PT7</sub>	Portugal	Electrical and electronic	90	1	Economics and Association Service	43
IBA <sub>PT8</sub>	Portugal	Cork	270	1	Director-general	63
IBA <sub>PT9</sub>	Portugal	Chemicals	40	1	Director-general	18
IBA <sub>PT10</sub>	Portugal	Footwear	400	2	CEO; Project Manager	71
IBA <sub>PT11</sub>	Portugal	Furniture	200	1	Marketer- internationalisation	49
IBA <sub>PT12</sub>	Portugal	Mining	200	2	Director of Communication and Advice for International Relations; CFO and International Relations	45
IBA <sub>PT13</sub>	Portugal	Multisector	800	1	Director of International Relations Department	52
IBA <sub>PT14</sub>	Portugal	Multisector	100	1	Secretary-general and Director of International Relations	49
IBA <sub>PT15</sub>	Portugal	Defence and weaponry	70	1	Director-general	44
IBA <sub>PT16</sub>	Portugal	Aerospace	40	1	General Executive Manager	66
IBA <sub>PT17</sub>	Portugal	Multisector	280	3	President of the Administrative Council; Board Administrator; Technical Administrator	39
IBA <sub>PT18</sub>	Portugal	Agro food	130	1	Executive Coordinator of Markets Division	54
IBA <sub>PT19</sub>	Portugal	Multisector	370	1	Project Manager	49
IBA <sub>PT20</sub>	Portugal	Multisector	2000	1	Information Manager	36
IBA <sub>FR1</sub>	France	Textile	50	1	Operational & International Director	47



**Table 5.1** ▪ Main information about the selected IBAs (continued).

ID	Country	Industry sector	Members	No. of interviewees	Position of the interviewee(s)	Duration of the interview (min)
IBA <sub>UK1</sub>	UK	Multisector	1800	1	Director Commercial	24
IBA <sub>UK2</sub>	UK	Multisector	1050	2	International Trade Manager; Head of Corporate Partnerships and Membership	61
IBA <sub>UK3</sub>	UK	Multisector	4800	1	International Trade Coordinator	24

Data was collected through interviews with IBAs' managers and people involved in international activities. Some of the procedures for the interviews were: (i) using an informed consent form; (ii) using a semi-structured interview guide; (iii) recording the conversations; and (iv) request documentation to be used as secondary sources for data triangulation (Yin, 2009). The main questions of the interview guide considered for this study are:

- Q<sub>1</sub>: Do you think that the management of information, knowledge and collaboration related to internationalisation processes could be a success factor if mediated by a digital platform?
- Q<sub>2</sub>: Do you think that the internationalisation support of the IBA can be improved with the use of technology such as digital platforms?
- Q<sub>3</sub>: What are the most important requirements and features to be considered in such digital platforms?

Afterwards, the interviews were transcribed as soon as possible to ensure a constant comparison (Eisenhardt & Graebner, 2007), and were coded using the qualitative data analysis software MAXQDA. Finally, data was analysed by carrying out within-case and cross-case analysis, until reaching a point of data saturation (Eisenhardt, 1989). In addition, the identified digital platforms used by IBAs were also analysed to understand the main purpose and features to support SME internationalisation.

## 5.4 | Findings and discussion

### 5.4.1 | Digital platforms used by IBAs to support SME internationalisation

Results from the interviews with IBAs show that most of them use basic forms of digital communication and information dissemination with their members, such as emails and websites. Some of them also use social networks like Facebook, Twitter or LinkedIn to disseminate more specific information content. Nevertheless, some of the IBAs show a motivation to change that and are now developing and adopting new ways and new ICT for improving the support to their members. In this chapter, we have special interest in knowing more about digital platforms that are specifically being used for enhancing the internationalisation activities of SMEs. Therefore, the list presented in Table 5.2 refers to digital platforms developed by IBAs alone, or by other entities with the partnership of the IBAs. To maintain the confidentiality of the IBAs, the name and web links of these digital platforms are kept anonymous.

P1 is an open digital platform that was developed by a governmental entity, in collaboration with other institutional entities, including two of the interviewed IBAs. The main features of this digital platform are related with information dissemination about internationalisation topics to facilitate the international expansion of companies of the sector.



P2 is a Portuguese business transfer digital platform for SMEs and was launched by one of the IBAs in partnership with a City Council. It allows an access to a “personalised, flexible and confidential support service to find a new business opportunity”.

P3 is a digital platform developed by one of the IBAs, in cooperation with international associations and other institutional entities in Portuguese-speaking countries. The information disseminated in this platform is only available for the members through registration. The main features are to present a set of information about the sector in Portugal and in Portuguese-speaking countries. The information in this digital platform is provided by IBAs of these countries and by other public entities linked to the industry.

P4 is an open digital platform, also available as mobile platform, which aims to support internationalisation of companies by disseminating good practices and the promotion of international results, offering a set of tools for the internationalisation activity. This digital platform was developed by one of the IBAs in cooperation with Enterprise Europe Network. This IBA has access to a set of databases with information about foreign companies and disseminates market studies about foreign countries and about concrete companies that are abroad.

P5 is a digital platform developed by one of the IBAs, where companies and individuals of the sector need to register to have access to a range of information and features. In the future, this IBA pretends to establish links between companies through the digital platform by launching specific opportunities and create the contact between companies for a specific internationalisation project, aiming to be the main business centre in the sector in Portugal.

Finally, P6 is a digital platform developed by another IBA with reserved access to its members. The main objective of this digital platform is to create collaborations between the members. Although not specifically focused in internationalisation processes, the creation of collaborations can trigger the development of partnerships for specific internationalisation opportunities.

**Table 5.2** - Digital platforms developed by IBAs to support SME internationalisation.

ID	Purpose	Main features
P1	Promote capacity building for internationalisation in the sector	<ul style="list-style-type: none"> <li>▪ Products and markets: documents and information retrieved from other websites to present statistical data about imports and exports, by product sector and by country.</li> <li>▪ Export facilitation: information produced to serve as guidelines and roadmap to exportation.</li> <li>▪ Investment and trade: information and links to instruments and support programs (national programs, EU Horizon 2020, etc.).</li> <li>▪ Strategies and policies: information about public policies in support of internationalisation.</li> <li>▪ Other information: information about news and events of the sector.</li> </ul>
P2	Promote the SME transfer market and its importance and provide companies and investors a single point of contact for national and international business opportunities	<ul style="list-style-type: none"> <li>▪ Opportunities: add new opportunities; edit opportunities; map opportunities; eliminate opportunities; approval of opportunities;</li> <li>▪ Manage documentation;</li> <li>▪ Search by ID, keyword, title or location;</li> <li>▪ Contact new partners;</li> <li>▪ Search for investors.</li> </ul>
P3	Support companies in getting relevant information for an adequate international expansion	<ul style="list-style-type: none"> <li>▪ Databases of companies of the sector;</li> <li>▪ Industrial parks of the sector;</li> <li>▪ General information about these markets;</li> <li>▪ Internationalisation opportunities in these countries;</li> <li>▪ News about the sector;</li> <li>▪ Support guides for internationalisation to these markets;</li> <li>▪ Partners in each of these countries.</li> </ul>

**Table 5.2.** Digital platforms developed by IBAs to support SME internationalisation (continued).

ID	Purpose	Main features
P4	Offer a range of business information to help companies in defining their internationalisation strategies and in increasing their visibility in foreign markets	<ul style="list-style-type: none"> <li>▪ Spotlight: area where news about events, opportunities and other issues related to internationalisation are shared.</li> <li>▪ Company Profile: area where the participating companies are presented through a brief description.</li> <li>▪ Business Matching: placement area for offers and opportunities for partnerships between Portuguese companies and foreign companies.</li> <li>▪ Tenders: a section intended for dissemination of project opportunities, funding opportunities, and consultations in foreign markets.</li> <li>▪ Marketplace: a space reserved for the exclusive promotion of products and services of companies in a showroom environment.</li> <li>▪ Benchmarking: a section designed for the publication of case studies promoting the sharing of successful practices.</li> </ul>
P5	Systematise information about markets, and identify an international business opportunity to group companies in collaborative networks	<ul style="list-style-type: none"> <li>▪ Business: information on public national and European tenders for each area of activity of the sector; opportunities resulting from public procurement; receive inquiries from companies and individuals; request budgets; receive business alerts daily summaries of information by email.</li> <li>▪ Accreditation: have the accreditation seal of the IBA visible in the directory.</li> <li>▪ Business Directory: detailed access to information about all companies available in the directory.</li> </ul>
P6	Create collaborations between associates	<ul style="list-style-type: none"> <li>▪ Search for members of the IBA using an intelligent search to consult information classified for example by type of organisation, industry, product or service, technologies, scientific domains, and customers;</li> <li>▪ Discussion forums;</li> <li>▪ Challenges to create synergies between the associates;</li> <li>▪ Ideas sharing;</li> <li>▪ Working groups.</li> </ul>

During the interviews, the participants also pointed out to the use of additional digital platforms that are focused on international trade but that are managed by other institutional entities such as governments, business clusters, or export agencies. Table 5.3 presents those additional digital platforms. In this case, the names of the platforms are revealed as it does not affect the confidentiality agreements established with the interviewees, and those institutional entities and digital platforms are well-known by most of the business people that deal with internationalisation issues in Portugal and in the UK.

The External Trade and Investment Agency of Portugal (AICEP) provides a digital support for international trade activities of companies. Its main digital platform - Portugal Global (P7) - is mainly concerned with having information for support the international expansion of Portuguese companies. Nevertheless, it presents some modularity by being connected and by providing additional services using other external applications and add-ons, such as the Portuguese suppliers' digital directory and the digital platform 560pt. The latter intends to integrate information about Portuguese products and services, aiming at stimulating the internationalisation of the respective companies. However, it has a restricted access by only making the information available for registered users.

Another example of a digital platform to support SME internationalisation is the one developed by the Department for International Trade (DIT) of the UK Government - Great (P8). This is a very recent tool that was designed to provide services for increasing the exports of British companies. In this digital platform, the type of support available is divided according to the international trade experience of a company: companies with no export experience; companies that occasionally sell abroad; and experienced exporters. There are also features that allow to find buyers in foreign markets and other ones that encourage foreign investment in the country by providing information on a wide range of investment opportunities in the UK.

**Table 5.3** ▪ Digital platforms developed by other institutional entities to support SME internationalisation.**ID Name, Purpose, and Main features**

P7	<b>Portugal Global</b> (AICEP - External Trade and Investment Agency of Portugal)	<p>Encourage foreign companies to invest in Portugal and contribute to the success of Portuguese companies abroad in their internationalisation processes or export activities. <b>Features:</b></p> <ul style="list-style-type: none"> <li>▪ Exporter's Guide: guide for SMEs that want to know how to export successfully. Explanation on the various stages of the export process and ways to overcome risks.</li> <li>▪ Internationalisation Guide: guide to facilitate the path of business expansion to external markets, especially SMEs; case studies and success stories.</li> <li>▪ Events and Internationalisation Actions: diverse internationalisation actions to empower and promote companies by bringing their offer of products and services to the demand in external markets.</li> <li>▪ Buy from Portugal: Portuguese suppliers' digital catalogue/directory.</li> <li>▪ 560 pt: digital platform that integrates information to promote the internationalisation of companies and the exports of national products and services, and create business opportunities for Portuguese entrepreneurs.</li> <li>▪ Support: financial support, export shop, account manager, financial multilateral, external network.</li> </ul>
P8	<b>Great</b> (DIT - Department for International Trade, Government UK)	<p>Help British companies to export to new markets.</p> <p><b>Features:</b></p> <ul style="list-style-type: none"> <li>▪ Help to Sell Abroad: the type of support available is divided and applies to any type of company, i.e. new to exporting, selling abroad occasionally, experienced exporters.</li> <li>▪ Export Opportunities: find and apply for overseas opportunities from businesses looking for products or services; get alerts; get support along each stage of exporting.</li> <li>▪ Find a Buyer: allow companies to create a profile; let international buyers get in touch with companies' sales team; showcase companies' projects and experience; give companies international credibility by displaying independent data.</li> <li>▪ Selling Online Overseas: reach consumers online around the world; get exclusive deals negotiated on behalf of UK businesses.</li> <li>▪ Get Finance: discover how to make the export business of companies more competitive while managing the payment risks; access additional working capital, credit insurance or bank guarantees; understand the competition.</li> <li>▪ Events: list of different types of events that allow companies to export to new markets.</li> </ul>
P9	<b>Export Britain</b> (BCC - British Chambers of Commerce)	<p>Help businesses to make new connections overseas and provide relevant information for internationalisation.</p> <p><b>Features:</b></p> <ul style="list-style-type: none"> <li>▪ Export Services: export readiness; export finance; getting goods to market; international market access; sales &amp; marketing; market promotion; market entry; market development; regional expansion.</li> <li>▪ Export documentation: make arrangements for legal documents to be apostilled or signed by a notary public; provide an online document processing service; export documentation certificates.</li> <li>▪ Export training: export training courses within the British Chambers of Commerce National Training Program for exporters.</li> <li>▪ Export events &amp; missions: international trade events and trade missions to the world's biggest and fastest-growing markets.</li> <li>▪ Export publications: publish reports and surveys into aspect of international trade.</li> </ul>

The last digital platform considered in this study, Export Britain (P9), presents similarities with the previous one. The aim is also to support the international operations of companies in the UK, but here the platform managers and the support is provided by the British Chambers of Commerce (BCC). In this digital platform, it is possible to find a variety of services and information that try to cover each stage of the internationalisation process, i.e. the pre-firm internationalisation phase, the initial internationalisation phase and the continued internationalisation phase (Melén, 2009). Training and events on international trade are also promoted through this tool.

The next section of this paper presents an evaluation and a discussion on the identified digital platforms.

### 5.4.2 | Evaluation of current digital platforms

Results from the interviews show that only a few IBAs are actually using digital platforms to provide an internationalisation support for their members. From the 24 interviews, we have only identified 6 digital platforms developed by IBAs. This situation shows that these institutional entities are still not following the current digital transformation and disruption of markets.

In a first glance, results of the evaluation show that most of the identified digital platforms are mainly focused on information dissemination, where the purpose is to organise international trade information into different topics to be accessed and used by its users. However, the process of information sharing (i.e. information shared by members with the IBAs or information shared between members) is not so evident. In many cases, there are no room for promoting the sharing of information between users, only allowing the platforms' managers to upload and distribute the information content. Regarding the communication, the level is basic in most of the cases. Some communications are also developed through the users' registrations in the digital platforms and the respective communication with the IBA. Nevertheless, P2, P5, P6 and P8 allow users to communicate with each other and share some information. None of the digital platforms allow a full digital coordination of international trade activities of companies.

All these digital platforms have resulted from recent projects of the IBAs that were financed by national or European funds. So, it is still soon to measure the real impact that is currently causing in the SMEs' international operations. Nevertheless, one thing is to comply with well-developed design rules and features to obtain a well-designed digital platform, but another thing is on how to create value and on how to attract users for its proper development. According to de Reuver et al. (2017), there is still a need for a comprehension on why some digital platforms succeed, while others fail. With this current study, it is difficult to infer about that aspect. But what we can conclude from the interviews is that, from one side, if the digital platform is new, it is still early to understand its real impact and success because it has not reached a proper level of maturity. From other side, we found two cases that have been unsuccessful, i.e. the case of P6 and the 560pt platform, integrated in P7. Those two digital platforms were developed more or less 5 years ago, but there has been a low traffic and a reduced interest from companies to access them. Many of the Portuguese IBAs recognise the existence of the 560pt platform that was developed by the Portuguese government, together with AICEP and other institutional entities. The problem is that they also consider that this project has been a flop, and that this specific digital platform does not have the capacity for providing a proper support to internationalisation. The features presented are rudimentary, the information uploaded is not updated, and is still very generic information about some products and services from Portuguese companies. The IBAs are also aware that the majority of their members do not use this tool. Although still accessible, this digital platform has not suffered major modifications from the moment of its creation.

In the case of P6, it is the own IBA's manager that considers the failure of their collaborative digital platform. In this case, the digital platform seems well-designed. However, many investments were made to create P6, but the problem here was the lack of traffic from its members, mainly explained by, among other reasons, the fear of companies for sharing their information with others, or by the lack of time, or even lack of willingness for using such tools. These problems, together with other challenges on the use of digital platforms, will be presented and discussed in more detail in the next sub-section of this chapter.

Another topic of this discussion is related with the competitive environment and the overlaps of support between IBAs and governmental entities. This situation was clearer in the UK, where P8 is managed by the Department for International Trade, and P9 by the British Chambers of Commerce. It seems that everyone wants to be the main hub for international trade businesses in the country, justified by the clear similarities regarding the services provided by those two specific digital platforms, as well as their main objectives: P8 has the purpose of *"Help British companies to export to new markets"*, while the main aim of P9 is to *"Help businesses (in the UK) to make new connections overseas and provide relevant information for internationalisation"*. This situation shows that there is a lack of cooperation between institutional entities

that provide support to SME internationalisation, so more collaborations are needed to facilitate and to improve the international expansion of businesses.

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*“We work very closely with government agents like DIT but we work separately from them at the same time. So, we support each other but we don't always work alongside them. And the reason for that is that I personally believe that there is a very big difference between business-to-business relationships and business-to-government department relationships... That's not decrying the government agencies, the DITs, etc. ... we have a very healthy respect for them and they for us but we do just tend to keep... where we can work together we absolutely do, but most of the time we are working independently.”*  
(IBA<sub>UK2</sub>)

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Some questions that may arise for future research are: Do we need different digital platforms for every institutional entity or do we need to aggregate efforts of gathering information and contacts in a unique platform with the collaboration of everyone?

Obviously, the answer to this question is challenging because, by having only one digital platform to support internationalisation in each country, there is the problem of defining its governance: who will be the main responsible? who will manage its content? who will provide funding? what type of information content each player needs to share? etc. Therefore, in our opinion, digital platforms from governments and other institutional entities should exist for more general information about international trade activities, across all types of sectors. In the case of the IBAs, as they have more specific knowledge about their respective business sectors and as they already have a kind of network established with their members, they should develop their own digital platforms to provide a more detailed and focused information on the respective sector, as well as to facilitate the establishment of real collaborations among their members. This view is also reflected in the opinion of most of the interviewees, as there is a general agreement that the digital platforms from governmental entities and from agencies are useful to have access to statistics, studies and more general information about internationalisation. But, for more specific information about each sector, it is difficult to find valued information that can be used by companies in their decision-making processes.

Nonetheless, insightful discussions on the use of digital platforms were held with the IBAs involved in this study. In these discussions, the interviewees emphasised many important aspects to have in consideration when developing digital platforms. The opinion from IBAs that are not using such platforms and digital tools was also crucial to understand the reasons for not using it. Therefore, the set of interviews that were performed in this study allowed to obtain a rich content about the factors that influence the adoption of digital platforms by IBAs to support SME internationalisation. These results were fundamental to help specifying some requirements and features for digital platforms that can improve information and collaboration management processes of IBAs in internationalisation contexts. The next section presents the detail of these requirements and features.

## 5.4.2 | Requirements and features for digital platforms derived from the interviews

### 5.4.2.1 | Requirements and features from companies (first exploratory study)

The interviews that were performed in this study allowed to obtain different needs and important considerations regarding the use of digital platforms for supporting the SMEs' internationalisation. Before presenting the results of the IBAs' side, we retrieve some of the main points that were mentioned in our first exploratory study with 5 companies associated with IBAs (Costa et al., 2017c), which are important to have in consideration in this present chapter. In this previous study, the focus was on understanding the perspective from those companies, regarding the use of collaborative digital platforms managed by their respective IBAs for supporting their internationalisation processes. Table 5.4 presents the main considerations from this first exploratory study, divided by features, requirements and possible difficulties.

We differentiate requirements and features, considering the first one as something the digital platform must do or a quality it must have, and the second one as a set of related requirements that allows the user to satisfy a business objective or need.

The considerations described in Table 5.4 give us an overview of what companies expect and desire from digital platforms for create the interest in using such tools for their international operations. The processes of matchmaking, and of having access to more organised and valued information, are the main considerations from the interviewed companies. In Table 5.4, it is also presented the main problems that also may arise. Here, the lack of resources and the possibility of companies for not having time or motivation to share or to access information, represent the main pointed difficulties by the companies.

#### **5.4.2.2 | Requirements and features from the IBAs – INFORMATION**

After analysing the current offer in terms of existing digital platforms, and with the perspective from potential users (companies associated with IBAs), it is now possible to present the perception from the possible platforms' managers, which, in this case, are the IBAs. Accordingly, the 24 interviews considered for this present study were transcribed and coded in different categories to help the presentation of the main requirements and features for digital platforms.

The first category is "INFORMATION", which is distributed by different subcategories of what should be the information accessible in a digital platform supporting SME internationalisation:

- Synthetize international trade information;
- International trade documents;
- Financing and credits;
- Detailed information about trade fairs and trade missions;
- Calls for projects / tenders;
- Detailed information about members / database of members;
- Databases of distributors and agents;
- International contacts / databases of companies in foreign markets;
- Legal information and market conditions;
- Policy making information;
- Publications and market studies.

Therefore, findings from the interviews with the IBAs show that a digital platform should allow to have access to a set of important information that can help companies in their international activities, such as international trade documents, information about trade fairs and legal information. Different databases should also be included in the design of digital platforms supporting internationalisation with detailed information about the IBAs' members, accompanied by specific information on distributors, agents, foreign companies and other international contacts. According to the opinion of the interviewees, although recognised as a difficult process, a digital platform could be useful if it allows to gather information from different sources, organise it and synthetize it for a better treatment and management, in order to be shared with the IBAs' members.



**Table 5.4** ▪ Main considerations from companies associated with IBAs from our previous study (Costa et al., 2017c).

<b>Requirements</b>	
International trade information	The information disseminated by the IBAs through digital platforms could be about market conditions, countries' attractiveness, internationalisation strategies and funding projects and programs.
Participation of academic/research entities	The possibility of using a collaborative digital platform only makes sense if entities, such as Universities or research institutes have some participation in its development, in order to connect the business world with the academic world.
Added value	All parts and all users must share something meaningful in this digital platform, not only a few players. Companies must feel that there is a real need for them.
Flexibility in information sharing	A digital platform may work if it has not generalised information, but features that can allow to create and direct information within groups and market segments.
Collaboration	Create collaborations among members can be relevant for making joint strategies and for sharing resources and risks.
<b>Features</b>	
Information management (in general)	Digital platforms could improve information sharing and facilitate the search for partners and opportunities. IBAs could disseminate legal information (e.g. about patents, legislation and customs rules) and filter information according to each member (e.g. information about the countries in which each member is present or has sales).
Opportunities sharing	The IBA could disseminate funding and research opportunities, as well as some more institutional information.
Matchmaking (for approaching markets)	The IBA could align members with same strategies, resources and philosophies by creating synergies to approach specific markets.
Matchmaking (for projects opportunities)	A possible feature of a digital platform is to have a matchmaking process between European projects and the research interests of companies.
Information from external sources	A digital platform could retrieve information from different websites and external digital sources of interest and re-organise it for the interests of the members.
Collaboration features	The IBA could foster collaborations using digital platforms by disseminating the skills and competencies of each associate company, increasing their visibility within foreign markets and industrial sector.
Experiences sharing	A digital platform could allow companies to share previous experiences in foreign markets with other members, in order to understand the rules and specificities of each market, as well as to reduce the possibility of making same mistakes.
<b>Difficulties</b>	
Information management	Transposing all the information management into a digital platform can be very difficult because most of the companies have no desire in sharing their information for confidential reasons and also due to the lack of time for structuring it in a simple and pleasant way to read. Another reason is that people may prefer to exchange experiences in more informal ways, through personal contact.
Platform's governance	The governance of digital platforms to support internationalisation can be difficult due to the lack of resources (human, financial), and the lack of time of both the IBAs and their members.
Content management	To avoid failures, a digital platform needs great human power mostly dedicated to content management.

#### 5.4.2.3 | Requirements and features from the IBAs – COLLABORATION

The second category defined is “COLLABORATION”, which shows some requirements and specific features that could allow to use information for creating collaborative processes of internationalisation:

- International business opportunities disclosure;
- Digital platform dynamic and interactive;
- Integrate external entities of interest to contribute with information;
- Foster business collaboration;
- Logistics sharing;
- Find partners for projects' consortiums.

Regarding the creation of digital collaboration, the IBAs think that a digital platform could have an area of business opportunities where all the offers, regarding the opportunities for internationalisation, could be inserted and presented for the members. The digital platform should also be dynamic and interactive, where companies could insert information and share their stories and experiences with other members. The integration of information from external entities, such as funding entities, clusters, governments, embassies, international trade agencies and foreign IBAs, could also be a success factor to have access to different types of information to be used by the IBAs and their respective members. Other specific collaboration features of a possible digital platform of support to internationalisation could be to allow a member to contact and subcontract another member of the IBA, to insert information for sharing commercial agents, or even to share specific logistics activities such as sharing destinations for products, sharing transportation modes, or sharing warehouses.

#### 5.4.2.4 | Requirements and features from the IBAs – COMMUNICATION

Another category resulting from the transcriptions of the interviews is “COMMUNICATION”. The subcategories defined for this category are:

- Facilitate general communication;
- Contact memos;
- Social networks;
- Media and social communication;
- Promote the image of the sector / country;
- Newsletters.

A digital platform should facilitate the general communication of the IBA with its members or among members. A feature could be to choose specific people or specific department of a member to communicate a certain internationalisation subject, i.e. the information should be more targeted and more classified. Another feature described by one of the interviewees is the possibility to create contact memos, to understand, for example, that in a certain day, at a specific hour, person X from company Y called to ask for clarifications about a particular subject. Many IBAs also consider that a digital platform should be integrated with the current IBAs' social networks (Facebook, LinkedIn, and Twitter) for a proper communication about international trade subjects, as well as by including the clipping of news from the internet, television, journals, etc. All those ways of communication, together with the multimedia resources of the IBAs (e.g. videos), can help the IBA to promote the image of the sector or of the country for the outside world.

#### 5.4.2.5 | Requirements and features from the IBAs – OTHER

The last category defined includes all other requirements and features that the IBAs consider as relevant for increasing their interest on using digital platforms for supporting SME internationalisation, “OTHER”. The list of requirements for this category is:

- Added value / incentive for using a digital platform;
- User-friendly;



- Updates of platform's versions;
- Quality management;
- Flexibility in sharing the information;
- Summarised information;
- Language / idiom;
- Different types of support for different types of companies;
- Companies need technology / technological capital;
- Follow the needs of companies;
- Iterative process of design.

Accordingly, most of the IBAs consider that a digital platform only makes sense if it has an added value for the members. It must allow to reach a specific objective or to meet a specific need. It must be something objective, to not only represent an information portal. Therefore, platform designers should consider how to create an incentive for companies to use such tools, and how to create demand and traffic on the platform. This is an important requirement because if companies see the utility of using digital platforms, they will share information and collaborate with other members. Another requirement is for the digital platform to be user-friendly. Some IBAs consider that adopting an interface leader, such as the ones from Facebook or LinkedIn, could also potentiate more usage and more acceptance from the users. If developed, a digital platform should also allow easy updates in its different versions, as well as allow the possibility to create add-ons and to adapt and upgrade new software and new servers, without incurring in huge investments for companies for maintaining it updated and functional. Other requirements by the interviewees is to have flexibility in disseminating the information, allowing to select the type of information and the targets and members to send the information within the platform. This situation should avoid overloading companies with information that they have no interest on it, as there are different kinds of information that are needed by each company. The information should also be summarised because companies have no time and availability to access and read large content of text. The digital platform should also be multi-language to reach a higher number of people of interest in foreign markets. According to the interviewees, the information and support provided could be divided according to the type of company, in what regards its level of international experience. This is a relevant aspect because, naturally, a company that just started to export have different needs from a company that is used to all the procedures and to all the existing international trade information. Finally, it was possible to retrieve some other important requirements from the interviews, which are related with the need for technological capital of companies and regarding the process of platform design. Some IBAs defend that companies should modernise themselves by adopting technology in their processes of internationalisation, to getting to know people, have online face-to-face meetings, and to even create business. Another issue is that technology facilitates information management processes, as well as can allow IBAs to think about and to create new instruments and tools to support their members. Some IBAs defend that the most successful companies are the ones where there was an intervention of technological capitals that entered and gave great potential to companies in international markets. For the platform design, based on the experience of some IBAs, the whole design process should always follow the needs of companies, using an iterative process of design. Companies should be involved in the design process, to understand their needs, expectations and objectives, allowing to raise the interest on the utilization of the digital platform. Therefore, one recommendation from the interviews is to *"create a solution according to what companies want and not according to what we think that might interest them"* because, at the end, companies will do what they want, and not what the IBA wants. So, before starting to mount the first piece of the platform software, the opinion is that platform designers should listen companies and ask for feedback to meet their goals. The interface of the digital platform should also be simple and have only the essential features to work well for companies.

Besides all these new requirements that were derived from the performed interviews for the category "OTHER", some additional features were also mentioned:

- Restricted access and levels of access;
- Creation of forms;

- Information on the impact of the initiatives developed;
- Market selection tool;
- Add-ons;
- Translation services;
- Integration with existing tools;
- Forums.

Most of the IBAs think that some of the digital platform features should have a restricted access to their members, in order to allow them to collaborate and share experiences with each other without constraints. Another suggestion is to have different levels of access to the information and to the main features of the platform, i.e. distinguish between what is management of content for members and for non-members. The interviewees also mention the creation of various digital forms could also be of interest. Examples of such forms are purchase requisitions, billing orders, price orders, budgeting requests, procurement requisitions, satisfaction survey, general surveys about companies' performance indicators (e.g. export volume of the company), evaluation forms for trade fairs, etc. So, there are many documents and forms that the IBAs consider that could be on digital platforms. Another feature of interest for the IBAs is the possibility of having a market selection tool that can look at the profile of companies and the criteria they are looking for in the market, and help look at criteria like people in market, imports, exports and other indicators, and then select the market and show the highest potentials and risks. The provision of online translation services to companies is also referred as being relevant for translating international trade documents. Finally, the creation of online forums for potentiate the communication and collaboration among members, and the integration of the digital platform with existing tools in the market (from governments, trade agencies, banks, etc.) are also some other features of interest for the IBAs.

#### **5.4.2.6 | Difficulties considered by the IBAs**

The interviews with the 24 IBAs allow us to understand some of the potential problems and difficulties on the use of digital platforms for internationalisation purposes:

- Too many digital platforms;
- Lack of human resources;
- Lack of financial resources;
- Companies not willing to share information;
- Companies not willing to use such tools;
- Lack of time of companies;
- Lack of involvement / engagement of companies;
- Personal contact will be always needed;
- Platform governance;
- Platform maintenance;
- Companies wanting information that the IBA cannot provide;
- Different IBAs for the same sector;
- Too many IBAs and institutions of support (multiple membership of companies);
- Market studies are expensive;
- Companies not aware of the services of the IBAs;
- Lack of support from governments;
- Problems of information standardisation;
- Companies face difficulties for screening project opportunities;
- Cyber-crime and data protection;
- SMEs and the fear of collaboration.

The first problem is referred by some IBAs about the existence of too many attempts to develop digital platforms for internationalisation purposes (and many have failed) by different kinds of entities (trade agencies, banks, governments, etc.), as it seems that everyone wants to have their own digital platform to support companies and all have the same expectation of wanting information forwarded to their own

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digital platforms. So, the first difficulty that an IBA can face is on how to guarantee that its platform will be the one chosen by the companies, and on how to stand out from the competition. Another major problem is on how to motivate companies for sharing information and for making use of the features of a specific digital platform for helping them in their international processes. Some of the problems related with that is the lack of human and financial resources. Some IBAs, who have a small team working inside the association, recognise that a well-developed digital platform, with different kinds of features and information, could require many resources (both human and financial) to preserve it, resources that some could not possess at the moment. Others consider that it is nearly impossible to have one person from the IBA specifically dedicated to feeding and updating a digital platform. The initial costs for developing such tools, as well as the costs of maintenance are also some impediments for its adoption and acceptance. Although considered as potential useful, the cost of diffusing a new digital platform is also an important factor to have in consideration and that may cause additional difficulties. According to some IBAs, the problem of information is to collect it and systematise it.

Another potential problem considered by most of the interviewees is the lack of time and lack of willingness for companies to use such tools, as they are always inserted in pressuring environments and many are not open for adopting new tools or changing habits. Many IBAs complain about the lack of involvement of companies and that, most of the time, it is hard to get information from them. Therefore, asking them to make the share of information and experiences with other members (including competitors) a part of their day-to-day activities, represents an issue that will be very difficult to solve. Many interviewees point the culture and the fear of sharing their information as major problems faced by most of the companies. Therefore, the IBAs recommend to always maintain the informal and personal contact, as it is easier and more acceptable for companies to share their experiences and thoughts, for example, in trade fairs, events, or in a lunch/dinner. Registering this virtually and asking them for writing and uploading information on a digital platform is something that the IBAs think that will be, at least, challenging. Another IBA considers that from an international perspective, online instruction and assistance is often more confusing and they find that companies like to always speak to somebody.

Other difficulties on the use of digital platforms are concerned with the platform governance and platform maintenance. Who will upload and update the information? How to motivate and attract users to keep the platform “alive”? How will the platform be updated? Will other institutional entities contribute and upload their information? Who will fund and develop the digital platform? Those are examples of questions asked by the IBAs in the interviews. In the opinion of a few IBAs, a product can be very good and well developed. But, if the IBA cannot do a proper maintenance, with updates in information and updates in features, there is no point for using such tools. Therefore, before designing and developing any digital platform, platform designers must carefully think about its governance model for meeting the reality of each IBA. Another issue defended by the IBAs is that the digital platform should facilitate a determined process or activity of a company by not creating more complications for them, and by not requiring more work and effort.

Continuing the enumeration of potential difficulties, in some situations the members of IBAs are looking for information that the IBA is not able to provide or, in some other cases, companies are not aware of the full range of services provided by the IBAs. Market studies are also expensive to obtain or to produce. It would also be difficult to standardise the information in a digital platform, due to the various sub-sectors that many times an IBA represents. Each sub-sector has its main needs and nuances that can create additional difficulties in the process of standardising the information to be of interest for everyone. Another problem is for small companies to share their ideas with others, with the fear that a bigger company, with more human power and financial resources, will just swollen them up and take the idea all the way, and then lose their ideas. Cyber-crime is another issue that may arise from the use of technology like digital platforms.

The last topic of this section of difficulties is concerned with the existence of too many IBAs and trade associations, which creates multiple memberships of companies, as sometimes it is possible to find two different IBAs for the same sector. The pointed problem is that there are too many offers for the promotion of internationalisation activities, which overloads companies with large amounts of information and creates a confusion in what is the real capacity of each business association to provide a good and quality service.

## 5.5 | Conclusion and future research

This chapter provides the results from 24 interviews performed with IBAs from Portugal, France, and the UK, on the use of digital platforms to support SME internationalisation in the context of collaborative networks. The first conclusion is that most of the IBAs are not using technology, such as digital platforms, to support the activities of their members. A communication using the email and the dissemination of information through their websites are still the basic technological channels typically used. Nevertheless, a few IBAs are trying to follow the technological trends that are happening in the current digital economy, demonstrated by the use of more advanced technological means and tools. From these interviews, it was possible to identify 9 digital platforms used by IBAs to support the international trade activities of SMEs, by describing their main objectives and features. Six of them were developed by some of the IBAs, while the other three are from government entities or from trade agencies.

An evaluation of these 9 digital platforms was also performed. The main findings of this evaluation show that the existing offer of digital platforms of support to internationalisation lacks to meet some important requirements for obtaining well-designed digital platforms that can allow to create CNs. Nonetheless, the majority of these digital platforms are still new and it seems too early to apprehend the real impact that are causing in the international activities of SMEs. Additionally, with this evaluation, it was also possible to identify a few cases of failure, mainly evidenced by the lack of involvement of companies. There are also overlaps in terms of support activities to SMEs between sectoral IBAs, multi-sectoral IBAs, trade agencies, and governments. It looks like the different institutional entities that provide support to the internationalisation of SMEs are trying to be the main hub or representative, by developing and using similar digital tools and services, without collaborating with each other to provide a proper collaborative international trade support. We also found differences in terms of the levels of international service development among the interviewed IBAs, differences that are also reflected in terms of the acceptance and adoption of technology to their support services. Therefore, we can conclude that before using a digital platform or other more developed IT tools of support to internationalisation, some IBAs need to focus on improving some other basic aspects of their digital evolution, such as getting information from their members to develop a suitable database with detailed information for each member, or designing and developing new websites that reflect the current technological trend in the markets.

Besides the presentation and discussion about the current digital platforms used by IBAs, we were able to obtain a rich set of requirements and features derived from the interviews. First, a brief summary of our previous exploratory study with companies associated with IBAs was presented, giving an overview of what companies expect and desire from digital platforms to raise the interest on the use of such tools. Features such as matchmaking processes or having access to organised information distributed by different internationalisation topics, were the main considerations for the companies. However, the main concerns were on the lack of resources and the lack of time to use digital platforms in their day-to-day international trade activities.

After that, the requirements and features considered by the 24 IBAs were also presented and divided by different categories: INFORMATION (e.g. upload or have access to international trade documents; calls for projects; databases of members, distributors, and agents; legal information and market conditions); COLLABORATION (e.g. international business opportunities disclosure; foster business collaboration; logistics sharing); COMMUNICATION (e.g. contact memos; social networks; media and social communication); OTHER requirements (e.g. added value; user-friendly; updates of platform's versions; flexibility in sharing the information; follow the needs of companies); and OTHER features (restricted access and levels of access; creation of forms; market selection tool). Therefore, the perspective from the potential platforms' managers allowed us to obtain a detailed set of requirements and features on the use of digital platforms for supporting SME internationalisation. Nevertheless, this study also allowed us to understand the main problems and difficulties that can emerge when using and developing digital platforms. Different types of difficulties were mentioned by the IBAs. The main ones are related with the lack of human and financial resources by both the IBAs and the SMEs to manage and maintain such digital

tool. As shown by some companies in our previous exploratory study, some IBAs also think that companies might not have time or people dedicated to access and use the information and features provided by a digital platform. Another recurrent problem is the fact that many companies are still not ready or are reluctant to use such technologies in their activities, mainly due to the fear of sharing their information and experiences, but also because it seems that the personal contact is still the preferred method to do that kind of tasks. Finally, some other difficulties were mentioned such as the platform governance, platform maintenance, the existence of too many digital platforms or too many IBAs and institutional entities providing the same kind of support.

All the information and findings of this chapter can be used by digital platform designers and by IBAs in general, to design and obtain more effective digital platforms in the future that can meet the specific needs of users and managers, always having in consideration the main problems and difficulties of their implementation. In terms of contributions to theory, this chapter brings new knowledge on how organisations can effectively design digital platforms supporting CNs, having the specific context of internationalisation. The results of this chapter will be used in future developments of this study, by proposing and evaluating design principles, in the form of design propositions, for designing effective collaborative digital platforms managed by IBAs for supporting internationalisation processes of SMEs. This will be achieved by performing case studies and focus groups for designing and evaluating the design propositions.

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## **Chapter 6 | Industrial business associations improving the internationalisation of SMEs with digital platforms: A design science research approach**

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## Abstract

This paper aims to contribute to the lack of design knowledge on digital platforms (DPs), by studying the new and specific context of DPs managed by industrial business associations (IBAs) to improve the internationalisation of small and medium enterprises (SMEs). A specific objective is to elicit detailed digital platform's requirements and features for this particular organisational context. A design science research (DSR) approach is adopted to develop design propositions (the artifact), following the context-intervention-mechanism-outcome logic (CIMO-logic). Drawing upon prior literature of DPs, the design propositions are derived for DPs that can support different types of generative mechanisms of social interaction: information sharing, collaboration, and collective action. An abductive approach is followed to obtain the design propositions, balancing empirical knowledge based on interviews performed with IBAs and SMEs in Portugal and in the UK, with theoretical knowledge from the literature of information systems, DPs and collaborative networks (CNs). The design propositions are further evaluated by experts and IBAs. The findings are proved to be relevant for practice, mainly for IBAs, SMEs, and digital platform designers. The knowledge generated in this study can be used for the design and development of more effective collaborative DPs and sociotechnical systems in IBAs for supporting CNs and the internationalisation needs of SMEs.

**Keywords** | digital platforms, design science research, CIMO-logic, internationalisation of SMEs, industrial business associations, collaborative networks.

## 6.1 | Introduction

Digital platforms (DPs) play a fundamental role in today's connected and data-rich society supporting information sharing, collaboration and collective action (Spagnoletti et al., 2015), in cooperation settings such as online communities or enterprise networks. In the business domain, DPs have been fundamental for organisational strategies, strongly relying on formal and informal relationships with other entities, with variations of DPs being designed and developed to improve the management of processes and activities, in particular supporting collaboration and information management (Bellini et al., 2016; Carneiro et al., 2013; Durugbo, 2015). Notwithstanding this development, the full potential of DPs is far from being released or even acknowledged by the individual companies or business networks (Parker et al., 2016; Sebastian et al., 2017). The reason for this lies in two interrelated challenges: on the one hand, in the intrinsic organisational and managerial complexity in implementing collaboration-based inter-organisational structures and behaviours (Costa et al., 2016) and, on the other hand, in the lack of guidance in the design and implementation of DPs as socio-technical systems (de Reuver et al., 2017).

Extant literature on business information technology and systems or, more specifically, on topics such as innovation, adoption and requirements of DPs in business, lack detailed case studies that lead to theoretical and practical knowledge that can help researchers and practitioners alike to better understand the complexities of the application of DPs to business networks. On the other side, research on the design of DPs has mostly addressed the development of design theory based on conceptual analysis and application scenarios, without going into the details of real-world cases to enrich design theory (Spagnoletti et al., 2015).

The aim of this research is to contribute to the knowledge on the design of DPs through a case study based on an empirical study of business networks. The type of business networks addressed, industrial business associations (IBAs), strive for staying relevant and for increasing the added value for their members, by providing new services based on the provision and sharing of information to and by their associate companies, under a collaboration culture (Costa et al., 2017a). IBAs are, in fact, in a process of digital and organisational transformation to become truly collaborative networks (CNs) (Costa et al., 2018). Too much abstraction is, in our opinion, a limitation of current research on the design of DPs, resulting mostly from attempts to create design theories generic enough to be applied in a wide range of real-world situations. To overcome this limitation, we follow a theory elaboration (abduction) approach focusing on one type of business network (IBAs) and in one specific process: the internationalisation of small and medium enterprises (SMEs).

The limited information management capability of SMEs and their difficulties to establish and maintain CNs (Costa et al., 2016a; Nguyen et al., 2006), hinder strategic activities such as the processes of internationalisation that require comprehensive knowledge sourced from official channels (accurate information) and from peer organisations (past experience and lessons learned). Due to their detailed knowledge of particular industrial sectors, and because of their experience in supporting internationalisation processes, IBAs can appear as a main supporting actor for SMEs to obtain a proper access to international contacts and to valued international trade information that can better meet their needs (Costa et al., 2017a). Nevertheless, IBAs are immersed in the current digital economy which has reshaped how SMEs conduct their international activities across foreign markets (Giudici & Blackburn, 2013). The success of international activities is mainly based on firms' technological capabilities and technological knowledge (Sedoglavich, 2012). Therefore, if IBAs want to remain an active support for the internationalisation of their members, they need to take into account their new requirements, and to promote the digitisation of their support activities (Costa et al., 2018), potentially through the adoption of digital platforms.

Regarding the international business (IB), some studies have also been discussing the importance of digital technologies to support the international activities of SMEs (Brouthers et al., 2016; Giudici & Blackburn, 2013). However, the current literature clearly shows the need for developing more direct design knowledge and design theories, in order to provide a better understanding on how organisations can effectively design

digital platforms (de Reuver et al., 2017). Moreover, for obtaining more valid and reliable design theories, research on digital platforms should be situated in specific empirical contexts by specifying concrete requirements that can contribute to the design of digital platforms by organisations (Spagnoletti et al., 2015). Looking at the IB literature, there is a lack of studies addressing the influence of IT and digital platforms as internationalisation support instruments for both IBAs and SMEs.

This research aims thus to contribute to the design knowledge on DPs by bringing the new and specific context of digital platforms managed by IBAs to improve the internationalisation of SMEs. Research has demonstrated the importance of designing effective digital platforms (Spagnoletti et al., 2015, de Reuver et al., 2017), which should, in general, encompass a good balance between: (i) business needs vs opportunity; (ii) individual behaviour vs collective behaviour; and (iii) integration vs coordination (with other information systems). The design of digital platforms poses additional difficulties related with one-of case, with satisfying the needs of multiple stakeholders and managing conflicting goals, as well as with struggles in terms of the complex social dynamics involved and the technology adoption uncertainty (Carneiro et al., 2013; Tiwana, 2015; Parker et al., 2016). Besides studying in detail a new context, another main contribution of this research is to look at this problem from a socio-technical perspective, as we believe this new context could represent a larger socio-technical ecosystem composed by DPs managers (the IBAs), users (the SMEs) and the corresponding social interaction mechanisms involved. Looking at the problem from a socio-technical perspective, we can deal with the multi-actor setting in which the digital platform is to be designed and understand the needs of multiple distributed actors with divergent goals. According to de Reuver et al. (2017), this approach is not usually applied in studies of DPs.

This study is guided by the following research question:

- RQ: how to design DPs as sociotechnical systems for IBAs to improve the internationalisation of SMEs?

To answer this research question, we adopt the paradigm of Design Science Research (DSR), which is a well-established research paradigm both within the Information Systems (IS) and Business and Management Studies (BMS) communities (Hevner et al., 2004; van Aken, 2004). The main goal of DSR is to create innovative artifacts (e.g. models, methods, instantiations, guidelines, design theories) addressing unsolved problems in organisations (Hevner & Chatterjee, 2010). To perform a good DSR project some fundamental aspects must be considered, such as the design and construction of a viable artifact (Hevner et al., 2004), the rigorous evaluation of this artifact (Peppers et al., 2012), and the knowledge contribution of the DSR project (Gregor & Hevner, 2013).

Therefore, a DSR approach is adopted in this study to develop design propositions (our artifact) (Denyer et al., 2008; van Aken, 2015). Design principles that are formulated according to the CIMO-logic (Context, Intervention, Mechanism, Outcome) indicate what to do, in which situations, to produce what effect, and offer understanding of why this happens (Denyer et al., 2008; van Aken, 2013). Accordingly, following the systematic structure of the CIMO-logic, our design propositions are derived for digital platforms that can support different types of generative mechanisms of social interaction: information sharing, collaboration, and collective action (Spagnoletti et al., 2015). The design propositions are developed and are supported by empirical knowledge based on interviews performed with IBAs and SMEs, as well as by theoretical knowledge from the literature. A case study research (CSR) approach (Yin, 2009) is used for supporting the development of the artifact (i.e. for the *ex-ante* stage). This represents another contribution of this study, as case studies in DSR are only used for an *ex-post* evaluation of artifacts, making the relationship between CSR and DSR not completely explored (Costa et al., 2016b). These design propositions will hopefully help IBAs, as well as researchers and practitioners, in designing more effective collaborative DPs and sociotechnical systems for supporting SME internationalisation.

## 6.2 | Theoretical background

### 6.2.1 | Services provided by IBAs to support the internationalisation of SMEs

IBAs, governments, incubators, research institutes and agencies for international development, are examples of institutional network actors that can provide support to the internationalisation of SMEs (Oparaocha, 2015). The other network types are business networks (suppliers, competitors, strategic partners and customers) and social networks (individuals, family, friends, colleagues and employees) (Oparaocha, 2015). Each type of network and each type of actor might provide different kinds of information and/or services to facilitate particular internationalisation decisions of SMEs, such as the selection of the right foreign markets, the choice of the entry mode, or the decision about the right partners to establish collaborations (Costa et al., 2016a). Regarding the specific role of IBAs, Costa et al. (2017a) show that the internationalisation support falls into four main categories, as described in Table 6.1.

**Table 6.1** ▪ Categories of the IBAs' internationalisation support (Costa et al., 2017a).

Category	Conceptualisation
Promotional activities	IBAs promote different initiatives that help SMEs in their internationalisation processes: trade fairs; trade missions; promotional actions; events, meetings and collaborative workspaces.
Counselling, training, and technical and legal support	IBAs have an important counselling and training role for supporting SME internationalisation. The legal support is also fundamental for companies to operate within the laws and rules of foreign countries. Some technical support is also provided for research and development projects, and for other specific internationalisation projects.
Information sharing	Different types of information are shared in IBAs to support SME internationalisation, such as market opportunities, market conditions, legal information, business contacts, initiatives and other relevant information according to each industrial sector. This information comes from a vast diversity of information sources and is shared by different mean and channels, such as email, websites, social networks, personal contact and journals/magazines.
Cooperation with other institutional entities	IBAs act as intermediaries and cooperate with a vast variety of other institutional actors to provide the necessary information, contacts and conditions to the international activities of their associate SMEs. The identified cooperative entities are governments, other associations and IBAs, agencies for internationalisation, embassies, chambers of commerce and industry, foreign companies, consulting firms, clusters, technological centres, training centres, individual ambassadors, funding bodies and regulatory bodies.

In addition, these authors explore the specific information content, information sources and means and channels of information sharing used by IBAs for supporting SME internationalisation. The means and channels used are: email (the most used); telephone; social networks (mainly Facebook and LinkedIn); personal contact (visits to members, meetings, events, etc.); IBAs' websites; books, journals and magazines; newsletters; the press and media; and other DPs and portals.

### 6.2.2 | IBAs as collaborative networks

CNs are networks of organisations that are formed by different and autonomous geographically distributed entities, which are heterogeneous regarding operating environment, culture, social capital, and goals (Camarinha-Matos & Afsarmanesh, 2005). CNs allow companies and organisations to share risks and benefits (Parung & Bititci, 2008), representing also important sources of information and knowledge (Romero et al., 2009). Effective interactions and collaborative processes in CNs are most of the times supported and mediated by information and communication technologies (Carneiro et al., 2013) and differ from other network forms (supply chains, virtual enterprises, clusters, etc.). This is because collaboration in CNs is "*an intentional property that derives from the shared belief that together the network members can*

*achieve goals that would not be possible or would have a higher cost if attempted by them individually.*" (Camarinha-Matos & Afsarmanesh, 2005).

IBAs may increase the chances of success in international markets of their associate SMEs, by establishing CNs and foster information flows among them (Costa et al., 2017b). Accordingly, Costa et al. (2018) classify the network governance of IBAs as potential Network Administrative Organisations (NAO) (Provan & Kenis, 2008), meaning that it could represent a network where an independent, neutral and separate administrative entity is established to manage the network, by acting as a network broker and by managing conflicts. Additionally, the flows of control and information might be essentially dyadic, centred on the governing role of the IBAs.

Previous studies recommend the use of technology for fostering and developing CNs, including the design of technologies of information management to support routine use and to increase system usage (Fedorowicz & Sawyer, 2012), as well as the development of technologies that have the specific purpose of supporting collaborative processes (Carneiro et al., 2013). Therefore, organisations should have an integration of technological tools that support three primary collaboration mechanisms: communication, coordination, and information management. In the context of internationalisation, Costa et al. (2016a; 2017a) also suggest that efficient information, knowledge and collaboration management processes from IBAs, could help SMEs to face their difficulties in managing information and knowledge from their networks and collaborations, as well as to have access to three fundamental resources for improving their international activities: information, knowledge, and collaboration.

### **6.2.3 | Digital platforms theory and the design of digital platforms**

"Digital platform" is a broad term that is being used in many fields of research. Sun et al. (2015) and de Reuver et al. (2017) present an extensive list of definitions from the management and information systems areas. From a technical point of view, a DP could be considered as an extensible codebase to which complementary third-party modules can be added. Looking at the term in a more sociotechnical perspective, it could be defined as a set of technical elements (software and hardware) and associated organisational processes and standards.

The disruptive power of platforms has been demonstrated by the rapid dominance of platform businesses over traditional industries (Parker et al., 2016). Accordingly, many DPs have been designed and used in organisations from different industries, for a variety of purposes, such as to facilitate the communication inside work groups (Mansour, 2009), support online communities (Spagnoletti et al., 2015), create knowledge (Tseng & Johnsen, 2011), manage knowledge in clusters of firms (Cremona et al., 2014), and establish collaborations (Carneiro et al., 2013). Parker et al. (2016) explain that the rapid rise of the digital platform model has been already transforming many major industries and will transform many others in the next few years. In this way, digital industry platforms represent a technological trend that is having a profound impact on companies. Nevertheless, Mergel (2017) argues that this digital transformation requires a holistic effort by organisations, in a way of rethinking and changing their main processes, beyond the traditional digitisation efforts from the past. Accordingly, a digital transformation requires cultural, managerial, process and developmental changes by the organisation as a whole.

Due to the variety of the growing user base, and with the constant development and addition of new IT capabilities and complements, the design context of DPs is subject to a wide range of changes (Spagnoletti et al., 2015). Therefore, efficient platform designs must meet the needs and requirements of their community of users. Nonetheless, according to Spagnoletti et al. (2015), there is still a lack of understanding on how organisations can effectively design DPs supporting online communities. In addition, by analysing and presenting the main issues, risks and recommendation for digital platform researchers, one of the main problems found by de Reuver et al. (2017) is also the lack of design knowledge on DPs.

To cope with this problem, Spagnoletti et al. (2015) start to propose an overarching proposition that the main components of the architecture of DPs should support the mix of three distinct types of social interaction mechanisms for online communities:

- information sharing: actors make their own contents available on the internet; resources are available to all; free participation is allowed;
- collaboration: actors follow rules and engage in activities that require group coordination; participants adapt their behaviour to others; a greater alignment is required between the objective of the group and the objective of the individual;
- collective action: actors follow a common goal and stand by common rules established by group membership; regulations are complex, and a close coordination is required; decisions made by group members prevail over personal interests.

#### 6.2.4 | Digital platforms supporting the provision of internationalisation services by IBAs

Some DPs have been developed to support the internationalisation of SMEs in the EU, mainly to facilitate cooperation between European clusters (European Commission, 2014). For instance, some more active and developed IBAs also gained interest on this kind of technology and are currently using DPs to support members with information about markets and by allowing large companies to subcontract smaller ones for specific international operations (Costa et al., 2017a). Costa et al. (2018) present an exploratory field research based on personal interviews performed with IBAs from Portugal, France, and the UK. In this study, the authors try to understand the use of DPs by those IBAs to support the internationalisation of their members. Results show that most of the IBAs are still using basic forms of technologies to support international trade activities and to interact with their members. The email and the dissemination of information through websites are the technological channels typically used for communication purposes. However, these authors were also able to identify nine DPs that are being used by IBAs, where six of them were developed by some of the IBAs, while the other three are from government entities or from trade agencies. The main conclusions to retrieve from this study are:

- the existing offer of DPs supporting internationalisation in IBAs does not meet important requirements for the creation of effective CNs (Carneiro et al., 2013; Fedorowicz & Sawyer, 2012), or for enhancing social interaction structures of online communities (Spagnoletti et al., 2015);
- the majority of the DPs are still new, and it seems too early to understand the real impact that they are having in the international activities of SMEs;
- it was possible to identify a few cases of failure, mainly evidenced by the lack of involvement of companies;
- there are also overlaps in terms of support activities to SMEs between sectoral IBAs, multi-sectoral IBAs, trade agencies, and governments, evidenced by the development and use of similar digital tools and services.

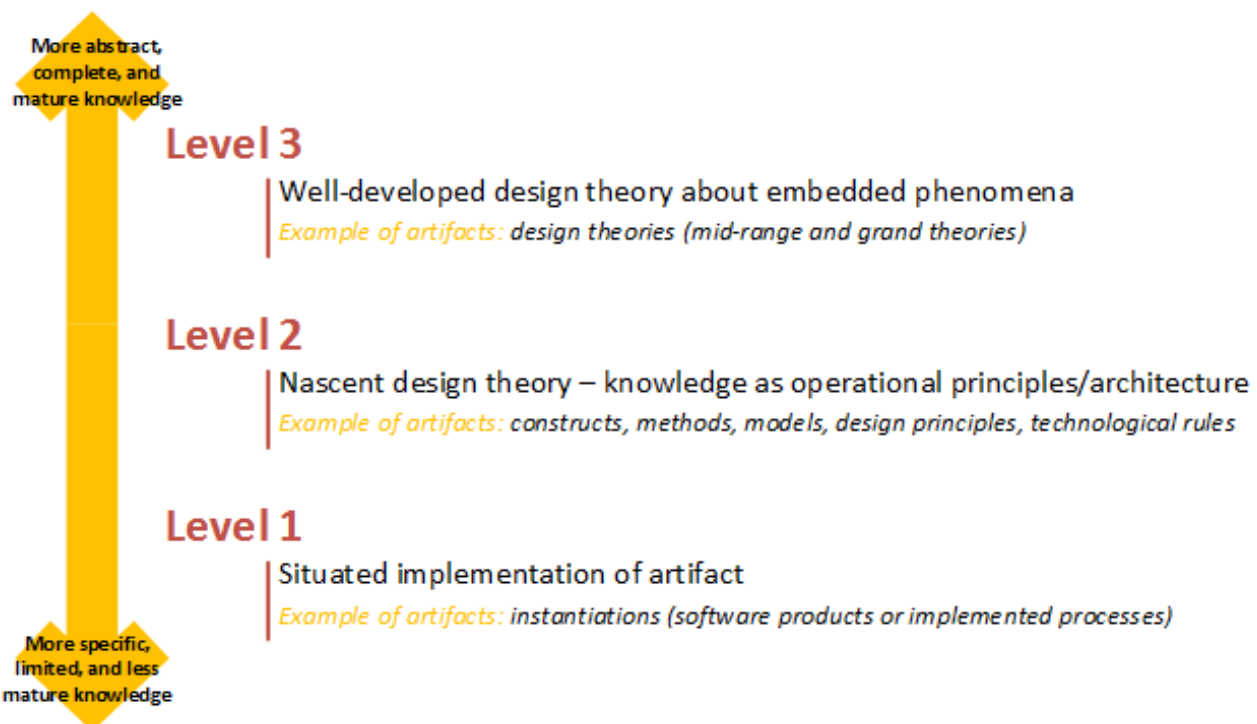
As stated by Sedoglavich (2012), the success of international activities is mainly based on firms' technological capabilities and technological knowledge. Therefore, to face the competition from other institutional and private entities, this shift to technology can be crucial for IBAs to remain as the first choice for SMEs in what regards the internationalisation support.

#### 6.2.5 | Fundamentals of design science research

DSR is now a well-established research paradigm within the IS community and in BMS. Undoubtedly, the important work by Hevner et al. (2004) has been inspiring many research contributions in the area of DSR. These authors provide new insights for IS researchers and practitioners on how to effectively conduct, evaluate and present DSR. This work is mostly influenced by the seminal thinking of Simon (1996) about the design theory and the design process. The main goal of DSR is to create innovative artifacts addressing unsolved problems in organisations (Hevner & Chatterjee, 2010). Such artifacts may include:

- conceptual artifacts, such as constructs, models, methods, and frameworks (Hevner et al., 2004; Peffers et al., 2012);
- formal logical instructions, such as algorithms and instantiations (Hevner et al., 2004; Peffers et al., 2012);
- system design, language/notation, guidelines, requirements, patterns, and metrics (Offermann et al., 2010);
- social innovations (van Aken, 2004);
- new properties of technical, social, or informational resources (Järvinen, 2007);
- architectures, design principles, and design theories (Vaishnavi & Kuechler, 2015);
- design propositions (Denyer et al., 2008; van Aken, 2015).

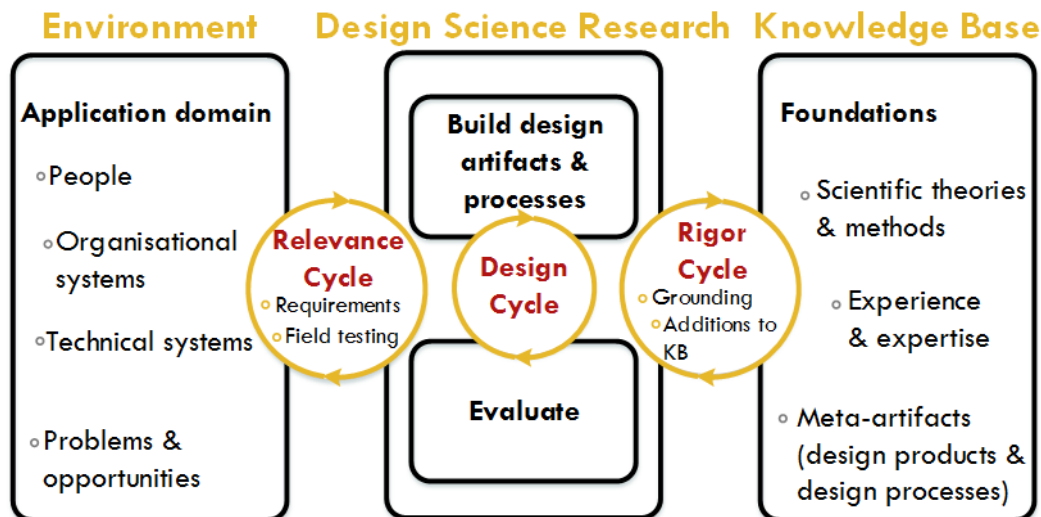
Gregor and Hevner (2013) make a distinction between different DSR types of contributions, according to three maturity levels of DSR artifact types (Figure 6.1).



**Figure 6.1** ▪ Types of contributions in design science research (Gregor & Hevner, 2013).

Hevner (2007) develops a DSR approach based on a complementary 3-cycle model (Figure 6.2): (1) *relevance cycle* – to bridge the contextual environment with the design science activities; (2) *rigor cycle* – to connect the design science activities with the knowledge base (from scientific foundations, experience, and expertise); and (3) *design cycle* – to iterate between the core activities of developing and evaluating the design artifact.





**Figure 6.2** ▪ The 3-cycle model of Design Science Research (Hevner, 2007).

Well designed and developed artifacts are expected to contribute with new knowledge to the body of scientific evidence and to real-world applications (Hevner & Chatterjee, 2010). Gregor and Hevner (2013) identify four types of knowledge contributions, based on the existing state of knowledge, in both the problem and the solution domains: (i) invention (new solutions for new problems); (ii) improvement (new solutions for known problems); (iii) exaptation (known solutions extended to new problems); and (iv) routine design (known solutions for known problems).

To conduct proper DSR in IS, Peffers et al. (2007) develop and evaluate a methodology (DSRM) consisting of six steps: (i) problem identification and motivation; (ii) definition of the objectives for a solution; (iii) design and development; (iv) demonstration; (v) evaluation; and (vi) communication. The evaluation of artifacts represents an essential element of DSR (Hevner et al., 2004; Peffers et al., 2007). However, with the exception of a few recent works, there is still the need for more guidance on how to design the evaluation component of DSR. Peffers et al. (2012) perform a review on 148 DSR articles to analyse the “artifact / evaluation method” combination in order to support researchers in the evaluation method selection. Venable et al. (2014) develop a comprehensive framework for evaluation in DSR, comprising a four-step methodology and making an important distinction between “*ex-ante* vs. *ex-post*” evaluation and “artificial vs. naturalistic” evaluation. Prat et al. (2014) present a holistic view of artifact evaluation in IS, resulting in a high-level abstraction model of evaluation methods and in some instantiations of this model through a set of generic evaluation methods. All of these works point out case studies as one of the typical naturalistic evaluation method in DSR, to be used for the artifact *ex-post* evaluation. However, in multidisciplinary research, for example in the intersection between IS and business studies, case studies can be used before the design of the artifact, by evaluating some preliminary forms or some parts of the artifact (Costa et al., 2016b). In addition, most of the work in IS referring the use of case studies as an evaluation method still fail to provide clear directions on how to effectively design and perform the case studies themselves.

### 6.2.6 | Design science research in management studies

According to van Aken (2004), in organisational and management studies, management is viewed, more and more, as a design science. The author suggests that the traditional description-driven research in management studies (based on the paradigm of the explanatory sciences) must be balanced with more prescription-driven research (based on the paradigm of the design sciences) in order to mitigate relevance and utilisation problems. Consequently, in management studies, DSR is driven by field problems, with the aim of developing generic actionable knowledge, which is knowledge about the type of actions that can be taken to address a certain type of field problem (van Aken, 2015). In other words, the mission of design

science is to develop knowledge that researchers and professionals can use to design solutions for their field problems (van Aken, 2005).

Many other researchers have also been supporters of using DSR in management studies. For example, Hodgkinson and Starkey (2011) make a critical assessment of contributions from the British Academy of Management, suggesting that design science and critical realism have the potential to face the existing relevance problem in the area. Holmstrom et al. (2009) also propose a design science approach to bridge practice to theory rather than theory to practice in Operations Management (OM). These authors contrast exploratory and explanatory research by stating that last developments in OM research have been mainly focused on explanatory research, while the exploratory research is left to the practitioner. Although conscious that explanatory research is fundamental for creating and accumulating theoretical knowledge, they argue that it can become a hindrance to managerial practices when implications are measured in rigorous way. Accordingly, they contend that bridging the explanatory research, that characterises most of the OM studies, to the design science approach (a more exploratory research), can bring benefits for both theoretical and managerial implications. These benefits can be elucidated by the complementary between these two approaches, i.e. the explanatory research can reduce knowledge-creation risks of DSR, while the exploratory base of DSR can make a more practical contribution, due to its explicit focus on improving practice.

### 6.2.7 | Design propositions and the CIMO-logic

Denyer et al. (2008) also make important contributions to the field of management and DSR, by presenting a DSR approach with a discussion of prescriptive knowledge in the form of design propositions, following the so-called CIMO-logic. CIMO-logic allows to obtain a systematic structure for the propositions, combining problematic Contexts with certain Intervention types to deliver specific Outcomes, following generative Mechanisms. Therefore, design principles that are formulated according to CIMO-logic indicate what to do, in which situations, to produce what effect, and offer understanding of why this happens (Denyer et al., 2008; van Aken, 2013). Table 6.2 presents more detail on the description of each component of the CIMO-logic.

**Table 6.2** ▪ Components of the CIMO-logic for the design propositions (Brouwer et al., 2012; Denyer et al., 2008; Holmstrom et al., 2014).

Component	Component
C - Context	The results that human actors aim to achieve and the surrounding (external and internal environment) factors that influence the actors.
I - Interventions	Purposeful actions or measures (products, processes, services or activities) that are formulated by the designer or design team to solve a design problem or need, and to influence outcomes.
M - Mechanisms	The mechanism that is triggered by the intervention, in a certain context, by indicating why the intervention produces a certain outcome. It can be an explanation of the cognitive processes (reasoning) that actors use to choose their response to the intervention and their ability (resources) to put the intervention into practice.
O - Outcome	Result of the interventions in its various aspects.

According to van Aken (2015), one of the key knowledge products of DSR is the design proposition and the most helpful design propositions are those that have been field-tested and grounded. Field tested because it allows to obtain insights and evidence about the practicability of the design position in a specific context and grounded for the fact that it helps to explain the reasons for a determined action to origins the desired outcome in the intended context. Thenceforth, several studies have been using this logic and general template for creating solutions for specific field problems or for research synthesis in different research contexts, such as organisation and management studies (Denyer et al., 2008), new product design and innovation (Weber et al., 2012), value crafting (Holloway et al., 2016), community building in education

(Brouwer et al., 2012), governance of supply networks (Pilbeam et al., 2012), and business models for sustainability (Hellström et al., 2015). In their essay on conducting and publishing DSR in the field of OM, van Aken et al. (2016) explain that the main product of DSR in this area is to create innovative generic design that has been well-tested, well-understood and well-documented, to establish pragmatic validity. This generic design is supported by the design propositions, in order to understand where and how it can be used in the field.

### **6.3 | Vision for IBAs to improve the internationalisation of SMEs with digital platforms**

The theoretical background presented in the previous section gives us important foundations for establishing our vision for IBAs to improve the internationalisation of SMEs with DPs. First, it is important to clarify the definition of “digital platform” in our study. De Reuver et al. (2017) consider that management research does not have in consideration the specific digital characteristics and components of platforms. Instead, the used classifications of technological platforms are only based on the organisational arrangements or, in other cases, the technology and digital part is not considered as theoretically relevant. Therefore, to avoid misinterpretations, and following the recommendations of these authors, we first use a clear definition of what we consider in this paper as a digital platform, drawing upon one of the established definitions from previous research:

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*“A platform is a building block that provides an essential function to a technological system and serves as a foundation upon which complementary products, technologies, or services can be developed” (Gawer, 2009; Spagnoletti et al., 2015).*

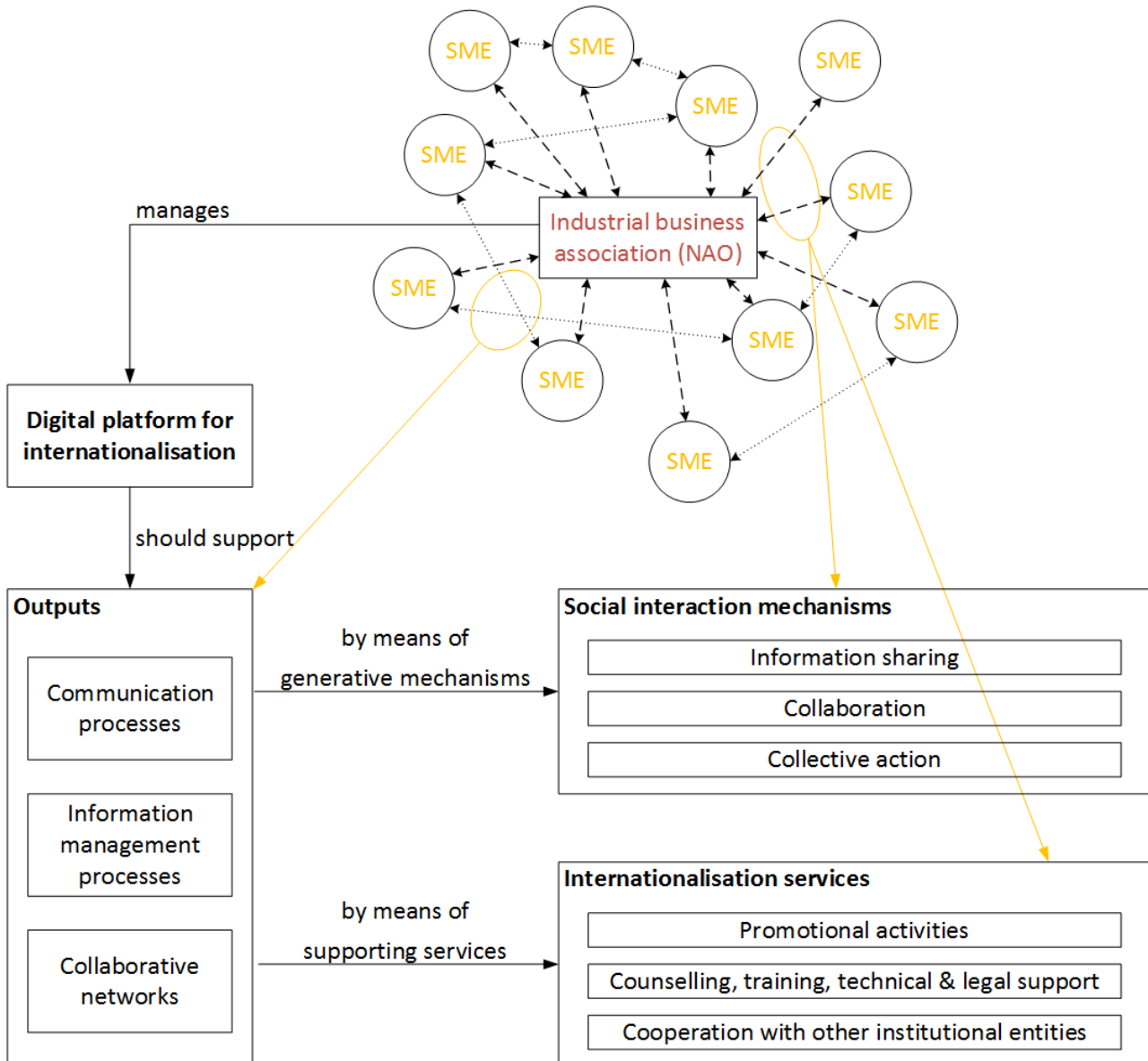
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Thus, when we use the term “digital platform” we are focusing on the technical concept of DPs and on their respective features and services (the unit of analysis) that can be used by organisations to improve management processes. In addition, Sun et al. (2015) show different interlocking research themes that were studied in previous research on DPs: digital platform investment, design, development, governance, adoption, usage, and impact. In this paper, we are mainly concentrated on the design, where the aim is to develop design principles for DPs that support the internationalisation of SMEs.

Spagnoletti et al. (2015) explain that few design theories have been developed for DPs supporting online communities. De Reuver et al. (2017) also supports that argument, clarifying that previous research on DPs has so far not revealed much direct design knowledge. The design theory of Spagnoletti et al. (2015) offers us significant knowledge for our study, addressing ways in which DPs can effectively support three types of social interactions mechanisms in online communities: information sharing, collaboration, and collective action. Nevertheless, the propositions developed by these authors are situated at the high-level/conceptual principles, so they recommend further developments of their work by translating those propositions into tangible and concrete requirements and capabilities, situated in a specific context, for obtaining more valid and reliable design theories (Spagnoletti et al., 2015). Hence, our study aims to contribute to this research direction by eliciting more detailed and specific requirements and features for DPs, bringing the specific context of the internationalisation of SMEs. More specifically, our empirical setting is situated on IBAs and on their management and use of DPs for improving the internationalisation of their associate SMEs.

As demonstrated by Costa et al. (2018), IBAs are still currently using basic forms of technology to communicate and to disseminate information with their associate SMEs. Additionally, it seems that most of the IBAs are not following the current digital transformation that is nowadays disrupting markets in every sector, as only a few are using DPs or other more developed technology to support the activities of their members. Another problem is that the few existing DPs in IBAs are mainly used for information dissemination, failing to provide conditions to support primary collaboration mechanisms (communication, coordination, and information management) for the establishment of effective CNs, or lacking the use of more developed features for enhancing social interaction structures of online communities.

Based on previous research, we argue that IBAs may provide a more proper digital support to the internationalisation of SMEs, when compared with other institutional entities such as governments or export agencies. The reason is that there is a general agreement that the DPs from governmental entities and from agencies are useful to have access to statistics, studies or more general information about internationalisation. But, for more specific information about each sector, it is always difficult to find valued information that can be used by companies in their decision-making processes. Due to their vast experience, contacts and specific knowledge about their respective industrial sectors, IBAs could be in better conditions to provide a more detailed and focused information, as well as to facilitate the establishment of CNs among their associate SMEs. Figure 6.3 presents our vision for IBAs to improve the internationalisation of SMEs with DPs.



**Figure 6.3** - Vision for IBAs to improve the internationalisation of SMEs with digital platforms.

The rationale for this vision is that a digital platform for internationalisation should support communication and information management processes, as well as the establishment of CNs, by means of three distinct types of social interaction mechanisms (information sharing, collaboration, and collective action), and following an organisational network governance structure where the IBA is the network administrative organisation (NAO). Thus, although we adopt a technical perspective for defining the concept of DPs, we also use in our vision a sociotechnical view to represent a larger sociotechnical ecosystem, including: (i) the

network and digital platform managers (the IBAs); (ii) the digital platform users (the SMEs); and (iii) the related social interaction mechanisms. By doing this, we are dealing with the multi-actor setting in which the digital platform is to be designed, allowing us to understand the needs of multiple distributed actors with divergent goals, which is an approach that has not been applied in studies of DPs (de Reuver et al., 2017). The next section provides further detail about the research methodology used to support this vision.

## 6.4 | Methods

### 6.4.1 | Research design

Following the recommendations and research directions of the two important studies of Spagnoletti et al. (2015) and de Reuver et al. (2017), we employ a DSR approach in this study to overcome the lack of design knowledge on DPs. Our aim is to develop a set of design propositions (Denyer et al., 2008; van Aken, 2015) – our DSR artifact – following the CIMO-logic, in order to develop and support the vision presented in the previous section. The design propositions in the study are developed for allowing to obtain detailed requirements and possible features for DPs supporting the internationalisation of SMEs, situated in the specific context of IBAs. Therefore, regarding the DSR contribution type, the design propositions represent prescriptive knowledge and are regarded as mid-range theory, positioned between the case-specific and the universal. This is due to their action/outcome relation and explanatory mechanisms, together with their specified application domain (van Aken et al., 2016). Besides developing design principles, we also intend to contribute with more specific knowledge about operational principles (features of DPs). Therefore, looking at Figure 6.1 of Section 6.2, our design propositions should be positioned at the Level 2 of design principles/technological rules (Gregor & Hevner, 2013). In terms of contribution for DSR knowledge, the artifact represents an improvement (Gregor & Hevner, 2013), as the design propositions try to represent new solutions for known problems of internationalisation. Figure 6.4 shows the research design applied for this study.

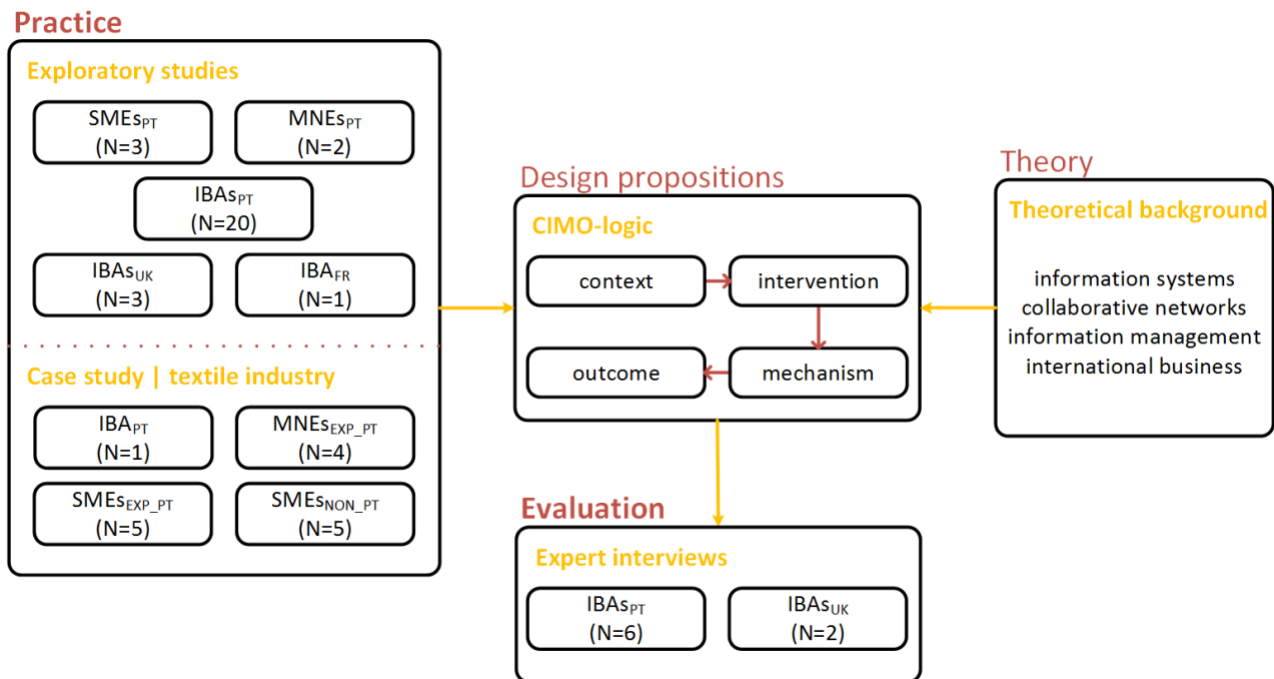


Figure 6.4 • Research design for this study.

The central part of the artifact design – the development of the design propositions – is supported by knowledge from the environment and practice, as well as by knowledge from existing theories and from

the theoretical background involved. By proceeding like that, it is possible to obtain more robust design propositions that are field-tested and grounded (van Aken, 2015).

The practical knowledge is originated from previous empirical studies that we have been performing in this continuous project, together with new insights obtained by performing an additional and more focused empirical study.

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These previous studies allow us to possess an important knowledge base to be considered and integrated in this study for the development of the design propositions. First, we have made a small exploratory field research by interviewing 5 companies – 3 SMEs and 2 large and multinational enterprises (MNEs) – associated with some IBAs in Portugal. One of the objectives was to understand their perspective about the use of DPs managed by IBAs for supporting their internationalisation activities.

After that, we have performed a larger exploratory field research, this time by interviewing 20 Portuguese IBAs from different industrial sectors, in order to extend the previous study. With this new study, we were able to increase our understanding on the current activities and the use of institutional network resources by IBAs to support and facilitate internationalisation processes of SMEs.

Finally, in a new exploratory field research, we have extended the analysis of our previous findings with the 20 IBAs, by bringing the view of additional prospective DPs' managers with additional interviews with 1 IBA in France (because one of the authors had the opportunity to interview it in a specific international event) and 3 IBAs in the UK (as the same author also had a research visiting period in this country). This new study allowed us to increase the validity of our findings. Therefore, based on the 24 interviews with the IBAs, the objectives of this study were: (i) to explain the factors that influence the adoption of DPs by IBAs to support SME internationalisation; (ii) to identify current DPs that are being used and to perform an evaluation of their potential for supporting internationalisation processes; and (iii) to help specifying a preliminary set of requirements and features for DPs supporting internationalisation.

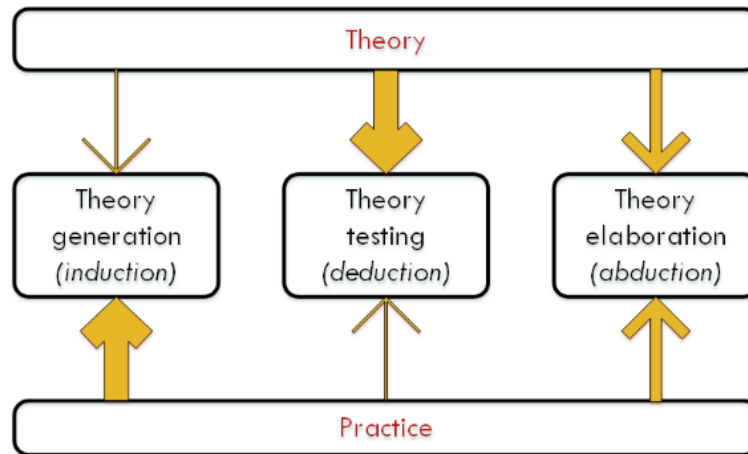
Therefore, we have now a rich set of needs, requirements, and features for DPs supporting SME internationalisation, based on the perspective from potential users (SMEs) and managers (IBAs). We also have knowledge about the main difficulties that may appear, as well as the current offer in terms of DPs and their respective capabilities for supporting international trade activities of companies. By using all this knowledge, the next step is to propose and evaluate design principles, in the form of design propositions, for the context of IBAs seeking to improve internationalisation processes of SMEs with the support of DPs. This is achieved by balancing theoretical knowledge on information systems, DPs, CNs, information management, international business, and business associations, with additional empirical/practical knowledge resulting from a case study in Portugal.

#### **6.4.2 | Case study research**

In BMS, a case study is presented as an empirical description of a contemporary phenomenon within its real-life context, and it is typically based on a variety of data sources (Yin, 2009). In DSR, case studies are viewed as observational methods for the application and the evaluation of an artifact to a real-world context (Hevner et al., 2004; Peffers et al., 2012; Venable et al., 2012). In BMS, particularly in the case of OM, case study research (CSR) is a reputable and widely-accepted research methodology. It gained importance in these areas mainly with the seminal works by Yin (2009) and Eisenhardt (1989), and later by Voss et al. (2002). In fact, Ketokivi and Choi (2014) reinforce this growing interest by stating that a renaissance of CSR in OM occurred in the last twenty-five years. Case studies are preferred in general when (Yin, 2009): (i) "how" or "why" questions are used; (ii) the researcher has no control or little control over events; or (iii) the focus is on a contemporary phenomenon within a real-life context.



However, many authors argue that CSR should be used not only for inductive research, as recommended by Yin (2009) and Eisenhardt (1989), but also for deductive research (Barratt et al., 2011) or for abductive research (Dubois & Gadde, 2002). Therefore, Ketokivi and Choi (2014) propose three different methodological approaches to CSR, in order to analyse its methodological diversity and to increase its transparency: (i) theory generation (inductive research); (ii) theory testing (deductive research); and (iii) theory elaboration (abductive research). Each approach has its peculiarities, mainly concerning the emphasis and interplay between theory and practice, as described in Figure 6.5 by the thickness of the arrows.



**Figure 6.5** ▪ Three methodological approaches to CSR (Adapted from Ketokivi and Choi (2014)).

An effective design of case studies is a fundamental part of any CSR project (Yin, 2009). Voss et al. (2015) revisit case research in OM, giving important recommendations for effectively designing CSR: (i) have knowledge about the theoretical and empirical contexts; (ii) ensure (internal, construct, and external) validity and reliability of the CSR; (iii) select an appropriate research logic (theory generation, theory testing or theory elaboration); (iv) select cases (single or multiple; holistic or embedded); and (v) develop a research protocol (phenomena under study, unit of analysis, research instruments, procedures, etc.). After successfully designing the CSR, the next stages are to conduct, analyse, and report case research (Barratt et al., 2011; Voss et al., 2002; Yin, 2009).

Our CSR follows an abductive research approach, where data was collected in a way that allows for theory elaboration. The existing design theories of DPs gave us relevant theoretical foundations for approaching our empirical context. However, the general context of DPs in SME internationalisation, together with the specific case of the internationalisation support by IBAs, was not sufficiently well known to obtain enough evidences to deduce testable hypotheses or propositions. In addition, other objectives were for us to conduct an exploratory investigation about this empirical context and to explore the relationships among concepts (Whetten, 1989), thus challenging existing theories (not only testing them). Theory elaboration also differs from inductive research, as used in theory generation because some general theories were selected to approach the empirical context.

Like previous research, such as Barratt and Barratt (2011), we used a single case study for a more in-depth exploration and understanding of the phenomena. The main goal was to obtain additional insights and empirical knowledge from companies and potential users of DPs, to be used, together with our previous empirical data, for developing our design propositions. For this single case study, we have selected the Portuguese textile industry through a convenience sampling (Merriam, 1998), as access to data and contacts with companies was likely to be easy. The unit of analysis of this single embedded case study was the IBA of this sector and 14 of its members. The sources of information were personal interviews and documentation. To increase the validity of this CSR, three different types of companies were considered: 1) SMEs with experience in internationalisation processes; 2) SMEs without or with little experience in

internationalisation processes; 3) MNEs with experience in internationalisation processes. Table 6.3 shows the main information about the IBA and the 14 companies of this case study.

**Table 6.3** - Main information about the IBAs and the companies of the case study.

ID	Type of organisation	Position of the interviewee(s)	Duration of the interview (min)
IBA	Industrial business association from the textile industry	General Director; Head of International Department	45
SME <sub>EXP1</sub>	SME with experience in internationalisation processes	Director	28
SME <sub>EXP2</sub>		CEO	18
SME <sub>EXP3</sub>		International Trade	24
SME <sub>EXP4</sub>		Area Sales Manager	32
SME <sub>EXP5</sub>		Assistant Director	24
SME <sub>NON1</sub>	SME without or with little experience in internationalisation processes	Director; Assistant Director	22
SME <sub>NON2</sub>		CEO	23
SME <sub>NON3</sub>		CEO	18
SME <sub>NON4</sub>		CEO	14
SME <sub>NON5</sub>		COO	15
MNE <sub>EXP1</sub>	MNE with experience in internationalisation processes	CEO	34
MNE <sub>EXP2</sub>		CCO	42
MNE <sub>EXP3</sub>		CEO	39
MNE <sub>EXP4</sub>		CEO	34

The procedure to perform these interviews was: (i) use an informed consent form; (ii) perform interviews with personnel working in internationalisation processes or with the owners/managers of companies; (iii) use a semi-structured interview guide (see Appendix 6.1); and (iv) record the conversations. Afterwards, data was analysed through the transcription and coding of the interviews, using the qualitative data analysis software MAXQDA. Some validity and reliability procedures were also considered, such as using documents and information from the IBAs' websites for data triangulation (Yin, 2009), using a diversity of informants for a more complete vision of the environment and for guarantying the construct validity (Barratt & Barratt, 2011) and using a study protocol to repeat the data collection procedures, ensuring the reliability of the study (Yin, 2009).

### 6.4.3 | Artifact evaluation

A rigorous evaluation of an artifact is one of the fundamental aspects to be considered in DSR projects (Hevner et al., 2004; Peffers et al., 2012). Therefore, we decided to evaluate the design propositions through different interviews with experts and IBAs, via personal contact and video conference, both in Portugal and in the UK. The goal was to obtain their opinion and respective evaluation about our set of design propositions. A total of 8 expert interviews were held for the artifact evaluation. In each interview, we presented and explained the design propositions to the participants and we asked them to evaluate and rate each proposed intervention, by answering three questions, with classifications from 1 to 5:

- Level of importance for the design proposition;
- Ease of implementation of the design proposition;
- Additional comments to the design proposition (e.g. modifications or suggestions).

Appendix 6.2 shows the interview guide used for this artifact evaluation.



## 6.5 | Findings: Design propositions

As explained in the previous sections, the design propositions are shaped according to the CIMO-logic, to deliver a prescriptive framework considering the context of IBAs seeking to improve internationalisation processes of SMEs with the support of DPs. Within this general context, a concrete goal is for the DPs to support the establishment of CNs, following three distinct types of generative mechanisms of social interaction: information sharing, collaboration, and collective action. Having in consideration all this information, the next sub-sections present and discuss the design propositions, according to each generative mechanism. Each design proposition comprises a combination of interventions ( $I_1...I_n$ ), following one specific generative mechanism (M) to produce particular outcomes ( $O_1...O_n$ ) in a specific context (C).

### 6.5.1 | Information sharing generative mechanism

In information sharing-centred CNs of SMEs, actors make available their own codified, abstract and diffused information to all, and free participation is allowed (Spagnoletti et al., 2015). The design proposition for the generative mechanism of information sharing is:

**Design proposition 1:** In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by performing different interventions (I<sub>IS1</sub> to I<sub>IS10</sub>), following generative mechanisms of information sharing (M<sub>IS</sub>), will help to deliver specific Outcomes (O<sub>IS1</sub> to O<sub>IS10</sub>).

**C:** IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms

<p><b>I<sub>IS1</sub>:</b> Using online social networks;</p>	<p><b>M<sub>IS</sub>:</b> Information sharing</p>	<p><b>O<sub>IS1</sub>:</b> Improve the communication and social connections among the CN of SMEs, disseminate information about internationalisation, create online working groups, and create live streaming services;</p>
<p><b>I<sub>IS2</sub>:</b> Including a video channel (e.g. YouTube);</p>		<p><b>O<sub>IS2</sub>:</b> Potentiate the digital communication of the IBA and improve the processes of learning and capacity building of members;</p>
<p><b>I<sub>IS3</sub>:</b> Having an open and interactive directory of members with organised and detailed information about each member and each sub-sector;</p>		<p><b>O<sub>IS3</sub>:</b> Facilitate internal and external matchmaking processes and increase the visibility of each member for stakeholders in international markets;</p>
<p><b>I<sub>IS4</sub>:</b> Including chat services, discussion groups and online forums;</p>		<p><b>O<sub>IS4</sub>:</b> Improve synchronous and asynchronous communication among the members of the IBA and foster the share of information and ideas related with internationalisation;</p>
<p><b>I<sub>IS5</sub>:</b> Presenting and structuring the information in a simple, clear and precise way, and organising and filtering it by sectors and sub-sectors of the IBA;</p>		<p><b>O<sub>IS5</sub>:</b> Rise the interest of members to use the digital platform for their internationalisation decisions;</p>
<p><b>I<sub>IS6</sub>:</b> Providing flexibility in disseminating and sharing the information, according to the type of internationalisation information and the recipient of that information;</p>		<p><b>O<sub>IS6</sub>:</b> Avoid overloading members with information that is not relevant for their internationalisation activities;</p>
<p><b>I<sub>IS7</sub>:</b> Managing and supporting the whole information lifecycle (information sources, information acquisition, information dissemination, and information utilisation);</p>		<p><b>O<sub>IS7</sub>:</b> Help CNs of SMEs to have a more efficient and effective access, processing, and utilisation of valued internationalisation information;</p>
<p><b>I<sub>IS8</sub>:</b> Creating a specific feature for the organisation of trade fairs and trade missions that allow members to register and express their interest in particular events and to contact with each other;</p>		<p><b>O<sub>IS8</sub>:</b> Facilitate the management and logistics of trade fairs and trade missions, provide essential information about each event, and improve processes of communication and coordination;</p>
<p><b>I<sub>IS9</sub>:</b> Offering detailed internationalisation support guides;</p>		<p><b>O<sub>IS9</sub>:</b> Facilitate the international expansion of members;</p>
<p><b>I<sub>IS10</sub>:</b> Including a digital market observatory with market sheets, prospective reports and market studies.</p>		<p><b>O<sub>IS10</sub>:</b> Analyse, systematise, discuss and make available relevant information on emerging international markets that may be priority targets for the sector.</p>

**DP1-IS1: online social networks** | Spagnoletti et al. (2015) state that effective DPs supporting information sharing-centred online communities should be connected to online social networking services. Many of the IBAs and SMEs that were interviewed consider that social networks such as Facebook, LinkedIn and Twitter, are the ones of interest for a more direct communication about international trade activities promoted by the IBAs and for sharing some news. Those social networks allow users with similar interests and needs to communicate and exchange ideas and other information (Brouthers et al., 2016) and encourage social connections by allowing users to create their own business network and to post, view, forward, share and comment on its content, in the form of comments, links, photos, and videos (Smallwood, 2014). Such platforms also have an extensive offer of APIs (Tiwana, 2015), which can be chosen by developers to meet some specific requirements. Therefore, IBAs could disseminate in the digital platform and through social network services information about internationalisation promotional activities (trade fairs, trade missions, promotional actions, and events), best practices of members, and general news about international trade

activities. Working groups could also be created in social networks for a particular network partnership to share ideas and information to pursue a specific internationalisation opportunity. Finally, an IBA could use social networks for live streaming services, for example live from one important trade fair or internationalisation-related event.

**DP1-IS2: video channel** | Our empirical studies show that both IBAs and SMEs think that DPs can improve the digital communication to the outside world, as well as promote the image of the sector and of the country. Therefore, besides the connection with popular social networks, another feature of a digital platform could be to have a video channel (e.g. YouTube) with the objective of representing another way of advertising and promoting the industrial sector of an IBA. A video channel could easily be integrated in a digital platform of support to internationalisation through available APIs and add-ons on the market. As demonstrated by previous studies, mass media can be a strong communication channel for creating awareness about an innovation (such as internationalisation), for disseminating general and non-specific information, and for rapidly deliver information to a large number of people (Brouthers et al., 2016). This video channel could also be used by IBAs for training purposes and to better prepare their members for an international expansion, by including videos explaining important internationalisation issues from which members are currently struggling with, such as international marketing strategies, credit insurance, international trade tariffs, and transportation (Costa et al., 2017a).

**DP1-IS3: digital directory of members** | Another intervention for the digital platform is to have a detailed digital directory of members of an IBA. Previous studies in the literature show the significance of keeping up-to-date and maintaining a publicly accessible directory of members of an IBA in its management activities, as many times it represents the first point of contact for external entities of interest to their members (Bennett, 1998; Boléat, 2003). Through our empirical studies, we found that most of the directories in IBAs are not intuitive or only present minimum information of each member, such as its name and business sector. The main outcome of having detailed directories is the possibility to publicise and promote a company by facilitating consultation for improving international business relationships with the general public or with entities of interest and clients. Having detailed information about members could also facilitate matchmaking processes, both internally (within the IBA) and externally (to find partners in other sectors). Therefore, such business directory in the digital platform should be organised by sub-sectors and should include information about the contact of each member, together with more thorough information on its activity and its international presence. In addition, this digital directory should be interactive, with a search field/functionality connected with a set of filters to improve the search of each member. For example, maps could be used to point the geolocation of each member.

**DP1-IS4: basic communication among members** | Besides the communication that can be improved through social network services, which provide tools to support participant communication, such as email, message boards, or chatrooms (Lee et al., 2003), a digital platform should support a much wider communication system to foster information sharing-centred CNs of internationalisation. Cremona et al. (2014) show that DPs may improve synchronous and asynchronous communication among a network of companies. A chat service, activated for users connected to the digital platform, can enable a synchronous communication between two or more companies. Discussion groups and online forums should also be used for asynchronous communication and by sharing information in thematic groups or by posting information, insert multimedia objects (images and videos) or attach different types of files.

**DP1-IS5: information structure** | Peschken et al. (2016) explore the decisions of SMEs' decision-makers in internationalisation, explaining that the structure of the available information to internationalise has a strong influence on decisions regarding cognitive resource requirements. Accordingly, platform designers should also have this issue in consideration. Many IBAs still present outdated and old-fashioned websites and the interviewed companies from our case study think that the information in the IBA's website is poorly organised and dispersed, which negatively affects the image of the sector. They also think that it is important to make the information of internationalisation more accessible because they prefer to resort to the textile IBA, instead of accessing general internationalisation information from other institutional entities. An IBA has the potential of providing a more detailed information, focused on the specific sector.

However, due to the different problems and functioning that characterise each sub-sector of this specific IBA, there is a general agreement that, in order to satisfy the information needs of the largest possible number of members, this information should be organised and filtered according to each sub-sector. Lastly, the information must be simple, clear and precise to increase the interest of companies for accessing the digital platform.

**DP1-IS6: flexibility in sharing information** | Another important requirement for the digital platform is to provide flexibility in sharing and disseminating the information. Many times, companies are overloaded with information about trade fairs or information about some specific internationalisation opportunity that it is not of interest for them. Each sub-sector of an IBA needs different kinds of information, so allowing to easily select the type of information and the targets or members to send the information within the digital platform could be a relevant feature (Costa et al., 2018).

**DP1-IS7: information management** | The management of information in internationalisation processes is another relevant factor to take into consideration, especially when dealing with the large amount of information that typically characterises these processes (Costa et al., 2016a; Xie & Amine, 2009). For Detlor (2010), information management concerns controlling the whole information lifecycle to help people and organisations accessing, processing and using information efficiently and effectively. Theodosiou and Katsikea (2013) explain that the export/internationalisation information system comprises four key dimensions of support to the information lifecycle: information sources, information acquisition, information dissemination, and information utilisation.

- **Information sources:** Based on previous literature and on our empirical studies with different IBAs and SMEs, we are able to identify and synthesize data and information sources to support internationalisation processes (Table 6.4, Table 6.5, Table 6.6). These information sources could be useful for both improving the IBAs' support and the internationalisation of SMEs to have access to a more diversified information content.
- **Information acquisition:** IBAs could use formal (market research) and informal techniques (relying on gatekeepers) to gather and acquire information from different sources (Rodriguez et al., 2010). For this stage, consider the use different export information acquisition modes (Souchon et al., 2015):
  - **export marketing research**, which is formal, systematic and objective and can be carried out both internally and/or externally;
  - **export assistance**, which includes market information and guidance on exporting and export marketing;
  - **export market intelligence**, which is an informal, experiential export information acquisition mode that comprises obtaining information from network sources, such as customers and distributors, through participation in international trade fairs and shows, or in a more direct way, through foreign visits.

Our interviews also show the importance for an IBA to have a more direct contact with some particular institutional entities, promoting a more fruitful sharing of information between them to better support the SME internationalisation. In the particular case of our case study in Portugal, all participants argue that the textile IBA should increase collaborations with AICEP (the external trade and investment agency of Portugal). This institutional entity has delegations in a vast number of countries that have a privileged access to agents, distributors and clients, as well as to relevant international trade information. Nevertheless, the organisation is transversal to all business sectors of the country and the SMEs that were interviewed in our study complain that they have some particular difficulties in searching and accessing more specific internationalisation information about the sector. To solve this problem, IBAs should create better connections with external entities related with internationalisation and establish some kind of protocol and feature in the digital platform, for allowing those external parties to feed the platform with specific information of interest for the sector of an IBA.

- **Information dissemination and information utilisation:** Regarding the detail of the content to be disseminated in the digital platform, the interviewed IBAs consider that a digital platform should allow SMEs to have access to a set of valued information that can facilitate their internationalisation processes, such as market opportunities, international trade documents, information about trade fairs, and legal information. Table 6.7 compiles the information content for internationalisation processes that was indicated by IBAs in our interviews. From the other side, Table 6.7 also shows the needs and the information that SMEs look for in internationalisation processes, which result from our case study. Looking at the information needs of SMEs, particular emphasis must be done at the digital platform design to provide access to detailed information and to databases of potential agents in each foreign trade country. This was the information need that was mentioned by almost every participant of the case study. Therefore, having such information in the IBA's digital platform could add a real value and create an incentive for its use by their members. Naturally, the other information content mentioned are also to be considered, according to the capacities and resources available in each IBA. Additionally, particular emphasis should also be made by each IBA to improve their market intelligence, by having in their digital platform the following reports:
  - Annual report of the sector, with information that could guarantee a thorough knowledge of the sector and its economic reality;
  - Annual prospect report, on the global business of the sector and its evolution;
  - Market sheets, that characterise relevant foreign markets for the industry and for internationalisation;
  - Market studies, to find new markets for members and to discover international business opportunities and development in markets.

**Table 6.4** ▪ Information sources to support internationalisation processes (from the literature).

Information sources	References
<b>Internal sources</b>	
Personal contacts (e.g. export customers, own agents and distributors)	(Danik, 2015; Knight & Liesch, 2002; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Riddle & Gillespie, 2003; Theodosiou & Katsikea, 2013; Walters, 1996; Walters, 1993)
Company's own knowledge and experience	(Bartosik-Purgat & Schroeder, 2014; Danik, 2015; Riddle & Gillespie, 2003)
Company's sales people and offices, and export agents	(Bartosik-Purgat & Schroeder, 2014; Benito et al., 1993; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Theodosiou & Katsikea, 2013; Walters, 1996; Walters, 1993)
Foreign market visits	(Danik, 2015; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Nguyen et al., 2006; Theodosiou & Katsikea, 2013; Walters, 1996)
Company's studies and market research	(Bartosik-Purgat & Schroeder, 2014; Knight & Liesch, 2002; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Walters, 1993)
Company's records (e.g. reports from sales people, statistical reports, trade contracts and invoices)	(Bartosik-Purgat & Schroeder, 2014; Benito et al., 1993; Danik, 2015; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Nguyen & Barrett, 2006)
<b>External sources</b>	
<i>Business networks</i>	
Suppliers	(Danik, 2015; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Nguyen & Barrett, 2006; Riddle & Gillespie, 2003)
Competitors	(Bartosik-Purgat & Schroeder, 2014; Danik, 2015; Leonidou & Katsikeas, 1997)
Customers	(Bartosik-Purgat & Schroeder, 2014; Benito et al., 1993; Danik, 2015; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Nguyen & Barrett, 2006; Riddle & Gillespie, 2003)
Strategic partners and other organisations in the industry	(Danik, 2015; Leonidou & Theodosiou, 2004; Walters, 1996)
Overseas agents, distributors and representatives	(Bartosik-Purgat & Schroeder, 2014; Benito et al., 1993; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Nguyen & Barrett, 2006; Riddle & Gillespie, 2003)
Commercial brokers and freight forwarders	(Danik, 2015; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Walters, 1996)
<i>Social networks</i>	
Friends	(Riddle & Gillespie, 2003; Xie & Amine, 2009)
Family	(Riddle & Gillespie, 2003; Xie & Amine, 2009)

**Table 6.4.** Information sources to support internationalisation processes (from the literature) (continued).

Information sources	References
<i>Institutional networks</i>	
Government offices/ministries	(Knight & Liesch, 2002; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Theodosiou & Katsikea, 2013; Walters, 1996; Walters, 1993)
Embassies	(Bartosik-Purgat & Schroeder, 2014; Benito et al., 1993; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Theodosiou & Katsikea, 2013; Walters, 1996)
Chambers of commerce	(Bartosik-Purgat & Schroeder, 2014; Danik, 2015; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Theodosiou & Katsikea, 2013; Walters, 1993)
Business, trade and industry associations	(Benito et al., 1993; Knight & Liesch, 2002; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Riddle & Gillespie, 2003; Theodosiou & Katsikea, 2013; Walters, 1996; Walters, 1993)
Export agencies	(Bartosik-Purgat & Schroeder, 2014; Danik, 2015; Knight & Liesch, 2002; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Nguyen et al., 2006; Riddle & Gillespie, 2003; Theodosiou & Katsikea, 2013)
Consulting and research agencies and institutes	(Bartosik-Purgat & Schroeder, 2014; Benito et al., 1993; Danik, 2015; Knight & Liesch, 2002; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Nguyen et al., 2006; Theodosiou & Katsikea, 2013; Walters, 1996; Walters, 1993)
Universities and polytechnics	(Knight & Liesch, 2002; Leonidou & Katsikeas, 1997)
Banks	(Bartosik-Purgat & Schroeder, 2014; Danik, 2015; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Walters, 1996; Walters, 1993)
<i>Physical documents and publications</i>	
Trade catalogues, journals, magazines, and books	(Bartosik-Purgat & Schroeder, 2014; Benito et al., 1993; Danik, 2015; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Theodosiou & Katsikea, 2013; Walters, 1993)
Local and international periodicals, journals and newspapers	(Benito et al., 1993; Danik, 2015; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Theodosiou & Katsikea, 2013; Walters, 1996; Walters, 1993)
Internet (e.g. trade lists, statistics, ratings and rankings, on-line market studies and surveys, on-line journals and newspapers, clients and customers' webpages)	(Bartosik-Purgat & Schroeder, 2014; Danik, 2015; Knight & Liesch, 2002; Nguyen et al., 2006; Nguyen & Barrett, 2006; Theodosiou & Katsikea, 2013)
Databases, directories and repositories	(Bartosik-Purgat & Schroeder, 2014; Benito et al., 1993; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004)
Public and commercial libraries	(Knight & Liesch, 2002; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004)
Trade missions, trade fairs/exhibitions and other export/promotion programs	(Bartosik-Purgat & Schroeder, 2014; Danik, 2015; Leonidou, 1999; Leonidou & Katsikeas, 1997; Leonidou & Theodosiou, 2004; Nguyen et al., 2006; Theodosiou & Katsikea, 2013)

**Table 6.5** ▪ Information sources used by IBAs to support internationalisation processes (from our interviews).

Type of source	Category	Information source	
Internal sources	Own experience and know-how	Previous market studies and industrial sector studies	
		Previous internationalisation projects	
		Previous promotional activities	
		Previous international experiences and visits to foreign countries	
	Contacts	Network of contacts with different entities Associates (members)	
	Human resources	Export agents People from commercial and international trade areas	
	Promotional activities	Trade fairs and exhibitions Trade missions Events, meetings and collaborative workspaces Other promotional actions	
	External sources	Entities and organisations	National institutional entities (government, embassies, federations, chambers of commerce, and other business associations) Foreign institutional entities (governments, embassies, federations, chambers of commerce, and other business associations) Consulting agencies Other companies (not members of the IBA) The press (e.g. press TV, journalists, news media) Overseas agents and distributors Universities and research institutes Banks
			International market studies and surveys Statistics Websites Search engines Databases, directories and repositories On-line journals and newspapers



**Table 6.6** • Additional information sources and particular entities and organisations (from expert interviews).

Type of source	Information source
Institutional entities (international level)	<ul style="list-style-type: none"> <li>▪ FITA (Federation of International Trade Associations) Global Trade Portal</li> <li>▪ European Commission</li> <li>▪ Horizon 2020</li> <li>▪ OECD (Organization for Economic Co-operation and Development)</li> <li>▪ WTO (World Trade Organization)</li> <li>▪ BusinessEurope (confederation of European business)</li> <li>▪ World Bank</li> <li>▪ WAIPA (World Association of Investment Promotion Agencies)</li> <li>▪ United Nations</li> <li>▪ IMF (International Monetary Fund)</li> <li>▪ ITC (International Trade Centre)</li> <li>▪ Enterprise Europe Network</li> </ul>
Institutional entities (national level)	<ul style="list-style-type: none"> <li>▪ CIP (business confederation of Portugal)</li> <li>▪ AICEP (external trade and investment agency of Portugal)</li> <li>▪ INE (national institute of statistics)</li> <li>▪ Republic Diary and Assembly of the Republic (for more legal information)</li> <li>▪ IAPMEI (public agency for competitiveness and innovation)</li> <li>▪ Bank of Portugal</li> <li>▪ Portugal 2020</li> </ul>
Statistics of international trade	<ul style="list-style-type: none"> <li>▪ Trade Map (International Trade Centre)</li> <li>▪ nTrade</li> <li>▪ Comtrade (United Nations Commodity Trade Statistics Database)</li> <li>▪ United Nations Data Retrieval System</li> <li>▪ Eurostat (European Commission)</li> <li>▪ OECD.Stat</li> </ul>
Tariff and non-tariff barriers	<ul style="list-style-type: none"> <li>▪ Market Access Map (International Trade Centre)</li> <li>▪ WTO – Tariffs</li> <li>▪ The Market Access Database (European Commission)</li> <li>▪ I-TIP Goods (WTO)</li> </ul>
Business directories	<ul style="list-style-type: none"> <li>▪ Bureau Van Dijk</li> <li>▪ FITA Global Trade Portal</li> <li>▪ GlobalTrade.net</li> <li>▪ Kompass</li> <li>▪ Thomasnet</li> </ul>
Countries' reports, ratings and indicators	<ul style="list-style-type: none"> <li>▪ Doing Business (World Bank)</li> <li>▪ World Competitiveness Centre (IMD business school for management and leadership courses)</li> <li>▪ World Economic Forum</li> <li>▪ IPS (Institute for Industrial Policy Studies)</li> <li>▪ The Global Innovation Index</li> <li>▪ Economist Intelligence Unit (The Economist Group)</li> <li>▪ External Markets (AICEP)</li> <li>▪ Country Profiles and Resources (FITA)</li> <li>▪ Multilateral Investment Guarantee Agency (World Bank)</li> </ul>
Sectorial reports	<ul style="list-style-type: none"> <li>▪ Oxford Economics</li> <li>▪ Industry analysis (Economist Intelligence Unit)</li> <li>▪ Frost &amp; Sullivan</li> <li>▪ D&amp;B Hoovers</li> <li>▪ Plimsoll World</li> <li>▪ BMI Research</li> <li>▪ Datamonitor Healthcare (Pharma intelligence)</li> <li>▪ Euromonitor International</li> </ul>
Portals	<ul style="list-style-type: none"> <li>▪ SME internationalisation portal (European Commission)</li> <li>▪ European Small Business Portal (European Commission)</li> </ul>

**Table 6.7** ▪ Information content to be disseminated in the digital platform (from our interviews).

<b>Information content indicated by IBAs</b>	<b>Information needs indicated by SMEs</b>
Statistical data of the industrial sector: <ul style="list-style-type: none"> <li>▪ evolution of the sector;</li> <li>▪ exports/imports by country;</li> <li>▪ number of companies in a specific country;</li> <li>▪ main foreign importers.</li> </ul>	Main actors / players in new markets Database / list of agents in each country: <ul style="list-style-type: none"> <li>▪ lists with more detail and more updated;</li> <li>▪ full details of the agents;</li> <li>▪ type of brands;</li> <li>▪ type of market;</li> <li>▪ type of clients;</li> <li>▪ type of collections, products, or services;</li> <li>▪ billing volume.</li> </ul>
News and information about the industrial sector: <ul style="list-style-type: none"> <li>▪ about national and international companies of the industrial sector;</li> <li>▪ success stories;</li> <li>▪ events.</li> </ul>	Database / list of distributors in each country (as detailed as possible) Database / list of potential clients in each country (e.g. brands; department stores)
Opportunities for internationalisation Legislative changes Regulatory and political aspects: <ul style="list-style-type: none"> <li>▪ international trade agreements;</li> <li>▪ analysis of international trade agreements;</li> <li>▪ analysis of bilateral agreements;</li> <li>▪ agreements between the EU and other countries.</li> </ul>	New markets / trends of markets Database / list of suppliers in each country (as detailed as possible) Other detailed information about a specific market: <ul style="list-style-type: none"> <li>▪ potential of markets;</li> <li>▪ costumes;</li> <li>▪ consumptions;</li> <li>▪ preferences;</li> <li>▪ interest of that market for a specific type of product;</li> <li>▪ practiced prices (e.g. average product price, sale price);</li> <li>▪ existing support in that market.</li> </ul>
Information about promotional actions: <ul style="list-style-type: none"> <li>▪ trade fairs;</li> <li>▪ trade missions;</li> <li>▪ events and exhibitions;</li> <li>▪ calendar of actions;</li> <li>▪ detail of each action (dates, location, requirements, costs).</li> </ul>	Detailed reports about the sector and sub-sectors of the IBA (market studies) Financing: <ul style="list-style-type: none"> <li>▪ credit insurers;</li> <li>▪ credit insurance;</li> <li>▪ letters of credit;</li> <li>▪ payment options.</li> </ul>
Visits of potential clients Information about specific companies (national and foreign companies) Contacts in national and international markets Information about training activities: <ul style="list-style-type: none"> <li>▪ workshops;</li> <li>▪ seminars;</li> <li>▪ other training actions.</li> </ul>	Analysis of the competition from other markets and countries of the sector
Information of opportunities about applications for national and European projects: <ul style="list-style-type: none"> <li>▪ deadlines;</li> <li>▪ requirements;</li> <li>▪ benefits;</li> <li>▪ costs.</li> </ul>	
Information from own market studies: <ul style="list-style-type: none"> <li>▪ new trends;</li> <li>▪ key players in markets;</li> <li>▪ how the market works;</li> <li>▪ credit insurance;</li> <li>▪ market data and financing conditions.</li> </ul>	
Information from own databases: <ul style="list-style-type: none"> <li>▪ companies' characterisation;</li> <li>▪ products that export;</li> <li>▪ countries of exports;</li> <li>▪ product labels and product details;</li> <li>▪ practiced prices.</li> </ul>	

**DP1-IS8: trade fairs and trade missions** | Our case study reveals that trade fairs are still the main path for internationalisation for most of the interviewed companies. Therefore, independently of the trade fair support that is provided by each IBA, a digital platform could facilitate and help in the organisation of all the logistics processes involved in such events. Instead of sending invitations and organising all the logistics via e-mail, a feature specifically focused on trade fairs and trade missions could be introduced in the digital platform. This feature could provide detailed information about each fair and the costs involved. After that, each member could register and express its interest in a particular trade fair, through a login on the digital platform, and have access to the detail of that fair but also to information about other registered members of the IBA. Besides that, this feature should provide a communication channel, in order to facilitate the coordination between the IBA and all the participants in each trade fair, for example by scheduling and agreeing times and meeting points or, if it is the case, to coordinate the managing and loading of trucks with materials and products from participants that would be disposed and exhibit in the trade fair. Apart from the potential improvements in communication and coordination, this feature could also bring improvements in terms of logistics sharing processes and information organisation, as well as in giving more visibility to each participant in each trade fair and in reducing times of preparations of such events by the IBA. In addition, this feature could include the companies' feedback for each trade fair or trade mission organised by the IBA. To increase the visibility for this type of service provided, the result of this feedback should be accessible to everyone, to understand the potential of each event and to increase further participations.

**DP1-IS9: internationalisation support guides** | Another important requirement mentioned in our empirical studies is related with training. Many SMEs from our case study in the textile industry would like to have some sort of guidelines or internationalisation support guides in such digital platform. For example, to have guidelines on how to proceed for opening a new company in a certain country, and on the related conditions, requirements, legal and financial aspects, entities that should be contacted, and rules and documents needed to achieve that. Having such information in the digital platform could facilitate the international expansion of companies and improve the digital support provided by IBAs.

**DP1-IS10: digital market observatory** | Based on the benchmarking realised in this study, another possibility for IBAs is to develop and include in the platform a digital future market observatory, to analyse emerging foreign markets of priority for the sector and for their members. The main outputs previously mentioned in the market intelligence could be produced and made available in this digital observatory of markets.

## **6.5.2 | Collaboration generative mechanism**

In collaboration-centred CNs, actors adapt their behaviour to others and engage in activities that require group coordination and, like information sharing-centred CNs, the information is codified, abstract and diffused (Spagnoletti et al., 2015). Consequently, many of the interventions previously presented may also support collaboration mechanisms. In this way, in this section we only add a few more interventions for the generative mechanism of collaboration:

**Design proposition 2:** In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by performing different interventions (I<sub>c1</sub> to I<sub>c6</sub>), following generative mechanisms of collaboration (M<sub>c</sub>), will help to deliver specific Outcomes (O<sub>c1</sub> to O<sub>c6</sub>).

**C:** IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms

<b>I<sub>c1</sub>:</b> Encouraging a fully interactive and digital multilateral communication between its members;	<b>M<sub>c</sub>:</b> Collaboration	<b>O<sub>c1</sub>:</b> Promote the sharing of ideas and the fostering of information flows between members;
<b>I<sub>c2</sub>:</b> Having a restricted area with private groups for each sub-sector of the IBA;		<b>O<sub>c2</sub>:</b> Potentiate the sharing of information and sharing of experiences of internationalisation among members;
<b>I<sub>c3</sub>:</b> Promoting more events where foreign companies or members can share their stories and experiences;		<b>O<sub>c3</sub>:</b> Encourage the sharing of experiences about international markets, in a more informal way and by personal contact;
<b>I<sub>c4</sub>:</b> Developing roadmappings that are a combination of skills mapping (competences available in the IBA's members) and foresight (future trends, future requirements, potential partnerships, prospective markets and competences needed);		<b>O<sub>c4</sub>:</b> Improve the provision of market intelligence services by the IBA and potentiate different types of collaborations;
<b>I<sub>c5</sub>:</b> Facilitating the organisation and application of competence mapping models;		<b>O<sub>c5</sub>:</b> Contribute to the provision of roadmapping and matchmaking services by the IBA, identify new international business opportunities and the respective missing competences to exploit these new identified markets;
<b>I<sub>c6</sub>:</b> Having a market place for the placement of offers and market opportunities from foreign entities and clients.		<b>O<sub>c6</sub>:</b> Foster matchmaking processes and allow users to apply and pursue new opportunities for international expansion.

**DP2-C1: fully interactive multilateral communication** | Brouthers et al. (2016) explain the functioning of ibusiness firms. This new type of firm results from the continuous advancements in information and communication technologies and are considered as “firms that offer a digital platform that allows users to interact with each other and generate value through user co-creation of content” (Brouthers et al., 2016). Regarding the types of communication in such firms, ibusiness firms encourage strong and fully interactive multilateral communication between its users in the interactive platform, instead of only a two-way (non-interactive) communication or reactive (quasi-interactive) communication. This means that ideas and information are shared between users to create collaborations and generate user value. In our opinion, besides its role as a Network Administrative Organisation, an IBA should also be more like an ibusiness firm, in order to increase value and collaborations between members in internationalisation processes.

**DP2-C2: restricted areas** | Our case study allows us to realise the content for the ideas and information flows to be shared by members of the IBA. The interviewed companies indicate the type of information to support internationalisation that they are willing to share with or that they want from other members in a digital platform:

- Bad experiences in specific foreign markets (e.g. “a specific client does not pay” or “this client or agent already gave me this problem”). Unsurprisingly, the good ones they will not share because they do not want to give information on their good clients and good contacts to others;
- Difficulties and barriers found in specific countries, in order for others to avoid making the same errors;
- Experiences, processes and lessons learned in each market;
- Own detailed data, such as product typology, business sector, commercial contacts, market segments, and countries where they are inserted, to increase the visibility and the possibility of creating more contacts and more collaborations with other members of the IBA;

- Short-term and long-term strategies and visions, to understand if some specific member can be a potential partner for future internationalisation growth and to know the future markets for investment.

To tackle problems of lack of cooperative and collaborative mentalities in companies (confirmed by our interviews), a possible idea could be to join companies and members that have interest in collaborating and sharing this type of experiences and information, by creating private groups or restricted areas in the digital platform. By doing this, only the companies with a real interest in collaborating could have access to that information and could potentiate the information flows among them. Due to the clear differences in terms of processes, services and products between each sub-sector that compose the textile IBA, the interviewees think that it is difficult to share information and experiences about internationalisation with other sub-sectors. Therefore, another digital platform feature could be the establishment of restricted areas for each sub-sector of the IBA, where companies could enter and access information only about their respective sub-sectors.

**DP2-C3: personal contact and events** | Some interviewees state that the collaboration can happen not only by means of technology but also through more informal and by personal contacts in events, to create a network of people who really want to be part of such collaborative processes. Some suggestions for promoting the sharing of experiences is for the IBA to organise more events, by inviting foreign companies or own members to share a story or an experience in a specific market and then to create potential synergies for collaboration.

**DP2-C4: roadmappings** | Lämmer-Gamp et al. (2014a) develop a service portfolio for the strategic promotion of cross-sectoral collaboration to support the development of new value chains across industrial sectors. They explain that before reaching the stage of developing projects in collaboration, two types of services are needed: market intelligence services and matchmaking services. Following their recommendations, we suggest a new collaboration feature for the digital platform, for the creation of roadmapping strategies to improve the provision of market intelligence services. We consider here roadmapping as a combination of skills/competence mapping (understand the competences available in the IBA's members) and foresight (future trends, prospective markets and competences needed). The results of a roadmapping can normally contribute for the compilation of information for the market intelligence (Lämmer-Gamp et al., 2014b) and can certainly have a strong impact on the overall strategy of the IBA, by setting up both a relevant internationalisation and general future strategy and innovation agenda. Therefore, the role of the IBA here is to moderate, run and publish this roadmapping, in close collaboration with its members and with other partner institutions. Such roadmapping may allow the identification of future inter-sectoral and cross-border cooperation in new areas of internationalisation related to the respective industrial sector. Missing competencies may also be identified, as well as possible partnerships that can bridge the identified gaps.

**DP2-C5: competence mapping models** | A detailed mapping of the competences and skills of the members of an IBA could contribute for both the roadmapping and matchmaking services. Therefore, another design recommendation for the digital platform is to provide a tool that can allow to identify, in a structured way, the main competences of each member. Lämmer-Gamp et al. (2014b) show a good example of such model, which was applied in a cluster of companies in Austria and that can be adapted to promote more collaborations for internationalisation in IBAs:

1. Self-evaluation by each member of the IBA;
2. Workshops with experts and with the IBA to discuss and structure competences;
3. Analysis of potential markets for the member;
4. A second workshop to discuss the knowledge obtained in the competences and markets analysis.

This model could allow to identify new international business opportunities, as well as missing competences that are needed to exploit the new identified markets. In this case, the digital platform can facilitate the organisation and application of the model.

**DP2-C6: digital market place - opportunities from external sources** | To stimulate more collaboration-centred online social interactions of associate companies, IBAs could also provide more business matchmaking services, facilitated by the creation of new features in the digital platform. The meetings, workshops, trade fairs and trade missions promoted, as well as having a detailed business directory (already mentioned before), can already enable this matchmaking among members. However, our empirical studies and interviews also show that both IBAs and SMEs see a digital platform as a potential tool to provide an updated and diversified offer of foreign market opportunities for both increasing internationalisation and facilitating matchmaking processes. Therefore, this new feature could be a market place for the placement of offers and market opportunities, where the IBA is the main responsible to feed with new information this part of the digital platform. Many foreign entities and clients usually contact an IBA, asking for suppliers or distributors within its members. Thus, this information of opportunities from external sources that the IBA receives could be displayed in the digital platform through messages like “the client X is interested in the product or service Y”. Having access to such information, its members could apply and contact other interested parties for pursue a specific opportunity for international expansion. Finally, this feature of the digital platform could also allow users to receive notifications on new information or new opportunities from this market place.

### **6.5.3 | Collective action generative mechanism**

In the case of collective action-centred CNs, there is a close coordination between actors, following a common goal and common rules established by the group members. Here, the information shared is not only abstract but also concrete, uncodified and relatively diffused (Spagnoletti et al., 2015). In this section, we present additional interventions for the generative mechanism of collective action:

**Design proposition 3:** In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by performing different interventions ( $I_{CA1}$  to  $I_{CA6}$ ), following generative mechanisms of collective action ( $M_{CA}$ ), will help to deliver specific Outcomes ( $O_{CA1}$  to  $O_{CA6}$ ).

**C:** IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms

<b><math>I_{CA1}</math>:</b> Providing advanced communication features;	<b><math>M_{CA}</math>:</b> Collective action	<b><math>O_{CA1}</math>:</b> Allow to manage the access to shared resources, together with synchronous and asynchronous communication;
<b><math>I_{CA2}</math>:</b> Developing collaborative decision-making models and approaches;		<b><math>O_{CA2}</math>:</b> Facilitate decisions (partner selection, entry mode selection, and foreign market selection) and the management of collective actions in CNs for internationalisation;
<b><math>I_{CA3}</math>:</b> Including subcontracting services;		<b><math>O_{CA3}</math>:</b> Allow large companies or international experienced companies to subcontract services from smaller companies or less experienced companies of the IBA, increasing the international activities of SMEs.
<b><math>I_{CA4}</math>:</b> Allowing members to insert and feed the digital market place with information about internationalisation opportunities from their contacts and clients;		<b><math>O_{CA4}</math>:</b> Let other members to apply to those opportunities for increasing their international activities, produce an added value and benefit for both parts interested, and create an incentive for members to use the digital platform;
<b><math>I_{CA5}</math>:</b> Including logistics services of warehouse sharing;		<b><math>O_{CA5}</math>:</b> Allow members to share available storage space in particular warehouses and promote collaborative advantages in terms of costs and optimisation of resources for a proper international expansion and sharing economy;
<b><math>I_{CA6}</math>:</b> Including logistics services of transportation sharing.		<b><math>O_{CA6}</math>:</b> Allow members to share transportation capacities and routes and promote collaborative advantages in terms of costs and optimisation of resources for a proper international expansion and sharing economy.

**DP3-CA1: advanced communication features** | For the communication part in collective action activities, besides the other proposed interventions for improving communication presented in the previous sections, here we only adapt the suggestion of Spagnoletti et al. (2015) for the digital platform to have advanced features that can allow to manage the access to shared resources and to allow both synchronous and asynchronous communication to support the formation and continuous evolution of CNs. As demonstrated by these authors, these communication mechanisms for collective action are relevant to ensure convergence and conveyance.

**DP3-CA2: collaborative decision-making** | Spagnoletti et al. (2015) also argue that having advanced communication features in DPs could also support collective decision-making processes. Costa et al. (2016a) also conclude that the development of collaborative decision-making models and approaches is an important requirement for SMEs to manage collaborations in international strategies, mainly for the selection of partners, entry modes and foreign markets.

**DP3-CA3: subcontracting services** | To stimulate more collective action-centred online social interactions of associate companies, and based on the suggestions from our case study, the digital platform could have a feature that allows subcontracting services between companies. Depending on the industrial sector, with our interviews with IBAs from different sectors, we understand that in some cases, only a small percentage or only large enterprises have the capacity to successfully internationalise. Thus, in those cases, the given suggestion is to create a feature that could allow a market of buy and sell between companies of the same sector. In addition, it could be done a collection of the capacities of each member to reach the ideal situation of having the needs from large companies, contrasted with the capacity from the small companies. Other interviewees also suggest subcontracting services of external companies, in cases of not

finding the right resources within the IBA. Therefore, we are talking here about two types of subcontracting services: (i) between members of the same IBA; or (ii) of external companies.

**DP3-CA4: digital market place - opportunities from members** | The subcontracting services could be easily connected with the market place mentioned in the previous section. Very often, in some specific sectors, a member of an IBA receives an order from an international client and has no productive capacity to satisfy the order. In these cases, a company may resort to its competition, independently of the size of the competitor, for meeting the order and deliver the material or product in time. Therefore, instead of only having internationalisation opportunities from external sources that are inserted by the IBA, concrete opportunities posted by members could also be added to the digital market place. This situation can not only foster members to also share information in the digital platform but also increase the sharing of resources and collective actions in internationalisation. With these new findings, we can have two new types of situations:

- “I need X to meet an order or demand of client Y” - a member shares the information and need of a client of interest and does not have the capacity to fulfil its demand alone; at the moment, the member has interest in the client and wants to collaborate with other members;
- “There is a client that needs the material or product X” – a member shares the information and need of a client but has no interest or capacity to meet the demands of that client; at the moment, the member has no interest in the client and is sharing the opportunity for other members.

In both situations, members and users of the digital platform could feed this part of the market place with their own information or with information of opportunities that they receive from external sources. At the end, each member may either insert or apply to specific international business opportunities, which can increase directly or indirectly their international activities and can create a feature of demand and supply of internationalisation services. According to the interviewees, this is the type of information that seems more realistic to share with other members (instead of the previous experiences in markets) because it creates a real need and benefit for both parts interested. This feature could also meet one of the main requirements mentioned by IBAs (Costa et al., 2018) of creating features in a digital platform that can add a real value for the members and that create an incentive for companies to use such tools.

**DP3-CA5: logistics services - warehouse sharing** | A few number of companies and IBAs mention that one of the main difficulties in internationalisation processes is the logistics and transportation of materials and products. A typical problem is related with the lack of warehouses to save materials. Therefore, a feature for logistics services could allow a member to post detailed information about the available space in one of its warehouses that exists in a particular country, such as its location, available storage space, or type of warehouse. Having access to this information in the digital platform, other members could decide to start exporting to a new country using a shared warehouse from another member of the IBA, allowing collective action processes. Reitmaier et al. (2017) also provides scenarios of warehouse sharing in DPs for improving supply chain operations of SMEs, based on a sharing economy.

**DP3-CA6: logistics services - transportation sharing** | Another typical logistics problem is related with routes that have empty trucks. Therefore, a member of an IBA could also insert in a digital platform detailed information about a route or transportation, such as information about destinations, transportation modes, delivery frequency, and delivery times. An example can be to share information about a specific route that one of its trucks usually performs without materials or with some space available for transporting other materials. In this case, another member can enter in contact with this company and share transportation modes for matching routes or destinations. All these logistics services could provide clear collaborative advantages in terms of costs and optimisation of resources. The study of Reitmaier et al. (2017) also provides scenarios of transportation sharing in DPs for improving supply chain operations of SMEs.



## 6.7 | Evaluation and discussion

The design propositions were evaluated and evaluated by interviews with eight experts and IBAs, six in Portugal and two in the UK. The results are presented in Table 6.8.

**Table 6.8** - Evaluation of the design propositions.

Design proposition	Evaluation								Evaluation							
	Level of importance								Ease of implementation							
	V1	V2	V3	V4	V5	V6	V7	V8	V1	V2	V3	V4	V5	V6	V7	V8
DP1-IS1	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP1-IS2	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP1-IS3	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP1-IS4	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP1-IS5	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP1-IS6	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP1-IS7	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP1-IS8	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP1-IS9	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP1-IS10	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP2-C1	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP2-C2	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP2-C3	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP2-C4	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP2-C5	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP2-C6	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP3-CA1	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP3-CA2	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP3-CA3	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP3-CA4	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP3-CA5	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●
DP3-CA6	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●	●●●●

Level of importance:  
 ●●●● (1 = Not at all important)  
 ●●●● (2 = Slightly important)  
 ●●●● (3 = Moderately important)  
 ●●●● (4 = Very important)  
 ●●●● (5 = Extremely important)

Ease of implementation:  
 ●●●● (1 = Very difficult)  
 ●●●● (2 = Moderately difficult)  
 ●●●● (3 = Neither easy nor difficult)  
 ●●●● (4 = Moderately easy)  
 ●●●● (5 = Very easy)

In general, the feedback concerning the importance of the proposed interventions was very positive. The interviewees seemed enthusiastic and even surprised by some of the proposed interventions, because some represented ideas they had not yet thought of. The majority were classified as “4 - Very important” and “5 - Extremely important” by the interviewees. There are some cases where the classification was lower (2 and 3), mainly because of particular interventions that do not fit well in certain industrial sectors. For example, DP3-CA3 and DPCA4 concern to have subcontracting services inside the IBA. In the case of V4, a classification of “2 – Slightly important” was given to those design propositions because companies of the particular sector of this IBA tend to not subcontract services to other members or to other external companies.

Regarding the ease of implementation, we were already expecting lower classifications, meaning that some interventions may be difficult to implement by IBAs, mainly considering the actual situation. Nevertheless, evaluating this factor of the implementation was important for us to get a sense from the perspective of potential DPs managers, as well as to help triggering their minds for thinking about new ideas that can meet the internationalisation needs of their members.

Now, moving on to the detail of the design propositions, we can start to discuss the sharing of information by SMEs. In theory, fostering members of an IBA to share information about their experiences in foreign markets could help others in overcoming barriers and learning to avoid making the same errors. But the reality can be different, mostly because of the current panorama. Considering the interviews from our case study and with these new interviews of the evaluation, the conclusion is that, in some cases, SMEs would

not have any problem of sharing information in a digital platform, because they are more dynamic companies that are confident on the quality of their products and services and who state that are not afraid of the competition. However, from other side, specifically in traditional industrial sectors such as the textile or footwear industry, we still assist a lack of cooperative and collaborative mentalities, with many companies being afraid and reluctant in sharing their information and knowledge with others. Almost everyone state that the main problem is related with the “Portuguese mentality”, where companies tend to see other national companies as their competitors, instead of potential partners to achieve better results in international trade activities. One interviewee stated that business deals are many times lost because companies do not talk to each other.

Accordingly, most of the design propositions that imply SMEs to share their information or experiences in DPs were classified by IBAs as, from one side, being very important but, from other side, of difficult implementation, as they believe that SMEs are still not ready to take this step. Before going to such levels of collaboration and collective action, the mentality of companies has to change and IBAs should make an additional effort to foster information flows and to start with the lower level of promoting the information sharing among members. Chat services, discussion groups and online forums (DP1-IS4), both through social network services and using a digital platform, seems to be a simple first test to achieve that.

The proposed logistics services of warehouse and transportation sharing (DP3-CA5 and DP3-CA6) were some of the interventions that generated more interest from the IBAs. For most of them, these services are very important because one of the main problems that companies face in their internationalisation is exactly related with logistics and transportation costs. Although aware of the difficulties to their digital implementation (as again it requires SMEs to share their information with others), this is seen as being crucial for the resource and cost optimisation in the SME internationalisation. To stress out that the purpose of the digital platform here is to provide this logistics information to all members and to facilitate the contact and collective actions among them. All the subsequent decisions and negotiations are of the responsibility of each member. Companies sharing information about their specific orders and opportunities (DP3-CA3), warehouse capacities (DP3-CA5), transportation routes and capacities (DP3-CA6) seems more realistic for the interviewees, in comparison with the sharing of information about opportunities for other members (DP3-CA4). The first ones have a direct purpose and impact in the activities of companies, so there are higher probabilities of members to share their information. The latter would be also interesting, but the reality is that companies currently do not act like that, i.e. it is rare to have situations where a member approaches the IBA saying “I have received an opportunity, but it is not for me or I am not interested in it, so you can share this opportunity with other members”. Again, it is a matter of changing minds in companies and showing them the benefits of proceeding like that, in a win-win logic of “if you share opportunities to others, others can also share opportunities for you, and everyone wins”.

Additionally, based on the feedback obtained in this evaluation, some design propositions should be reformulated, and new ones generated. For the interactive directory of members (DP1-IS3), although most agree with an open directory, some interviewees contend that this should be closed, only for the IBA and its members, as some companies do not want to have their information accessible to all. Therefore, we reformulate this design proposition:

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**DP1-IS3:** In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by having an interactive directory of members, **with the possibility of being open or closed**, with organised and detailed information about each member and each sub-sector ( $I_{IS3}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), will facilitate internal and external matchmaking processes and increase the visibility of each member for stakeholders in international markets ( $O_{IS3}$ )

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For the feature of trade fairs and trade missions in a digital platform (DP1-IS8), there was one IBA that gave two different classifications for this design propositions. The system of online registration to each event is seen as interesting and important (4) and of easy implementation (5). However, the communication component (“allow members to contact with each”) or having the results of the feedback about each trade

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fair, open to all other members or available to the public, will have another classification (3;3 respectively). The justification provided was that, for the first one, the personal contact is preferred by companies and, for the second one, at the maximum it can be general tips for a particular trade fair. Nevertheless, we maintain this design proposition at it is now, as other interviewees showed interest in having such features.

The intervention proposed for DP3-CA1 “Providing advanced communication features” was not clear to all interviewees, as it is a more general intervention. To avoid future misinterpretation, we reformulate this design proposition by specifying examples of what can be advanced tools for communication:

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**DP3-CA1:** In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by providing advanced communication features **such as shared calendars, video chats, and shared repositories of concrete and uncodified information** ( $I_{CA1}$ ), following generative mechanisms of collective action ( $M_{CA}$ ), will allow to manage the access to shared resources, together with synchronous and asynchronous communication ( $O_{CA1}$ ).

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Finally, new design propositions are added, based on the suggestions given in this evaluation. In DP1-IS7 (information management), for the stage of information dissemination and information utilisation, by focusing at one of the main information needs of SMEs from our case study, we suggest providing access to detailed databases of potential agents in each foreign trade country. This specific intervention was also often mentioned in the evaluation. However, this feature is not explicitly enunciated in the description of the intervention for DP1-IS7 “Managing and supporting the whole information lifecycle (information sources, information acquisition, information dissemination, and information utilisation)”. In according to this, we decided to separate these specific interventions, by proposing the inclusion of different types of databases:

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**DP1-IS11:** In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), **by having detailed databases of agents, distributors, suppliers and clients** ( $I_{IS11}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), **will add a real value and create an incentive for accessing the digital platform** ( $O_{IS11}$ ).

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A new design proposition is also added to the collective action, which relates to office sharing and flexible workspaces:

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**DP3-CA7:** In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), **by including services of office sharing and flexible workspaces** ( $I_{CA7}$ ), following generative mechanisms of collective action ( $M_{CA}$ ), **will allow members to share available offices spaces or desks and promote collaborative advantages in terms of costs and optimisation of resources for a proper international expansion and sharing economy** ( $O_{CA7}$ ).

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This new design proposition was proposed by one IBA, as many times members contact this IBA to know any available office space or desk in a particular foreign country. This could be useful for SMEs looking for flexible workspaces to internationalise to a certain country, and for meetings with potential clients and agents. Different companies have been created in the market to offer this type of services. Nonetheless, including such services inside the IBA could potentiate synergies among an already established network of companies.

The final design propositions are available in Appendix 6.3.

## 6.8 | Conclusion

Following a DSR approach, new design principles and a new artifact were proposed and evaluated in this study, in the form of design propositions. The CIMO-logic proved to be a useful framework for presenting and structuring this artifact. Three general design propositions, together with the associated interventions and mechanisms, were proposed for the context of IBAs to improve SME internationalisation with DPs, to produce particular outcomes. These design propositions were developed following an abductive approach

of balancing existing theoretical knowledge on DPs, IBAs, CNs and internationalisation of SMEs, with new empirical knowledge obtained with several exploratory studies and one single case study. In total, 25 IBAs and 19 companies from Portugal, UK, and France, were interviewed for this study. By proceeding like that, we obtained more robust design propositions that were field-tested and grounded.

The design propositions were also evaluated by eight Portuguese and British IBAs from different industrial sectors. Results showed that most of the design propositions can bring a potential impact to the internationalisation support activities of IBAs. New design propositions were also added with this evaluation process, and minor changes in the final design propositions were made.

In terms of contributions to practice, the design propositions can help IBAs, researchers and practitioners in designing and obtaining more effective collaborative DPs and sociotechnical systems for supporting the internationalisation needs of SMEs. By effective DPs we mean DPs that support different types of CNs and social interaction mechanisms. The detailed digital platform's features for this particular organisational context can allow platform designers to develop technology to meet the requirements of companies in internationalisation activities.

Regarding the contributions to theory, the design propositions can bring new design knowledge and can elaborate on reliable design principles on DPs (abductive approach), contributing with propositions translated into tangible and concrete requirements and capabilities, situated in a specific context and empirical setting. The adoption of a sociotechnical perspective can also represent an important theoretical contribution, as we are dealing with a larger sociotechnical ecosystem for studying DPs, composed by the multi-actor setting of IBAs and SMEs, together with their involved social interaction mechanisms. With this approach, we can understand the needs and the requirements of multiple distributed actors with divergent goals in which the digital platform is to be designed. The use of a CSR approach for an ex-ante evaluation of the artifact also represents an important contribution for the area of DSR.

Nevertheless, this study also has its limitations. The methodological approach is qualitative, which can normally imply some additional difficulties in obtaining a generalisation of the findings. Although we consider we have a good sample of interviewed companies for a qualitative research, we are also aware that further developments of this work may also require research in a more quantitative basis, as a way to complement the obtained qualitative insights. Due to differences in terms of resources, capacities and size that may exist in the universe of IBAs, some proposed interventions may not be applied or may be almost impossible to implement by some of those institutions. However, our contribution here was to explore and present different kinds of interventions that may require more basic resources or more complex resources. Then, it is up to each IBA to use the knowledge generated in this study according to their strategy and capacities.

Future research opportunities exist in advancing design theories on DPs for this specific context of internationalisation, or in developing new theories for new specific organisational contexts. More applied and practical research using the CIMO-logic could be developed, in order to further strengthen the role of this method in the current IS and BMS literature. Finally, future research could also be developed by translating our design propositions into specific requirements for validating those propositions, and for developing and implementing DPs in practice.

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## Appendix 6.1 | Interview guide for the case study

### Interview Guide

Date | \_\_\_\_\_

Hour | \_\_\_\_\_

Location | \_\_\_\_\_

Interviewer(s) | \_\_\_\_\_

Interviewee(s) | \_\_\_\_\_

#### A | Collaboration and the role of the association in internationalisation

- 1 | Tell me a little about the process of internationalisation of your company (main activities and the respective links - process).
- 2 | What activities of the internationalisation process does the association support in any way?
- 3 | What other support would you like to have from the association in internationalisation processes?
- 4 | In the company's previous internationalisation processes, was there any kind of collaboration with other members/companies of the association?
- 5 | Do you think it is important to collaborate with other members of the association in internationalisation processes?
- 6 | What is your vision for the role of the association in establishing conditions for greater collaboration among members in internationalisation processes in particular? Is it desirable and/or feasible?

#### B. Information and knowledge management in internationalisation processes

- 7 | What are your needs (present or future) in terms of information on issues related to internationalisation? What difficulties do you feel or foresee to access/obtain the necessary information?
- 8 | Would you be willing to share information/knowledge with other companies about the internationalisation process?
- 9 | What information do you use/need?
- 10 | Is there any kind of information sharing or knowledge sharing with the association or with other institutional entities in the internationalisation processes of your company?
- 11 | If so, what channels or technologies are used in this process of information or knowledge sharing?
- 12 | How does the company make use of the information about internationalisation? (markets, legislation, etc.) i.e. how do you use it to make decisions? How is it disseminated throughout the organisation?
- 13 | How do you internalise the knowledge about the internationalisation process?
- 14 | What do you think of the role of the association as "information manager" of interest to its members? Is it desirable and/or feasible?

#### C. Digital platforms in internationalisation processes

- 15 | Do you think that the management of information and knowledge related to internationalisation processes could be success factors if mediated by a collaborative digital platform?
- 16 | What is your vision for the evolution of such digital platform? Do you think that your company would be willing to use such platform that would be managed by the association?
- 17 | What are the main requirements to be taken into account when developing such digital platforms in terms of collaboration, information sharing, joint activities, so that your company has an interest in its use?
- 18 | Do you think that your company would be willing to share information about internationalisation and past experiences in overseas markets with other members of the association? If so, what kind of information would you be willing to share?
- 19 | What kind of information would you like to get from other members of the association?
- 20 | What other features would you like to have in such digital platforms of support to internationalisation?

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## Appendix 6.2 | Interview guide for the artifact evaluation

### Digital platforms supporting SME internationalisation: Evaluation of design propositions

Thank you for participating in the evaluation of the results obtained in this project. Your feedback is very important to us as we want to improve the internationalisation support that is provided by industrial business associations (IBAs), through the use of digital platforms.

Preliminary studies were undertaken in this project, where we interviewed a total of 25 IBAs and chambers of commerce, as well as 19 companies associated with IBAs, in Portugal, UK, and France. The aim of these studies was to ascertain the opinions of IBAs and companies on the use of digital platforms for internationalisation processes.

These studies resulted in the definition of a set of design propositions for digital platforms to support collaborative networks (CNs) in internationalisation processes. The design propositions were formulated according to the CIMO-logic. CIMO-logic allows to obtain prescriptive knowledge and a systematic structure for the propositions, combining problematic Contexts with certain Intervention types to deliver specific Outcomes, following generative Mechanisms. Thus, design principles that are formulated according to CIMO-logic indicate what to do, in which situations, to produce what effect, and offer understanding of why this happens.

Now, we need your feedback to understand if this is exactly what you want and need. You will be presented with a set of design propositions divided into three main mechanisms:

- **information sharing:** actors make available their own contents on the internet; resources are available to all; free participation is allowed.
- **collaboration:** actors follow rules and engage in activities that require group coordination; participants adapt their behaviour to others; a greater alignment is required between the objective of the group and the objective of the individual.
- **collective action:** actors follow a common goal and stand by common rules established by group membership; regulations are complex, and a close coordination is required; decisions made by group members prevail over personal interests.

This evaluation is divided into different sections, where each section concerns different interventions and outcomes for a specific mechanism in the context under study, and for each section we will ask you three questions:

**1 |** Please rate the level of importance for this design proposition:

- 1 = Not at all important
- 2 = Slightly important
- 3 = Moderately important
- 4 = Very important
- 5 = Extremely important

**2 |** Please rate the ease of implementation of this design proposition:

- 1 = Very difficult
- 2 = Moderately difficult
- 3 = Neither easy nor difficult
- 4 = Moderately easy
- 5 = Very easy

**3 |** What would you change or do differently in this design proposition?

(open)

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## Appendix 6.3 | Final design propositions

### Information sharing

**DP1-IS1** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by using online social networks ( $I_{IS1}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), will improve the communication and social connections among the CN of SMEs, disseminate information about internationalisation, create online working groups, and create live streaming services ( $O_{IS1}$ ).

**DP1-IS2** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by including a video channel (e.g. YouTube) ( $I_{IS2}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), will potentiate the digital communication of the IBA and improve the processes of learning and capacity building of members ( $O_{IS2}$ ).

**DP1-IS3** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by having an interactive directory of members, with the possibility of being open or closed, with organised and detailed information about each member and each sub-sector ( $I_{IS3}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), will facilitate internal and external matchmaking processes and increase the visibility of each member for stakeholders in international markets ( $O_{IS3}$ ).

**DP1-IS4** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by including chat services, discussion groups and online forums ( $I_{IS4}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), will improve synchronous and asynchronous communication among the members of the IBA and foster the share of information and ideas related with internationalisation ( $O_{IS4}$ ).

**DP1-IS5** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by presenting and structuring the information in a simple, clear and precise way, and organising and filtering it by sectors and sub-sectors of the IBA ( $I_{IS5}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), will rise the interest of members to use the digital platform for their internationalisation decisions ( $O_{IS5}$ ).

**DP1-IS6** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by providing flexibility in disseminating and sharing the information, according to the type of internationalisation information and the recipient of that information ( $I_{IS6}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), will avoid overloading members with information that is not relevant for their internationalisation activities ( $O_{IS6}$ ).

**DP1-IS7** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by managing and supporting the whole information lifecycle (information sources, information acquisition, information dissemination, and information utilisation) ( $I_{IS7}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), will help CNs of SMEs to have a more efficient and effective access, processing, and utilisation of valued internationalisation information ( $O_{IS7}$ ).

**DP1-IS8** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by creating a specific feature for the organisation of trade fairs and trade missions that allow members to register and express their interest in particular events and to contact with each other ( $I_{IS8}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), will facilitate the management and logistics of trade fairs and trade missions, provide essential information about each event, and improve processes of communication and coordination ( $O_{IS8}$ ).

**DP1-IS9** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by offering detailed internationalisation support guides ( $I_{IS9}$ ), following generative mechanisms of information sharing ( $M_{IS}$ ), will facilitate the international expansion of members ( $O_{IS9}$ ).

**DP1-IS10** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by including a digital market observatory with market sheets, prospective reports and market studies (I<sub>IS10</sub>), following generative mechanisms of information sharing (M<sub>IS</sub>), will analyse, systematise, discuss and make available relevant information on emerging international markets that may be priority targets for the sector (O<sub>IS10</sub>).

**DP1-IS11** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by having detailed databases of agents, distributors, suppliers and clients (I<sub>IS11</sub>), following generative mechanisms of information sharing (M<sub>IS</sub>), will add a real value and create an incentive for accessing the digital platform (O<sub>IS11</sub>).

### Collaboration

**DP1-C1** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by encouraging a fully interactive and digital multilateral communication between its members (I<sub>C1</sub>), following generative mechanisms of collaboration (M<sub>C</sub>), will promote the sharing of ideas and the fostering of information flows between members (O<sub>C1</sub>).

**DP1-C2** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by having a restricted area with private groups for each sub-sector of the IBA (I<sub>C2</sub>), following generative mechanisms of collaboration (M<sub>C</sub>), will potentiate the sharing of information and sharing of experiences of internationalisation among members (O<sub>C2</sub>).

**DP1-C3** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by promoting more events where foreign companies or members can share their stories and experiences (I<sub>C3</sub>), following generative mechanisms of collaboration (M<sub>C</sub>), will encourage the sharing of experiences about international markets, in a more informal way and by personal contact (O<sub>C3</sub>).

**DP1-C4** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by developing roadmappings that are a combination of skills mapping (competences available in the IBA's members) and foresight (future trends, future requirements, potential partnerships, prospective markets and competences needed) (I<sub>C4</sub>), following generative mechanisms of collaboration (M<sub>C</sub>), will improve the provision of market intelligence services by the IBA and potentiate different types of collaborations (O<sub>C4</sub>).

**DP1-C5** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by facilitating the organisation and application of competence mapping models (I<sub>C5</sub>), following generative mechanisms of collaboration (M<sub>C</sub>), will contribute to the provision of roadmapping and matchmaking services by the IBA, identify new international business opportunities and the respective missing competences to exploit these new identified markets (O<sub>C5</sub>).

**DP1-C6** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by having a market place for the placement of offers and market opportunities from foreign entities and clients (I<sub>C6</sub>), following generative mechanisms of collaboration (M<sub>C</sub>), will foster matchmaking processes and allow users to apply and pursue new opportunities for international expansion (O<sub>C6</sub>).

### Collective action

**DP1-CA1** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by providing advanced communication features such as shared calendars, video chats, and shared repositories of concrete and uncodified information ( $I_{CA1}$ ), following generative mechanisms of collective action ( $M_{CA}$ ), will allow to manage the access to shared resources, together with synchronous and asynchronous communication ( $O_{CA1}$ ).

**DP1-CA2** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by developing collaborative decision-making models and approaches ( $I_{CA2}$ ), following generative mechanisms of collective action ( $M_{CA}$ ), will facilitate decisions (partner selection, entry mode selection, and foreign market selection) and the management of collective actions in CNs for internationalisation ( $O_{CA2}$ ).

**DP1-CA3** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by including subcontracting services ( $I_{CA3}$ ), following generative mechanisms of collective action ( $M_{CA}$ ), will allow large companies or international experienced companies to subcontract services from smaller companies or less experienced companies of the IBA, increasing the international activities of SMEs ( $O_{CA3}$ ).

**DP1-CA4** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by allowing members to insert and feed the digital market place with information about internationalisation opportunities from their contacts and clients ( $I_{CA4}$ ), following generative mechanisms of collective action ( $M_{CA}$ ), will let other members to apply to those opportunities for increasing their international activities, produce an added value and benefit for both parts interested, and create an incentive for members to use the digital platform ( $O_{CA4}$ ).

**DP1-CA5** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by including logistics services of warehouse sharing ( $I_{CA5}$ ), following generative mechanisms of collective action ( $M_{CA}$ ), will allow members to share available storage space in particular warehouses and promote collaborative advantages in terms of costs and optimisation of resources for a proper international expansion and sharing economy ( $O_{CA5}$ ).

**DP1-CA6** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by including logistics services of transportation sharing ( $I_{CA6}$ ), following generative mechanisms of collective action ( $M_{CA}$ ), will allow members to share transportation capacities and routes and promote collaborative advantages in terms of costs and optimisation of resources for a proper international expansion and sharing economy ( $O_{CA6}$ ).

**DP1-CA7** | In the context of IBAs seeking to improve internationalisation processes of SMEs with the support of digital platforms (C), by including services of office sharing and flexible workspaces ( $I_{CA7}$ ), following generative mechanisms of collective action ( $M_{CA}$ ), will allow members to share available offices spaces or desks and promote collaborative advantages in terms of costs and optimisation of resources for a proper international expansion and sharing economy ( $O_{CA7}$ ).

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## Chapter 7 | Conclusion

## 7.1 | Main findings

The aim of this doctoral project was to study and design collaboration and information management solutions and processes to improve the institutional network support provided by IBAs to the internationalisation of SMEs. To achieve this goal, this multidisciplinary research was divided into two main complementary approaches: (i) an exploratory-oriented approach; and (ii) a design-oriented approach. The DSR paradigm was selected to encompass this multidisciplinary project, resulting in three main stages of research: (i) *ex-ante* stage; (ii) artifact design stage; (iii) *ex-post* stage. All these choices resulted in a total of five complementary studies that correspond to five original research papers published or submitted to international peer-reviewed journals or book chapters. These studies/papers are, therefore, connected, each one representing new increments in terms of theoretical and practical knowledge to achieve the established goal for the doctoral project.

In the first study (Chapter 2), a scoping study and a SLR were performed to establish the theoretical relevance, and to identify the problem and the motivation for performing this project. For the SLR, 38 journal articles were selected and systematically reviewed, to identify the main challenges for information management as applied to internationalisation processes of SMEs and the decisions involved in those processes. Other objectives were to analyse how information and knowledge are used and managed for decision-making in SME internationalisation, as well as how SMEs manage collaboration activities. The SLR methodology proved to be useful for moving away from descriptive reviews of the literature, for synthesising the main findings, and for proposing important research directions based on the identified research gaps. This study concluded that SMEs still face problems in managing information and collaborations in internationalisation processes. There is also a lack of studies addressing how SMEs can collaboratively manage and convert information into knowledge to support decision-making in internationalisation processes. Finally, more support from governments and institutional entities is needed for improving the internationalisation performance of SMEs.

Based on the results obtained with the first study, from all the research directions obtained with the SLR, we decided to focus our attention on improving the support that is received by SMEs in internationalisation processes. We chose this path instead of focusing on the decision-making processes of SMEs, as in this way we found more room to both generate higher scientific results and to have more practical impact. Due to the existence of different support institutions and organisations, we selected IBAs as the research setting. Therefore, the motivation for developing our DSR artifact was established with our next study/paper.

In this new study (Chapter 3), a first exploratory field research was performed by interviewing five Portuguese industrial companies (3 SMEs and 2 MNEs) associated with IBAs from the textile and the information technology sectors. The objective here was to understand the perspective of those five companies about the role of IBAs as information managers and promoters of collaborations for their internationalisation activities. Another objective was to realise their main requirements and needs for the use of digital platforms managed by IBAs for supporting their internationalisation processes.

The choice of digital platforms was justified by the result of another research direction from the SLR. The main findings for this second study were that IBAs could do more to improve their role in the promotion of more collaborations, and that a collaborative digital platform may foster information sharing between members. Nevertheless, it seems that companies still fear to share their information and knowledge with others. Digital platforms are recognised as potential tools to impact internationalisation, but such solutions must be carefully designed and developed according to the real needs of companies.

Having established the problem and motivation established, we were able to progress to the next stage of the research. To help defining the objectives of the artifact to be developed, we needed to better understand the current activities and services used by IBAs to support SME internationalisation, and the lack of available detailed information on the area has motivated our third study/paper (Chapter 4). For this new exploratory field research, we performed 20 interviews with Portuguese IBAs from different industrial sectors. The main goal was to study and explore the activities and the use of institutional network resources by those entities to support and facilitate internationalisation processes of SMEs. Other goals

were to understand their internationalisation follow-up processes and their future vision for improving this internationalisation support. Findings suggested that the current institutional network support to internationalisation is mainly provided through: promotional activities; counselling, training and technical and legal support; information sharing; and cooperation with other institutional entities. For the follow-up process, we found out that IBAs provide a continuous support for the international operations, by using some instruments and mechanisms to assist SMEs after an internationalisation initiative. Finally, collaboration and the use of new information technology were the main identified topics for improving the IBAs' future support. With this third study, we were able to close the exploratory-oriented part of the project, as well as to define the objective of the artifact: improving the institutional network support provided by IBAs to the internationalisation of SMEs with digital platforms.

We could then start the design-oriented part of the project with our fourth study, a new qualitative empirical study to extend our previous exploratory field studies. In this new study/paper (Chapter 5), we interviewed new IBAs (one in France and three in the UK) to reinforce the validity of our findings. Thus, based on the insights of 24 prospective digital platforms' managers (these four new IBAs plus the previous 20 IBAs from Portugal), the main goal was to explain the factors that influence the adoption of digital platforms by IBAs to support SME internationalisation.

Another goal was to identify technologies and digital platforms that are being used by IBAs and to critically evaluate their potential for supporting internationalisation processes of SMEs. Findings showed that only a few number of IBAs are using technology, such as digital platforms, to support the activities of their members. We were able to identify 9 digital platforms, by describing their main objectives and features. By evaluating these platforms, we concluded that the existing offer of digital platforms does not meet important requirements for the creation of effective CNs or for enhancing social interaction structures of online communities. We also found a few cases of failure in what regards the implementation of digital platforms, which was mainly justified by the lack of involvement of companies. Finally, we found similar digital tools and services that represent overlaps in terms of support activities to SMEs between sectoral IBAs, multi-sectoral IBAs, trade agencies, and governments. Besides this evaluation, we also obtained a rich preliminary set of requirements and features for digital platforms derived from the interviews that were divided into different categories: information; collaboration; communication; other requirements; and other features. These requirements and features served as an important input for the development of the artifact to be performed in the next stage of the research.

The fifth study presented the results for the artifact design and evaluation. The DSR paradigm was employed for developing design propositions, based on the CIMO-logic. The design propositions were developed following an abductive approach, by being field-tested through knowledge obtained from the environment and practice – from our empirical studies, by interviewing a total of 25 IBAs and 19 companies, members of IBAs –, as well as on knowledge from existing theories and from the theoretical background involved – based on literature on digital platforms, information management, IBAs, CNs and internationalisation of SMEs. The result was a set of three general design propositions, together with the respective proposed interventions and outcomes, considering the context of IBAs to improve SME internationalisation with digital platforms, and following three specific social interaction mechanisms: information sharing, collaboration and collective action. This artifact was also evaluated by 8 experts and IBAs from different industrial sectors, confirming that new interventions could be made in IBAs to support their internationalisation activities. New design propositions were also added with this evaluation and minor changes in the final design propositions were made.

Therefore, at the end of this project we were able to provide answers to our research questions:

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### Exploratory-oriented approach:

RQ<sub>1</sub>: how do IBAs manage institutional network resources, to support and facilitate the internationalisation processes of SMEs?

A: IBAs use their institutional network resources to promote different types of initiatives that help SMEs in their international promotional activities, such as trade fairs, trade missions, promotional actions, events, meetings and collaborative workspaces. IBAs also have an important counselling and training role for supporting SME internationalisation. The legal support provided is also fundamental for SMEs to operate within the laws and rules of foreign countries. Some technical support is also provided for R&D and internationalisation projects. Different information content is shared by IBAs, such as market opportunities, market conditions, legal information, business contacts, initiatives and other relevant information according to each industrial sector. This information comes from a vast diversity of information sources and is shared by different mean and channels, such as email, websites, social networks, personal contact, journals/magazines, and in some cases digital platforms. The institutional network environment, where most of the IBAs are inserted, allow them to act as intermediaries and cooperate with a vast variety of other institutional actors to provide the necessary information, contacts and conditions to the international activities of their associate SMEs. The IBAs' cooperative entities are governments, other associations and IBAs, agencies for internationalisation, embassies, chambers of commerce and industry, foreign companies, consulting firms, clusters, technological centres, training centres, individual ambassadors, funding bodies and regulatory bodies.

### Design-oriented approach:

RQ<sub>2</sub>: how to improve the institutional network support provided by IBAs to the internationalisation of SMEs?

A: To improve their role in supporting SME internationalisation, one important development is for IBAs to evolve towards collaborative networks by sharing more organised and valued information with their members and also by fostering information flows and more collaborations between them. This improvement/evolution can be achieved by means of digital platforms that can allow the support of communication and information management processes, as well as the establishment of collaborative networks. All this sustained by different types of innovate interventions and supporting services, following three distinct types of social interaction mechanisms (information sharing, collaboration, and collective action), and following an organisational network governance structure where the IBA is the network administrative organisation.

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## **7.2 | Main contributions**

Different contributions to theory and to practice were achieved during this doctoral project.

The first study/paper contributes to the area of Information and Knowledge Management by presenting an overarching conceptualisation (basic ontology) of the selected SLR literature and by challenging researchers and practitioners in designing and developing new tools, such as collaborative information management models and technologies, that can foster innovative approaches for decision-making and knowledge creation, to achieve more rational internationalisation processes. In addition, the SLR also contributes to

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the scientific knowledge of IB and SME internationalisation, by studying in detail the influence of information, knowledge and collaboration in the internationalisation decisions of SMEs.

The second study/paper contributes to the scarce literature of IBAs, in the context of internationalisation. It also contributes to the scientific knowledge of IB by showing the perspective of industrial companies on the current internationalisation support provided by IBAs, with specific emphasis on information and collaboration management processes. The practical contribution here is the need for IBAs to have into account the requirements of companies that want to resort to their institutional support.

The third study/paper contributes to the literature of IB, IBAs and internationalisation networks, by providing a better understanding about the influence of institutional networks in SME internationalisation, exploring the specific role of one of the institutional actors, rather than focusing on the institutional network as a whole. New knowledge is obtained about the specific information content, information sources and means and channels of information sharing used by IBAs for supporting SME internationalisation. New conceptual models are also developed for elaborating theory about the institutional network perspective of SME internationalisation. In terms of practical implications, the findings can help SMEs to understand the functioning and the benefits of using the institutional network resources of IBAs in overcoming their lack of resources to operate in international markets. IBAs can also understand their current position in terms of internationalisation support and think about new ways for improving this support.

The fourth study/paper contributes to the literature of CNs and digital platforms by bringing new knowledge on how organisations can effectively design digital platforms supporting CNs, for the specific context of internationalisation. Regarding the contributions to practice, the results of this study can be analysed and used by digital platform designers and by IBAs to design and obtain more effective digital platforms for supporting internationalisation that can meet the specific needs of users and managers, taking into consideration the main advantages, but also potential problems and difficulties for their implementation.

The fifth study/paper contributes to the literature by presenting design propositions that can bring new design knowledge and that can elaborate on reliable design principles on digital platforms (abductive approach). The design propositions are translated into tangible and concrete requirements and capabilities, situated in a new specific context and empirical setting, which also contributes to the literature of digital platforms, IBAs and SME internationalisation. The adopted sociotechnical perspective, composed by the multi-actor setting of IBAs and SMEs, together with their involved social interaction mechanisms, can also represent an important theoretical contribution for studying digital platforms. In terms of contributions to practice, the design propositions can support IBAs, researchers and practitioners for the development of specific interventions and features for digital platforms that can allow us to meet the needs and requirements of SMEs in internationalisation processes.

Finally, the results of this doctoral project gave origin to different research outputs (Table 7.1).

**Table 7.1** ■ Research outputs originated by this doctoral project.**International peer-reviewed journals**

Costa, E., Soares, A. L., & Sousa, J. P. (?). Industrial business associations improving the internationalisation of SMEs with digital platforms: A design science research approach. *European Journal of Information Systems*. [Submitted]

Costa, E., Soares, A. L., & Sousa, J. P. (2017). Institutional networks for supporting the internationalisation of SMEs: The case of industrial business associations. *Journal of Business & Industrial Marketing*, 32(8), 1182–1202. <https://doi.org/10.1108/JBIM-03-2017-0067>

Costa, E., Soares, A. L., & Sousa, J. P. (2016). Information, knowledge and collaboration management in the internationalisation of SMEs: A systematic literature review. *International Journal of Information Management*, 36(4), 557–569. <http://doi.org/10.1016/j.ijinfomgt.2016.03.007>

**Book chapters**

Costa, E., Soares, A. L., & Sousa, J. P. (2018). On the use of digital platforms to support SME internationalization in the context of industrial business associations. *Handbook of Research on Expanding Business Opportunities with Information Systems and Analytics*. Hershey, PA: IGI Global. [Accepted for publication]

Costa, E., Soares, A. L., Sousa, J. P., & Jamil, G. L. (2017). Information management for network transformation in industrial enterprises associations: The case of the internationalization process. In G. L. Jamil, A. L. Soares, & C. R. M. Pessoa (Eds.), *Handbook of Research on Information Management for Effective Logistics and Supply Chains* (pp. 415–436). Hershey, PA: IGI Global. <http://doi.org/10.4018/978-1-5225-0973-8.ch022>

**International conferences**

Costa, E., Soares, A. L., & Sousa, J. P. (2017). From data sources to information sharing in SME collaborative networks supporting internationalization: a socio-semantic approach. In M. L. Camarinha-Matos, H. Afsarmanesh, & R. Fornasiero (Eds.), *Collaboration in a Data-Rich World: 18<sup>th</sup> IFIP WG 5.5 Working Conference on Virtual Enterprises, PRO-VE 2017, Vicenza, Italy, September 18-20, 2017* (pp. 478–490). Cham: Springer International Publishing. [http://doi.org/10.1007/978-3-319-65151-4\\_43](http://doi.org/10.1007/978-3-319-65151-4_43)

Costa, E., Soares, A., & Sousa, J. (2016). Situating case studies within the design science research paradigm: An instantiation for collaborative networks. In H. Afsarmanesh, M. L. Camarinha-Matos, & A. Lucas Soares (Eds.), *Collaboration in a Hyperconnected World: 17<sup>th</sup> IFIP WG 5.5 Working Conference on Virtual Enterprises, PRO-VE 2016, Porto, Portugal, October 3-5, 2016* (pp. 531–544). Cham: Springer International Publishing. [http://doi.org/10.1007/978-3-319-45390-3\\_45](http://doi.org/10.1007/978-3-319-45390-3_45)

Costa, E., Soares, A., & Sousa, J. (2015). A new insight in the SMEs internationalization process. In M. L. Camarinha-Matos, F. Bénaben, & W. Picard (Eds.), *Risks and Resilience of Collaborative Networks: 16<sup>th</sup> IFIP WG 5.5 Working Conference on Virtual Enterprises, PRO-VE 2015, Albi, France, October 5-7, 2015* (pp. 398–410). Cham: Springer International Publishing. [http://doi.org/10.1007/978-3-319-24141-8\\_36](http://doi.org/10.1007/978-3-319-24141-8_36)

### 7.3 | Limitations and future research

During this project we faced many challenges. Different research questions remain unanswered and diverse research paths continue unexplored. Consequently, this research has some inherent limitations that leads us to present future research directions to overcome those limitations.

First, CIMO-logic seems like a good choice for explaining the combination of contexts-interventions-mechanisms-outcomes and to be applied when performing a SLR.

There is a broad range of internationalisation theories that could be explored in this project but, due to the lack of data or time constraints, we had to limit the research scope. Therefore, theories such as the Uppsala internationalisation model, the resource-based view, theories of international entrepreneurship, and the institutional theory could be covered by future research. Our main contribution is on elaborating theory about the network approach to internationalisation, with emphasis on the institutional network perspective of SME internationalisation and on the IBAs as representatives of institutional actors. Nevertheless, future research could be done to lead to a more comprehensive view of institutional networks in SME internationalisation, by addressing the role and influence of other institutional actors that

form the institutional setting where SMEs are embedded, such as governments, incubators, agencies for international development, science and technology parks and other types of business associations.

Another limitation of this project was to not analyse in detail how different contexts (geographic, institutional, industry/sector) may impact information and knowledge management needs of SMEs. This generates another future direction for research. As explained before in this thesis, we had to opt between two different paths at early stages of our research: (i) to focus on improving the decision-making processes of SMEs in internationalisation activities; or (ii) to focus on improving the support that is received by SMEs in internationalisation processes. Therefore, another suggestion for further developments of this research is for the development of collaborative decision-making models and approaches, based on some multiple criteria settings for relationship establishment, or for the selection of partners, markets and foreign entry modes.

This research was made on a qualitative basis, and this can generate further discussions and criticisms in what regards the generalisation of the obtained findings. However, we believe that the main value of this qualitative research is the specific description and analysis of the specific context of IBAs supporting the SME internationalisation, as this seemed to be a better option for addressing the exploratory nature of this research. We are also confident in our sample of interviewed companies for a qualitative research and we believe that this project has produced potentially generalizable contributions for European countries where IBAs have similar approaches, such as Spain, France and Italy. But to confirm the validity of these arguments, future research could be done in those or in other countries all over the world. More research is also needed in different business and industrial sectors where SMEs also struggle with their internationalisation activities. Future research on a more quantitative basis can also add an additional value and complement the obtained qualitative insights.

Although our work contributes to the area of information management, with the identification of information sources, information needs, means for information sharing, and information content for the context of internationalisation of SMEs with the support of IBAs, there is still plenty of room to explore aspects such as information governance, information organisation, and informational behaviour of the decision-makers. Another possible future research opportunity is to test our prescriptive framework and translate our design propositions into specific requirements, validate those requirements and develop and implement digital platforms in practice. This research direction can clearly lead to further advance design theories on digital platforms for this specific context of internationalisation, or for the development and adaptation of new theories for new specific organisational contexts.