EXTRA-SMEs

Interreg Europe

European Union
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Development Fund

A1.4 Mapping the barriers and bottlenecks to internationalisation for EXTRA -SMEs businesses

Methodology Report

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Overview

The purpose of EXTRA-SMEs activity A1.4 is the identification of the barriers and bottlenecks that businesses in and around aquaculture face in expanding their activities in new markets and internationalizing their outlook. The expected research output is a map and an analysis of the outstanding barriers as perceived by SMEs that will serve to clearly prioritize the necessary actions to overcome them.

This methodology report is introducing the topic at the appropriate level of specificity and technical detail so as to enable project partners to gain a better initial understanding of the topic in question – barriers in internationalisation of aquaculture SMEs – and of *how* it is to be approached. The main approach put forth to mapping and understanding these barriers consists in gaining insight to SMEs' actual experience of impediments to extraversion and internationalisation. To this end, a survey tool is developed and described prior to its administration to businesses in the aquaculture value chain. Data collection is estimated to yield qualitative and quantitative data on SMEs perceptions of barriers to internationalisation. In turn, the collected data will provide the basis to analyze the import and weight of these barriers for regional aquaculture business ecosystems, to compare across cases and accordingly, to develop and propose targeted mitigating measures.

The present methodology report also comprises an overview of the methods and techniques to be used in data analysis. A number of statistical tests will be applied to identify regularities and irregularities regarding the experienced barriers, their overall significance, as well as how they are assessed and ranked by aquaculture SMEs. Thereby, it is claimed, the survey results are expected to provide the necessary insight for the development of policy recommendations but also an analytical vantage point from which it is possible to unlock the potential for transferring of practices where obstacles are recurring in adjacent contexts.

The present report is structured as follows:

- Context of research
- Background research/ literature review
- Categorization/clustering of inhibiting factors & barriers
- Survey tool specifications

1 In context

EXTRA-SMEs research activities (A1) encompass four distinct areas of interest: a) regulatory & policy frameworks that underpin fisheries and aquaculture economic activities (A1.1), b) aquaculture business model attributes and structure (A1.2), c) best practices in aquaculture production, trade and logistics (A1.3), d) barriers that confine aquaculture operations in limited geographical units (A1.4). Schematically, these objects of research form a coherent whole that can be formulated in a question format as follows: what regulatory frameworks and what business models' characteristics facilitate the adoption of best practices and/or alternatively, reduce the interference of barriers, and, thereby, facilitate the aims of extraversion and internationalisation for aquaculture SMEs? Such question is not a theoretical one; rather, it is a practical one that resonates and reflects the policy priority of increasing the competitiveness of SMEs, regulating, boosting and increasing the market share of EU aquaculture products through extrovert and internationally-geared business activities.

Regarding the abovementioned aspects, the focus is **empirical and context-specific**. The generalization and scope aspirations of this (and other EXTRA-SMEs) research activities are therefore modest and realistic: sampling a population of aquaculture SMEs and providing a comprehensive insight to the obstacles to extraversion, notably, internationalisation activities. In the context of the project, the population of aquaculture SMEs consists of the entirety of aquaculture businesses in the partnership regions. The sample this research activity aims to survey is a subset of this population of aquaculture SMEs. In addition, the sample analyzed must be such that it reveals information about the aquaculture value chain. To this end, the survey encompasses also key businesses upstream and downstream of the aquaculture sector.

In following sections of this methodology report, it is illustrated how much EXTRA-SMEs countries differ amongst each other in terms of aquaculture sectoral growth metrics. The regions participating in the project, more specifically, are in different stages of aquaculture ecosystem growth with some regions having long-term involvement in the sector and others not; some already engaged in international trade flows and others not; Internationalisation should be understood in this context not strictly as market expansion and penetration through exports but also as the expansion of business networks, diversification of input sources, and the movement of parts of operations in another country. This concept of 'internationalisation' and 'expansion', echoes the idea of the 'international SME'. As the OECD suggests:

> *[t]here is often an underlying assumption that exporting and internationalisation for all practical purposes mean one and the same thing. In reality, the situation is far more complex and exporting is only one type of international activity undertaken by the international SME.*[1]

The analysis of barriers is inherently linked to the analyses of the aspects addressed by the other project research activities. Particularly, the analysis of regulatory frameworks (Activity A1.1) is expected to reveal arrangements some of which function as enablers and others as deterrents (barriers) of specific aquaculture activities, for instance, administrative support schemes. Equally, business model characteristics – in particular certain new processes and products – can be reframed as "best practices" to the extent that they increase the business extraversion, competition and internationalisation potential, while, inversely, a lack of innovation can constitute an obstacle to access to new markets. In that sense, research activities form a comprehensive whole such that one feeds into the other and the introductory analysis as well as the questions pursued here are likely to be subject to fine-tuning in later stages of the activity depending on the course of all research activities of the project.

These introductory remarks provide us with some analytical rule of thumb to begin with. The objects for activities A1.1 and A1.2, in fact, constitute the two major analytical categories on the basis of which the identification of obstacles will take place. Thus, the first analytical distinction to draw is that between ***internal*** and ***external*** obstacles, where 'internal' means pertaining to the characteristics of the business (e.g. capabilities, structure), while 'external' refers to business aspects beyond the control of the business itself (e.g. regulatory frameworks, policies). In the following section, we discuss thoroughly this distinction and its constituent elements, as well as other crucial distinctions and concepts that will be instrumental to fine-tuning and modulating the research question.

[1] OECD, 2008.

2 Background research

2.1 Aquaculture in the EU – an opportunity for internationalisation

The EU is the largest fish market globally with consumption estimated at about 25.5 kg in average per person. Consumption is expected to increase in the following years, yet the EU is only partially self-sufficient in this respect (47.5%), with much of its seafood being due to extra-EU trade flows and imports. Exports are on the rise too, with EUR 5 billion value in 2017. By aquaculture it is usually understood that we refer to three distinct kinds of activities: marine, shellfish and freshwater production.[2] Per capita consumption of aquaculture farmed products was 5.72 kg in 2016.[3]

Aquaculture	Production	Import	Export	Apparent Consumption
	1.289.823	1.771.191	142.866	2.918.148

Table 1. Data retrieved and compiled from EUMOFA (2018)

Aquaculture has long been considered to be a viable means to respond to demand, while protecting fish populations from over-fishing. The aquaculture sector in the EU is steadily gaining visibility with aquaculture being progressively recognized as a responsible, quality-intense and sustainable way of procuring fish products. The sector's output is growing by 7% / year (1.3 million tons in 2014) and its sales vary

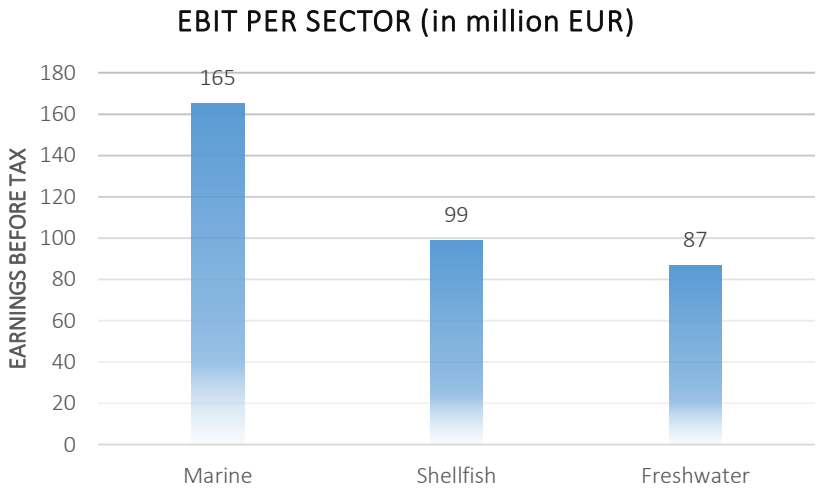
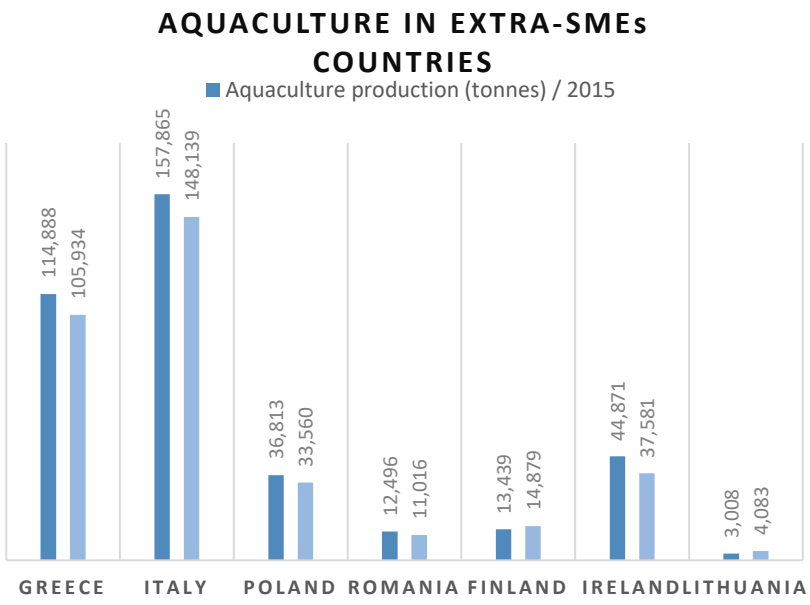


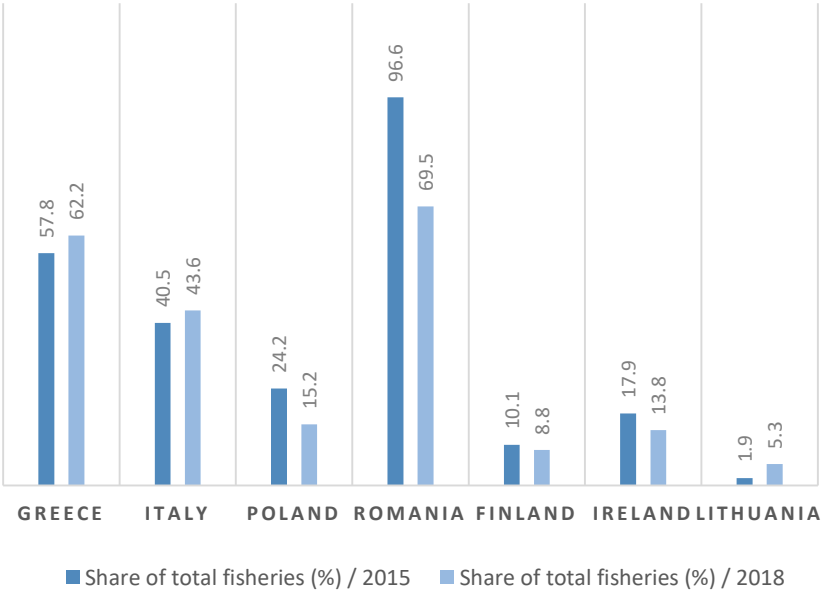
Figure 1. Compiled from Eurostat, fish_aq2a and fish_ca_main.

[2] Eurostat uses the following definition: *"Aquaculture, also known as aqua farming, refers to the farming of aquatic (freshwater or saltwater) organisms, such as fish, molluscs, crustaceans and plants, for human use or consumption, under controlled conditions. Aquaculture implies some form of intervention in the natural rearing process to enhance production, including regular stocking, feeding and protection from predators. Farming also implies individual or corporate ownership of, or contractual rights to, the stock being cultivated."* https://ec.europa.eu/eurostat/cache/metadata/en/fish_aq_esms.htm.

[3] European Market Observatory for Fisheries and Aquaculture Products (2018).



depending on price fluctuations. On average, the total value of sales is increasing (14% increase in 2014) and the sector is growing. This is reflected in jobs in the sector, where in 2014 the workforce was calculated to be 85000 characterized by increased productivity (31% between 2012 and 2014.[4] The diagrams on this page provide the latest measures of aquaculture production in EXTRA SMEs countries in particular. It is clear from these findings that nearly half of consumption is due to imports, while there is some export dynamic that could be taken advantage of. These trends indicate the need and potential for greater internationalisation of aquaculture activities, both intra-EU and extra-EU. The goal of this activity is to identify, map out and assess the possible obstacles the aquaculture sector faces in expanding in the abovementioned sense.



Above & left: Aquaculture production in EXTRA-SMEs countries tonnes of live weight & % of total fisheries production) Source: Eurostat (online data codes: fish_aq2a and fish_ca_main)

[4] Scientific, Technical and Economic Committee for Fisheries (2016)

2.2 The aquaculture value chain

In the table below, we present the composition of the aquaculture value chain. Although there are several different categorizations for different purposes, for the purpose of this study we use the following schema:

Table 2. Aquaculture value chain

UPSTREAM	Suppliers	• Feed manufacture • Equipment • Health products • Fuel/ Energy • Professional services • Transport
AQUACULTURE POLICY & REGULATIONS	Seed production	• Broodstock/ breeding • Hatcheries • Nurseries
	Growing	• Farming • Harvesting
	Primary processing	• Cleaning • Grading • Packing
	Secondary processing	• Filleting • Smoking • Retail packaging • Ready meals
	Distribution	• Transport • Warehousing • Export / import
DOWNSTREAM	Wholesale & retail	• Multiple retailers • Fishmongers • Food service

The aquaculture value chain, as represented in the table above, is formed by three classes of businesses offering both products and services. The aquaculture businesses as such are schematically situated in the middle of the value chain. The businesses belonging to this class are distinguished by their being specifically subject to aquaculture regulations. The operations of these businesses form a chain whose initial point is 'seed production', followed by 'growing' and 'primary processing', through which value is added. Upstream in the value chain we find suppliers of raw materials, feed, equipment, and certain relevant services. Downstream in the value chain, we find businesses involved in 'secondary processing', 'wholesale distribution', 'wholesale & retail'. All businesses upstream and downstream of production and primary processing are not subject to aquaculture-specific regulations.

For the purpose of the survey designed and proposed, the data collection process necessitates the contribution of project partners in determining the regional value chain (unless national in certain cases) and working through how sampling is going to take place in order for data collection to give representative data. This process amounts to a selection process, whereby i) the range of the value chain will be determined, that is, what upstream and downstream business will be sampled, ii) whether or not the entirety of regional aquaculture businesses will be surveyed. This latter choice is not practically available when considering the value chain; neither is it available when it comes to regions with heavily developed aquaculture sector. For aquaculture businesses specifically it could be that regions with largely different aquaculture sectors will have significant differences in business demographics; regarding an embryonic aquaculture sector, the whole population can be surveyed, whereas in expanded regional sectors, sampling will be necessary. The above representation of the value chain and the discussion here are intended to facilitate project partners going about this selection process – mapping the targeted value chain and determining the size of the sample.

2.3 EU policy for fisheries and aquaculture SMEs

Over the past decade, the EU has driven the transformation of the aquaculture sector to match increased demand, environmental and sustainability requirements as well as to boost growth for regions by enabling market penetration of aquaculture products and expansion of the sector through innovation and integration of new processes. In the years prior to 2014, when the EU adopted its *Common Fisheries Policy* (CFP), significant collaborative work took place to set the agenda, integrate the perspectives of major stakeholders and synthesize differing and occasionally opposed interests. One of the strategies the Union promotes is 'regionalization' that is, 'moving away from micromanagement at Union level, and ensuring that rules are adapted to the specificities of each fishery and sea area'.[5] [6] The assumption behind the Union's 'bottom up' approach is that the ideal solutions to local problems are the solutions worked out by capitalizing on local knowledge and that collaborations premised on these principles, for instance, interregional

[5] https://ec.europa.eu/fisheries/sites/fisheries/files/docs/body/regionalisation_en.pdf
[6] See also COM(2009)162 ' Building a sustainable future for aquaculture: A new impetus for the Strategy for the Sustainable development of European Aquaculture.' For a comprehensive record of reform proposals and the consultations leading up to the 2014 CFP, see https://ec.europa.eu/fisheries/reform/proposals.

collaboration between regions with common structural socio-economic realities, similar types of problems etc., have higher chances of yielding positive results.

In 2013, the *'Strategic guidelines for the sustainable development of EU aquaculture'* were issued:[7] the guidelines were based on a series of empirical observations and data: the value of aquaculture production in 2010 was EUR 3.1 billion and the share of aquaculture in the EU seafood market is 10%. This share, when compared to 65% imports of said products, clearly underlines the potential for considerable output maximization, serving simultaneously to increase intra-EU and extra-EU exports. In addition, estimations indicate that for every 1% increase in aquaculture production, there are 3-4000 full-time jobs added in the sector. Jobs translate to growth and potentially internationalisation, should we assume that the relationship between increased output/jobs and internationalisation is positive and mediated by expertise-intensity required to produce and trade in competitive EU markets and beyond.

There are four general directions the guidelines put forth in terms of addressing the problem of increasing aquaculture's footing in market: i) **administrative procedures**, ii) **coordinated spatial planning**, iii) **competitiveness** and, iv) **level playing field**. Note that these are general guidelines for increasing competition, yet they are totally relevant to extraversion, since, by all accounts, the correlation between competition and extraversion is positive. In particular,

- The issue of administrative procedures is a pivotal one, with extra-EU trade flows presenting considerable bureaucratic and technical aspects that SMEs hardly have the means to resolve.
- Spatial planning is addressed in order to draw attention to the fact that limited space and conflicts over space, are factors that increase uncertainty and inhibit long term investments. Spatial planning in particular is an administrative mandate across policy fields (the *Marine Strategy Framework Directive*, the *Renewable Energy Directive*, the *Water Framework Directive* etc.) and aquaculture operations would be consolidated and expanded on the premise that conflicts over vital space are reduced, especially given that there are environmental hazards posed by aquaculture operations and risks posed to aquaculture posed by other operations.[8]
- Specific guidelines for enhancing competitiveness consisting in a number of business restructure proposals for producers' organisations, involving increased R&D, education and vocational

[7] COM(2013) 229, 'Strategic Guidelines for the sustainable development of EU aquaculture. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52013DC0229
[8] See SWD(2016) 178 for an elaborated account of how WFD and MSFD address aquaculture's environmental sustainability.

programmes & product diversification. To this end, the *European Aquaculture Technology and Innovation Platform* and its Research Agenda plays a key role.[9]

- Level playing field for producers in the EU: stressing and exploiting existing competitive advantages – namely, sustainability. In this context, a number of practices are crucial – for instance, labelling schemes, certifications, voluntary schemes, international trade and supply chain networks and collaborations.

The general point to put across is that the smooth integration of aquaculture operations in overlapping policy frameworks and notably environmental policy frameworks, increases not only the sustainability of the sector but also trust in the sectors' products. Hence, tools for environmental monitoring such as the EIA and SEA, are instrumental in this respect.[10] It is safe to assume that measures aimed at addressing the abovementioned policy areas are conducive to extraversion towards international markets.

2.4 Increasing the performance of aquaculture value chains

The competent Expert Working Group in its 2016 *Annual Economic Report* (AER) on the Economic Performance of the EU aquaculture sector confirms the abovementioned observations, however, it also draws attention to certain complexities. Environmental regulations and natural heritage protection requirements do increase sustainability and thereby the overall market value of aquaculture products, but the correlation is mediated by several parameters. In the short term, and assuming a considerable degree of lack of managerial expertise and support with technical environmental issues (monitoring, environmental assessments etc.), environmental regulations may be prone to inhibit and even put production on hold. It goes without saying that this hypothesis is *not* meant to cast environmental regulations as an inhibiting factor for growth. Rather, it underlines the **necessity of support with planning, implementing and monitoring environmental management in the context of aquaculture operations**.

Similarly, the EWG points out that public funding for the sector is unclear as to its social, economic and environmental effects; and the actual support level is less than EUR 0.1 per Kg of product output. The support level is low in quantitative terms, partially explained by the volume of production in the EU, and possibly due to lack of impact assessments that would provide evidence for positive effects of financing interventions. Therefore, the inference is that social, economic and environmental implications of funding interventions and schemes should be carefully considered in each case: **increasing public funding is facilitated by impact analyses that evaluate and predict likely effects: it is important to know**

[9] http://eatip.eu/

[10] COM/2013/0229

just how much incremental increases in funding affect productivity, measures of competitiveness, environmental hazards, and management capacities. In all other cases, it is clear that funding may be 'missing the target' or even function as an incentive to sustain practices that are univocally unsustainable (for instance opting to paying fines for environmental contraventions).

Difficulties in licensing procedures is a common issue that SMEs are confronted with, irrespective of the sector. The costs associated to licensing are often disproportionally high and work as inhibiting factors in conjunction with multilevel governance and often unclear routes to obtaining the right administrative authorizations. The report highlights the case of Greece which as of 2016 has instituted a 'one stop shop' approach, relegating all authorization and licensing procedures to local and regional governments. This brings us to a key point re-iterated in the report: that according to the experts administrative issues are way more intractable than technical ones.

The abovementioned assumptions and hypotheses will be compared to the data yielded by the proposed survey and this will allow the partnership to put into perspective regional experiences with what empirically appears to be the norm.

2.5 Consumer preferences EU-wide

Taking into account what consumers think about aquaculture products and how they buy this type of products is of vital importance. Eurobarometer 450 (2017) on *'EU consumer habits regarding fishery and aquaculture products'* revealed trends in consumers' preferences which are indicative of what sort of actions are to be taken up in order to foster conditions conducive to increasing competitiveness and establishing international market presence.[11] The table in the following page summarizes some key figures and findings of the Eurobarometer survey and includes an additional column of corresponding (indicative) implications for market potential growth:

[11] Eurobarometer 450

E450 questions	Key figures	Market growth strategy
Frequency of eating fishery and aquaculture products	At least once a month (72%)	Increasing overall consumption / frequency of consumption
Frequency of eating fishery and aquaculture products at restaurants and other food outlets	Several times a year (34%) At least once a month (34%)	Increasing overall consumption/ frequency of consumption
Frequency of buying fishery and aquaculture products	At least once a month (67%)	Increasing overall consumption/ frequency of consumption
Preferred shopping outlets	Grocery store, supermarket (74%)	Planning supermarket penetration
Preferred type of products	Frozen, fresh, tinned products (70% +)	Planning supermarket penetration; Processing and packaging
Attitude towards new products & species	Positive (60%) vs negative (39%)	Diversify products and invest in local unique characteristics
Source of influence of consumerist behavior	Family/ friends (76%) media (44%)	Community fishery and aquaculture valorization (public feasts etc.)
Prices perception	High price (68%)	Antagonistic prices/ reduce production/network/intermediary costs
Reasons for consuming fishery and aquaculture products	Healthy (74%)	Advertisement campaigns/ packaging visibility
	Quick to prepare (15%); easy to prepare (17%)	Increase processing capacities
Reasons for never eating fishery or aquaculture products	Unappealing smell / appearance (55%)	Increase processing capacities
Most important aspects	Appearance (58%); cost (55%); Origin (42%); brand/quality labels (24%); ease of preparation (21%); social & environmental impact (15%);	(Re-)branding investments including emphasis on origin and quality standards increase corporate responsibility

In terms of addressing customers' preferences and consumption habits as a means to increase demand and expand, the rationale is straightforward. Increasing overall demand is no simple enterprise, yet, if approached in detail – by focusing on constituent elements of demand formation, a series of business development models could be specifically worked out. Consumers' tendency to buy aquaculture products at hypermarkets can be addressed by developing product development strategies that comply with packing standards, specific quality control requirements for fresh products and take into account the necessities for product marketing. Consumers' tendency to try new aquaculture products implies that aquaculture companies can benefit from targeted market analyses to identify what product

diversification could be profitable in markets with specific characteristics. The importance consumers assign to health considerations is a knowledge asset for marketing aquaculture products than can be put to use in the context of choosing key advertisement elements (slogans etc.). The low number of customers finding aquaculture products easy or quick to prepare, indicates that there is a market potential for processed fishery.

The above findings are instructive in many ways, firstly, because they provide a cursory mapping of trends in EU customers' preferences for aquaculture products' characteristics. Second, these hint at what possible market strategies to adopt in order to expand – remove barriers to access - in EU and further markets.

2.6 Forming international networks

As it will become fully apparent in Section 3, the barriers that SMEs are confronted with can be analytically distinguished into internal and external. Internal barriers concern the organizational structure and characteristics of a business (e.g. lack of technical knowledge), while external barriers concern the environment in which the company operates, e.g. economic system (Dallago, 2000). The characteristics of this environment (e.g. regulations, market structure) affect businesses in numerous ways, and specifically, in ways that impede access to distant markets but also resources. Also, both internal and external barriers weight differently, depending at which stage of their development businesses opt to expand the scope of their operations. Barriers commonly reported by early 'internationalizers' – expanding at inception or shortly after, include limited financial capital, human resources and legitimacy. In contrast, for late internationalizers, the internationalisation process is more stable, however, not free from turbulences. In both cases, however, the internationalisation potential is differentiated based on three variables, namely, **entrepreneurial management teams' skills**, **strategic partnerships** and **entry mode** in complex markets.

A significant amount of literature on the internationalisation of SMEs, or international entrepreneurship, places great emphasis on and studies the role of networks in enhancing SMEs expansion potential. Although the formation of networks can be considered a manifestation of a business model, and hence, an internal aspect of business organisation, in actuality, networks are significant because they make less rigid the distinction between the inside of a business and the outside. They provide a means to a business to achieve a number of positive effects and situate their operations in a different, expanded and permeable context, even if it is not a matter of exporting as such. Therefore, lack of networks is likely a cornerstone impediment to internationalisation (Bembom & Schwens, 2018; Keeble 1998).

The basic idea researchers in the field converge to be that networks play an instrumental role in resource substitution. That is, internal lack of resources is substituted with external resources. Researchers argue that networks, even, or, especially in embryonic form provide the first access to a foreign market (Coviello & Munro, 1995) but how exactly they work to this effect is 'largely unclear' (Bembom & Schwens, 2018). In tandem, the knowledge we have of the effect of lack of networks as barriers is equally limited. A number of analytical distinctions from the literature are useful here in accounting for the role of networks in internationalisation. Notably, three dimensions are crucial in resources exchange

through international networks: i) the kind of resources exchanged (content), ii) governance (mechanism of resources exchange), and iii) structure (operational patterns defining amount and types of resources (Bembom & Schwens, 2018). In addition, it should be clear that there are significant dynamics at play, depending on the scale of the business in question. Indeed, as Chetty & Campbell-Hunt (2001) argue, the typical 'stages' of internationalisation (pre-entry / post-entry phase) and their purported characteristics are usually derived from research on larger enterprises', whereas smaller businesses present more diversified paths. Hence, it is suggested the IE literature, the bulk of which is studying larger enterprises, should be dealt with carefully.

Simultaneously, when considering the literature on SMEs internationalisation, it is predominantly the case that it is focused on *export determinants* (e.g. firm size (Hollenstein 2005), performance characteristics etc.) (Coviello & McAuley, 1999). Progressively, however, internationalisation is accounted for in more broad ways (Hollenstein 2005) and its meaning is increasingly contestable. This is not a theoretical issue or purely conceptual issue, as it bears impact on the formation of research and development agendas. Indicatively, some of the conventional ways of understanding internationalisation are the following: i) internationalisation as Direct Foreign Investment, ii) internationalisation as on-going process of evolution and iii) internationalisation as an on-going process comprising outward and inward effects (e.g. market entry strategies, market offering respectively). A more comprehensive working definition refers to:

> *…the process by which firms both increase their awareness of the direct and indirect influence of international transactions on their future, and establish and conduct transactions with other countries'*
> (Beamish 1990 cited in Coviello & McAuley, 1999)

To sum up, we discussed briefly the role of networks as that element of internationalisation processes which bridges the gap between internal and external determinants of internationalisation. Barriers associated to networks and the lack thereof is a relatively newly field of research in IE. The methods employed in attempts to understand SMEs internationalisation dynamics are mostly based on i) behavioral assumptions (Establishment Chain (Stage) models, ii) Foreign Direct Investment (FDI) theory and, iii) models of interorganisational and interpersonal relationships (Network perspective) (ibid, 1990).

3. Survey design

3.1. The OECD survey

The survey we are conducting among aquaculture SMEs is largely adapted from the OECD study on *Removing Barriers to SME Access to International Markets*.[12] There are significant differences in scope, intentions and aspirations between the OECD two-survey study and the survey designed for the purposes of the present research activity. To begin with, the OECD study is a large –*n* study across many countries whereby two separate surveys were administered to two different target groups: one survey was administered to policy makers and another one to SMEs. Both target groups were asked questions aiming at deriving key information on barriers related to international entrepreneurial activity and to rank a number of items-barriers in terms of significance as per respondents' perception.

The rationale of the OECD survey was to put into comparison two different perspectives on what impedes international activity for SMEs, that of authorities ("Member Economy Policymaker") and that of the SMEs. The results of this study are noteworthy: the study showed that the two groups have opposite perceptions of the issue at stake. Policy makers reduced the obstacles to internationalisation 'almost exclusively to a lack of knowledge and internal resources, both financial resources and human resources. External barriers, especially those imposed by governments, scored relatively low' (OECD, 2008: 8). By contrast, SMEs presented a more 'dynamic and contingent' image. Significantly, SMEs reported that after initial stages where obstacles are more internal, the obstacles become increasingly associated to the business environment' (ibid, 2008).

This result is worth reflecting upon because it essentially points to a mismatch of perceptions and, therefore, a communication gap can be relatively safely hypothesized. Although it is well beyond the scope of this report to interpret this communication gap, we make two hypotheses in adapting and re-modelling our study on the OECD one. *First*, that a comparable divergence would be replicated in our study. Hence, for our purpose we opted to forego the two-survey approach and instead focus in more detail on the experience of barriers/perceptions of SMEs exclusively. *Second*, that this communication gap implies a rigid barrier at the intersection of the internal and the external of SMEs. Let us call this, in lack of a better term, a lack of 'networking' between the two groups, such that it stands in the way of resource exchange, for instance, *uptake of licensing support schemes*, or *lack of licensing support schemes*. Further down we discuss the categories on which respondents will be asked to provide data.

[12] The study was carried out by the OECD Working Party on SMEs and Entrepreneurship (WPSMEE) and was published in 2008.

3.2 Survey items

In this section we provide a list of the survey items accompanied by brief descriptions of their content:

1) The first set of fields collects **socio-demographic information on businesses**, specifically:

- Age of business
- Stage of involvement in international activity
- Size of business
- Type of offering
- Description of international activity (export/import, export market, selling pattern)

For the abovementioned categories, respondents will be guided to provide key information that will enable the statistical description of the sample characteristics and comparison with critical regional economy and national fishery & aquaculture statistics at the stage of analyzing data, in order to identify and understand the kinds of obstacles SMEs face in a comparative approach – depending on the relevant variables.

2) **Internal Barriers**. This class of barriers consists in four sub-classes of barriers:

- Informational barriers
- Functional barriers
- Product and price barriers to marketing
- Distribution, logistics, and promotion barriers

Each sub-class is discussed in turn:

- **Informational barriers**. Informational barriers refer to the lack of (own means to procure) information: the items in this sub-class are the following: i) limited information to locate/analyse markets, ii) unreliable data about the international market, iii) identifying foreign business opportunities, iv) inability to contact potential overseas customers
- **Functional barriers**. This sub-class refers to organizational and production characteristics that functions as barriers to internationalisation: The included items are the following: i) lack of managerial time to deal with internationalisation, ii) inadequate quantity of and/or untrained personnel for internationalisation, iii) lack of excess production capacity for exports, iv) shortage of working capital to finance exports.
- **Product and price barriers to marketing**. These items concern specifically production characteristics that function as barriers: i) developing new products for foreign markets, ii) adapting export product design/style, iii) meeting export quality standards, iv) export packaging/labelling requirements, v)

offering after-sales services, vi) offering satisfactory prices, vii) granting necessary credit to foreign customers.

- **Distribution, logistics and promotional barriers**. This sub-class assembles the rest of internal barriers that also qualify as networking barriers: i) Complexity of foreign distribution channels, ii) access to export distribution channels, iii) obtaining foreign representation, iv) maintaining control over foreign middlemen, v) difficulties with inventory supply abroad, vi) unavailability of warehousing abroad, vii) excessive transportation/insurance costs, viii) export promotional activities that match with target market.

3) External barriers. This class consists in the following sub-categories and items.

- **Procedural barriers**. Procedural barriers refer to procedures, communication, money collecting, contracts & disputes. Specifically, the barriers are framed as follows: i) unfamiliar exporting procedures/paperwork, ii) difficulties communicating with overseas customers, iii) slow collection of payments from abroad, iv) difficulties in enforcing contracts and resolving disputes.
- **Governmental barriers**. This type of barriers focuses on 'home' and 'host' country government import in the process of internationalisation. The sub-category includes items related to the following barriers: i) lack of governmental assistance, ii) rules and regulations non-conducive to SMEs international activities, iii) foreign country rules and regulations.
- **Customer and foreign competitor barriers**. This sub-category of barriers addresses the issue of competition and customer habits abroad. It includes two items, namely, i) different foreign customer habits and attitudes, ii) keen competition in overseas markets.
- **Business environment barriers**. This sub-category includes items that gauge various contextual variables and determinants of internationalisation potential. These are: i) poor economic conditions abroad, ii) Currency exchange risks, iii) unfamiliar business practices abroad, iii) different socio-cultural traits, iv) language differences, iv) inadequate infrastructure for e-commerce, v) political instability in target market country.
- **Tariff and non-tariff barriers**. The following items are included i) high tariff barriers , ii) strict foreign rules and regulations, iii) High health, safety and technical standards, iv) arbitrary tariff classification and reclassification, v)Unfavorable quotas and embargoes, vi) high costs of customs administration.

4) Government assistance. A last section of items includes questions that aim to evaluate how SMEs evaluate Government assistance. To this end the following questions/fields are included: i) access to government programs, ii) type of assistance, iii) most valuable aspects of assistance, iv) usefulness of assistance, iv) assistance needed.

The above mentioned categories, sub-categories and survey items, questions or otherwise, are presented in a table format on the next page. Although the majority of survey items are directly transferable from the OECD survey there

are certain items excluded which were deemed to be inadequately relevant to our survey. We should be reminded here that the OECD survey concerns all SMEs irrespective of the sector. On this basis, for instance, the item 'enforcement of property rights' was excluded.

3.3 Perceptions of Barriers

Table 1 (ANNEX) lists the barriers per class ('Internal'/'External') and sub-class. The full list comprises 49 items – 47 known barriers and two extra 'other' options. Categorized in internal and external barriers - explored above, there are two ways in which data will be collected.

1) For each barrier – item respondents will assign a quantitative weight representing significance on a Likert scale (range between "extremely significant" and "not significant"). For the entire sample of respondents the output will be a data set of **significance score per barrier per respondent.** Based on this data, the basic purpose is to rank barriers according to their significance. The overall significance of each barrier is calculated as the average significance for all respondents, i.e. the sum of ranks divided by the number of respondents:

Rank	Average	StdDev	Barrier	Description
1	4	1.00	B10	xxxxx

2 Table xx. Indicative structure of Likert-Scale Ranking

To make it more intelligible, we can use an indicative example. Barrier B10 is ranked first with an average score of 4. This means that the sum of respondents' significance scores **(Σ_x)** for this barrier, divided by the number of respondents **N**, gives us the average score for each barrier. Standard deviation **(σ)** represents variation or dispersion and the amount of variation is calculated as a function of distance from the mean. Where a barrier receives highly divergent scores, i.e. 'extremely significant' and 'not significant at all' consistently, then the standard deviation is high.

Significant data can be yielded thereby, including finding which clusters and sub-clusters of barriers are more significant; and the estimation of barriers significance per region, size of SME, position in the supply chain, desired export market. Such analytical and descriptive work will help make visible regional and other kinds of patterns in how barriers are reported or indeed experienced. The practical implications of this analysis are manifold, ranging from productive comparison between regions and exchange of insight between regions with opposing scores (i.e regions for which certain barriers are insignificant can share expertise with those for which the said barriers are inhibiting international activities).

2) The second data collection means involves asking respondents to select and rank the **Top 10 Barriers** they experience and would like to have removed. The output is going to be a **data set of ranking lists (one Top Ten Barriers list per respondent)** whose number is going to be the same as the number of respondents. Therefore**,** the method gives one ranking list per respondent and each ranking list will feature 10 barriers in order of significance. The analysis will provide a ranking table featuring barriers in order of significance. The difference from the Likert-scale ranking is that the Likert Scale provides us with a **ranking of all barriers**, whereas this test presupposes, first, a selection of 10 most important

barriers from the list of 47 barriers on the part of respondents and, second, their ranking from the most significant to the least significant. In a sense, this test gives a second-order ranking. This test is similar in methodological terms to the previous one:

Rank	Average	StdDev	No of times mentioned	Barrier	Description
1	3	2.00	n	B10	xxxxx

Table 3 Indicative table of Top Ten Ranking Results

The 'average' here means that for n times mentioned 3 is its average significance, σ is the dispersion of significance (how close are significance rates to the mean). This test has the advantage of enabling the researcher to identify patterns in the way in which respondents order and group barriers.

In sum, data collection aims to provide two basic data sets on barriers. An aggregate of respondent's assessment of the listed barriers' significance. Second, an aggregate of ranking lists of Top Ten Barriers experienced.

3.4 Addressing biases

It is important for efficient data collection and analysis to obtain certain auxiliary information bits. Project partners as survey administrators for the respective regions in question should contribute to establishing and keeping track of the response rate. To this end, it is important to have (at least) approximations for each region of the total number of aquaculture businesses to first determine the representative number of responses to the questionnaire and then compare the latter with the former. As it will be mentioned in the following Section, there are no statistics on aquaculture SMEs at NUTS2 – regional – level. By consequence, project partners are situated in a *de facto* privileged position to access or generate and provide this kind of information. In this respect, the calculation and provision by partners *of i) total number of aquaculture companies*, *ii) sample composition* (i.e. number of companies to be surveyed), and *iii) response rate* (ratio) is considered critical for the successful roll out of the research activity. For this purpose, a Survey Documentation form (ANNEX) to be filled in by regional survey coordinators is provided.

A second obvious bias the proposed research design must consider is reflected in the very form of the basic research question: there is a methodological risk of confounding barriers with perceived barriers, i.e. generalize findings in a way that is cast in simplified and/or misleading terms. As it was mentioned before, we should be wary from the outset of the respondents' tendency to cast barriers independent of the scope of their capacities in a negative light, while downplaying the barriers that a company could be more responsible for. For instance, take two different categories of barriers, first, lack of expert personnel to carry out international paperwork tasks, and, second, lack of administrative support/training funding for the said skills. It is intuitive to predict that SMEs will emphasize the lack of administrative support, however, there is plenty of room for interpreting such pattern and a risk of oversimplification, if the perception

is taken to represent 'reality'. In the bottom line, such approach would be unproductive, because it does not allow the space to consider what configurations are faulting and can be rectified (e.g. communication, networking, resource substitution) by way of finding common ground between incompatible perspectives.

Further, the questionnaire design is purposefully based on given classifications of barriers, rather than relying on random and voluntary self-reporting on the part of respondents, to ensure that they are confronted with the whole array and classes of barriers previously reported, analyzed and thereby validated. This approach minimizes the risk of overall underreporting and selection biases among classes of barriers. Additionally, the dual ranking (score per barrier and top ten ranking) are complementary in eliminating and triangulating reporting biases.

3.5 Survey administration

Sampling

The table below shows the total number of aquaculture companies in partnership *national* territories (NUTS 1). Business demographics on NUTS 2 aquaculture SMEs are not available through Eurostat databases. The equivalent statistics on NUTS 1 are not available either. The number is approximated by using available data on aquaculture SMEs size by number of employees (STECF 2016). One problem with this approximate is that the number of respondents to that survey is taken as identical to the overall population; however the response rate is not available. The shares are unequally distributed, with Poland being overrepresented in the sample, and Lithuania being virtually unrepresented. In addition, the underlying assumption is that all regional units per country are taken as homogeneous, i.e. that aquaculture businesses are equally distributed among regional units, which clearly cannot be a valid assumption.

Partner	NUTS 1	Total number of aquaculture businesses (NUTS 1)	Share %	Practical sample target
Region of Peloponnese	EL	248	8%	16
Liguria Region	IT	587	19%	16
Northern Chamber of Commerce in Szczecin	PL	1242	41%	16
Bucharest-Ilfov Regional Development Agency	RO	430	14%	16
Lapland university of Applied Sciences	FI	170	6%	16
University of Patras	EL	-		16

Western Development Commission	IE	277	10%	16
Liguria Cluster for Marine Technologies	IT	-		16
Public Institution National regions development Agency	LT	44	2%	16
Total		**2998**	100	**146**

An alternative approach is the following: due to the difficulty of determining the actual number of aquaculture SMEs operating in partnership regions through desk research and also because the sample must include businesses upstream and downstream of aquaculture businesses in the value chain, it is possible to determine the overall number of respondents for all regions, taking into account time and resources constraints (146). This number corresponds to approximately 16 questionnaires per partner. In practice, however, there may be great discrepancies among regions in the number of aquaculture SMEs. In addition, data collection coordinators should include in their sample upstream and downstream businesses. Ideally, businesses belonging to the three different categories in the aquaculture value chain should be represented thusly: 10 aquaculture, 3 upstream, 3 downstream (3/1/1).

Mode of administration

- Participants shall be recruited via e-mail invitation to ensure an adequate number of invitations sent. The email should contain adequate information and references to the project to increase the perceived legitimacy of the project and the advantages of participating in its activities; alternatively, partners can proceed to, face-to-face recruitment given the small size of the samples.
- Businesses upstream and downstream of the aquaculture sector will be recruited through references by aquaculture businesses to be surveyed: therefore, upon delimitation of the sample/population of aquaculture businesses participating in the survey, data collection coordinators are advised to approach respondents to refer them to upstream and downstream businesses they collaborate with.

Data collection duration

Within the course of 2 months from the moment of the circulation of this document, project partners are expected to familiarize with the content of the methodology report. In turn, they are expected to allocate some time to plan the sample composition, taking into account the abovementioned methodological considerations, and determine the means of contacting/recruiting businesses. The remaining time is allocated for the actual administration of the survey and participants in the survey should be provided with adequate time to fill-in the questionnaire. Within this temporal

horizon, project partners are expected to gather references from aquaculture businesses for the upstream/downstream businesses they would like to recruit for the survey and administer the questionnaire to them too. It should be stressed that the success of recruiting upstream and downstream businesses is a key issue for the analysis of the value chain; in case, only aquaculture sector businesses are recruited the objective of the activity is compromised and in such case only data regarding the barriers the aquaculture sector exclusively faces.

3.6 Data analysis

The specific methods to be used in data analysis cannot be precisely determined prior to data collection because they largely depend on the nature, extent and scope of data that will be collected. Assuming that the data needed will be adequately collected, the purpose of the analysis is primarily descriptive, comparative and correlational and, to a lesser degree, explanatory and inferential.

In the first instance, sample normalization techniques will be utilized to purge the sample of outliers and invalid data and to ensure the uniformity of the respective data sets provided by partners. Descriptive statistical techniques (mean, median, mode) will be employed to describe the samples collected by partners and the overall sample of the survey in order to account for central tendencies. Both parametric and nonparametric tests will be appropriately applied to respective sections of the data set depending on what data is available on the population of businesses per reporting region.

Socio-demographic data will then be correlated to the Likert and top ten ranking of barriers by conducting the appropriate correlational test (Pearson, Spearman, Chi-square).

- Correlation between clusters (sub-classes) of barriers
- Differences in perceived barriers by activity (along the value chain)
- Differences in perceived barriers by stage of SME internationalisation
- Differences in perceived barriers by territory
- Differences in perceived barriers by target market
- Differences in perceived helpfulness of assistance
- Differences in helpfulness by turnover increase (%) due to internationalisation
- ANOVA analysis of barrier assessment by stage of internationalisation

Along with statistical methods, basic qualitative methodological considerations will inform data analysis. These will allow an analysis of reported barriers and the variance observed as different 'interpretative frames' that businesses draw on in processing their actions, organisation attributes as well as the way in which they interact with the world of international trade. A reflective interpretative approach will also account for the way in which survey methods make

possible and privilege certain responses than others. In addition, any qualitative data provided by their partners will be interpreted with certain methodological questions in mind such as how respondents understand the place of their business in a broader system, how respondents attribute meaning to the concept of barriers (for instance a barrier may be interpreted as a challenge to take up, or as an insurmountable, prohibiting obstacle). Addressing these questions, it is argued, is essential for recovering meanings and understandings that would facilitate the mobilization of involved stakeholders, increase communication efficacy between them, and eventually, contribute to achieving the policy aim, i.e. increase in competition through internationalisation.

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Scientific, Technical and Economic Committee for Fisheries (STECF) – Economic Report of the EU Aquaculture Sector (EWG-16-12); Publications Office of the European Union, Luxembourg; EUR 28356 EN; doi:10.2788/677322.

Relevant Projects

- European Aquaculture Technology and Innovation Platform
  http://eatip.eu/
- Aquamed
  http://www.aquamedproject.net/
- ARRAINA – Advanced Research Initiatives for Nutrition & Aquaculture
  http://www.arraina.eu/
- Aqua-TNET
  http://www.aquatnet.com/
  SCAR – Standing Committee on Agricultural Research
  https://scar-europe.org/index.php/akis

5 ANNEX

Classification of barriers (per OECD SMEs survey)

INTERNAL	Informational barriers	B1. Lack of competent personnel to locate/analyse markets B2. Lack of competent personnel to identify foreign business opportunities B3. Lack of competent personnel to contact potential overseas customers
INTERNAL	Functional barriers	B4. Lack of managerial time to deal with internationalisation B5. Inadequate quantity of and/or untrained personnel for internationalisation B6. Lack of excess production capacity for exports B7. Shortage of working capital to finance exports B8. Lack of infrastructure for e-commerce
INTERNAL	Product and price barriers to marketing	B9. Developing new products for foreign markets B10. Adapting export product design/style B11. Meeting export product quality/standards/specifications B12. Meeting export packaging/labelling requirements B13. Offering technical/after-sales service B14. Offering satisfactory prices to customers B15. Difficulty in matching competitors' prices B16. Granting credit facilities to foreign customers
INTERNAL	Distribution, logistics, and promotion barriers	B17. Complexity of foreign distribution channels B18. Accessing export distribution channels B19. Obtaining reliable foreign representation B20. Maintaining control over foreign middlemen B21. Difficulty in supplying inventory abroad B22. Unavailability of warehousing facilities abroad B23. Excessive transportation/insurance costs B24. Adjusting export promotional activities to the target market
EXTERNAL	Procedural barriers	B25. Unfamiliar exporting procedures/paperwork B26. Difficulties communicating with overseas customers B27. Slow collection of payments from abroad B28. Difficulties in enforcing contracts and resolving disputes
EXTERNAL	Governmental barriers	B29. Lack of home government assistance/incentives B30. Unfavorable home rules and regulations B31. Unfavorable foreign rules and regulations B32. Unreliable data about the international market
EXTERNAL	Customer and Foreign Competitor Barriers	B33. Different foreign customer habits/attitudes B34. Keen competition in overseas markets

Business environment barriers	B35. Poor/deteriorating economic conditions abroad B36. Foreign currency exchange risks B37. Unfamiliar foreign business practices B38. Different socio-cultural traits B39. Verbal/nonverbal language differences B40. Inadequacy of infrastructure for e-commerce B41. Political instability in foreign markets
Tariff and non-tariff barriers	B42. High tariff barriers B43. Strict foreign rules and regulations B44. Inadequate property rights protection (e.g. intellectual property) B45. High health, safety and technical standards (e.g. sanitary and phytosanitary requirements) B46. Arbitrary tariff classification and reclassification B47. Unfavorable quotas and/or embargoes B48. High costs of customs administration
Other	B49. Other (please specify)
	B50. Other (please specify)

EXTRA-SMEs

A1.4 Mapping the Barriers and bottlenecks to internationalisation for EXTRA-SMEs business

Survey Documentation Form

(To be completed by project partners/regional data collection officers)

The following fields must be completed by project partners' staff that has been appointed as coordinators of the data collection procedure for EXTRA-SMEs activity A1.4. The data requested hereby are meant to provide an adequate picture of sample characteristics per partner and it is instrumental to the evaluation of the sample.

Administrative unit of analysis: (***Note:*** *Please specify which territory the sample/population refers to/ is drawn from)*	
Population of aquaculture businesses in the unit of analysis: (***Note****: please indicate specifically the number of businesses subject to aquaculture regulations. In case of data unavailability, please provide an estimate)*	
Number of aquaculture businesses invited to participate in the survey:	
Number of aquaculture businesses that completed the questionnaire:	
Number of upstream and downstream businesses invited to participate in the survey:	
Number of upstream and downstream businesses that completed the questionnaire:	
Total number of invitations to participate in the survey:	
Total number of participant businesses in the survey:	

EXTRA-SMEs
Interreg Europe

European Union
European Regional
Development Fund

EXTRA-SMEs Survey

Aquaculture SMEs & access to new markets

The questionnaire in hand is addressed to **aquaculture SMEs and other businesses directly involved in the aquaculture value chain in EXTRA-SMEs territories**. The survey hereby carried out aims at collecting evidence on the barriers aquaculture businesses face in expanding their networks, accessing new markets or increasing their competitiveness by engaging in extrovert activities. The analysis and results will provide your regional stakeholders and administration personnel with valuable insight into how businesses in the sector perceive and frame the barriers they experience in practice.

Section 1: Business ID

In this section respondents are requested to provide business demographic information.

R1. Year of foundation	Click here to enter text.
R2. Company size	Micro (0-9 employees) ☐ Small (10-49 employees) ☐ Medium (50-249 employees) ☐
R3. Produces products	Yes ☐ No ☐
R4. Delivers services	Yes ☐ No ☐
R5. Does both	Yes ☐ No ☐

R6. Where is your business situated in the aquaculture value chain?

Please specify which of the following categories best fit your business profile. Respondents can choose either of the three (or all three) general categories and for each tick the area of specialization where applicable.

Upstream (supplying aquaculture) ☐

Feed manufacture ☐

Equipment ☐

Health products ☐

Fuel/energy ☐

Professional services ☐

Aquaculture ☐

Seed production ☐

Broodstock ☐

Hatchery ☐

Nursery ☐

Growing ☐

Farming ☐

Harvesting ☐

Primary Processing ☐

Cleaning ☐

Grading ☐

Packing ☐

Downstream ☐

Secondary Processing ☐

Filleting ☐

Smoking ☐

Retail packaging ☐

Ready meals ☐

Distribution ☐

Transport ☐

Warehousing ☐

Export / import ☐

Wholesale & Retail ☐

Multiple retailers ☐

Fishmongers ☐

Food service ☐

Section 2: SME international activity

In this section respondents are requested to provide information on their international activities

R7. Please state the status of your international activities:

Exporting ☐

Active ☐ Aspiring ☐ Inactive ☐

Importing ☐

Active ☐ Aspiring ☐ Inactive ☐

Please provide any extra relevant information: Click here to enter text.

R8. Number of years engaged in international activity: Click here to enter text.

R9. Selling abroad pattern:

Monthly activities ☐

less than twice a year ☐ N/A ☐

R10. Export market (country):

Current Click here to enter text.

Desired Click here to enter text.

R11. % increase in turnover due to international activity

(Total turnover – Turnover (domestic))/ Turnover (domestic)

Click here to enter text.

N / A ☐

Section 3: Perceptions of barriers

Please rate the following barriers according to the following scale:

1= "not significant", 2= "somewhat significant", 3= "significant", 4= "very significant", 5= "extremely significant"

			Rating
INTERNAL	Informational barriers	B1. Lack of competent personnel to locate/analyse markets	Choose an item.
		B2. Lack of competent personnel to identify foreign business opportunities	Choose an item.
		B3. Lack of competent personnel to contact potential overseas customers	Choose an item.
	Functional Barriers	B4. Lack of managerial time to deal with internationalisation	Choose an item.
		B5. Inadequate quantity of and/or untrained personnel for internationalisation	Choose an item.
		B6. Lack of excess production capacity for exports	Choose an item.
		B7. Shortage of working capital to finance exports	Choose an item.
		B8. Lack of infrastructure for e-commerce	Choose an item.
	Product and price barriers to marketing	B9. Developing new products for foreign markets	Choose an item.
		B10. Adapting export product design/style	Choose an item.
		B11. Meeting export product quality/standards/specifications	Choose an item.
		B12. Meeting export packaging/labelling requirements	Choose an item.
		B13. Offering technical/after-sales service	Choose an item.
		B14. Offering satisfactory prices to customers	Choose an item.
		B15. Difficulty in matching competitors' prices	Choose an item.
		B16. Granting credit facilities to foreign customers	Choose an item.
		B17. Complexity of foreign distribution channels	Choose an item.

	Distribution, logistics and promotion barriers	B18. Accessing export distribution channels	Choose an item.
		B19. Obtaining reliable foreign representation	Choose an item.
		B20. Maintaining control over foreign middlemen	Choose an item.
		B21. Difficulty in supplying inventory abroad	Choose an item.
		B22. Unavailability of warehousing facilities abroad	Choose an item.
		B23. Excessive transportation/insurance costs	Choose an item.
		B24. Adjusting export promotional activities to the target market	Choose an item.
EXTERNAL	**Procedural barriers**	B25. Unfamiliar exporting procedures/paperwork	Choose an item.
		B26. Difficulties communicating with overseas custor	Choose an item.
		B27. Slow collection of payments from abroad	Choose an item.
		B28. Difficulties in enforcing contracts and resolving disp	Choose an item.
	Administrative barriers	B29. Lack of home government assistance/incentives	Choose an item.
		B30. Unfavourable home rules and regulations	Choose an item.
		B31. Unfavourable foreign rules and regulations	Choose an item.
		B32. Unreliable data about the international market	Choose an item.
	Customer & Foreign	B33. Different foreign customer habits/attitudes	Choose an item.

EXTERNAL	**competitor barriers**	B34. Keen competition in overseas markets	Choose an item.
	Business environment barriers	B35. Poor/deteriorating economic conditions abroad	Choose an item.
		B36. Foreign currency exchange risks	Choose an item.
		B37. Unfamiliar foreign business practices	Choose an item.
		B38. Different socio-cultural traits	Choose an item.
		B39. Verbal/nonverbal language differences	Choose an item.
		B40. Inadequacy of infrastructure for e-commerce	Choose an item.
		B41. Political instability in foreign markets	Choose an item.
	Tariff and non-tariff barriers	B42. High tariff barriers	Choose an item.
		B43. Strict foreign rules and regulations	Choose an item.
		B44. Inadequate property rights protection (e.g. intellectual property)	Choose an item.
		B45. High health, safety and technical standards (e.g. sanitary and phytosanitary requirements)	Choose an item.
		B46. Arbitrary tariff classification and reclassification	Choose an item.
		B47. Unfavourable quotas and/or embargoes	Choose an item.
		B48. High costs of customs administration	Choose an item.
	Other	B49. Other (please specify)	Choose an item.
		B50. Other (please specify)	Choose an item.

Section 4: Top-ten Barriers

Please choose the 10 most important barriers to international activities your company faces from the list below and rank them from the most to the least significant:

Classification of Barriers

Informational barriers (INT)

B1. Lack of competent personnel to locate/analyse markets

B2. Lack of competent personnel to identify foreign business opportunities

B3. Lack of competent personnel to contact potential overseas customers

Functional barriers (INT)

B4. Lack of managerial time to deal with internationalisation

B5. Inadequate quantity of and/or untrained personnel for internationalisation

B6. Lack of excess production capacity for exports

B7. Shortage of working capital to finance exports

B8. Lack of infrastructure for e-commerce

Product and price barriers to marketing (INT)

B9. Developing new products for foreign markets

B10. Adapting export product design/style

B11. Meeting export product quality/standards/specifications

B12. Meeting export packaging/labelling requirements

B13. Offering technical/after-sales service

B14. Offering satisfactory prices to customers

B15. Difficulty in matching competitors' prices

B16. Granting credit facilities to foreign customers

Distribution, logistics and promotion barriers (INT)

B17. Complexity of foreign distribution channels

B18. Accessing export distribution channels

B19. Obtaining reliable foreign representation

B20. Maintaining control over foreign middlemen

Procedural barriers (EXT)

B25. Unfamiliar exporting procedures/paperwork

B26. Difficulties communicating with overseas customers

B27. Slow collection of payments from abroad

B28. Difficulties in enforcing contracts and resolving disputes

Governmental barriers (EXT)

B29. Lack of home government assistance/incentives

B30. Unfavourable home rules and regulations

B31. Unfavourable foreign rules and regulations

B32. Unreliable data about the international market

Customer and foreign competitor barriers (EXT)

B33. Different foreign customer habits/attitudes

B34. Keen competition in overseas markets

Business Environment barriers (EXT)

B35. Poor/deteriorating economic conditions abroad

B36. Foreign currency exchange risks

B37. Unfamiliar foreign business practices

B38. Different socio-cultural traits

B39. Verbal/nonverbal language differences

B40. Inadequacy of infrastructure for e-commerce

B41. Political instability in foreign markets

B21. Difficulty in supplying inventory abroad	**Tariff and non-tariff barriers (EXT)**
B22. Unavailability of warehousing facilities abroad	B42. High tariff barriers
B23. Excessive transportation/insurance costs	B43. Strict foreign rules and regulations
B24. Adjusting export promotional activities to the target market	B44. Inadequate property rights protection (e.g. intellectual property)
	B45. High health, safety and technical standards (e.g. sanitary and phytosanitary requirements)
Other	B46. Arbitrary tariff classification and reclassification
B.49 Other (Specify)	B47. Unfavorable quotas and/or embargoes
B.50 Other (Specify)	B48. High costs of customs administration

Top Ten Barriers

Ranking	Classification code	Description
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Section 5: Perceptions of administrative assistance

This section collects information on how business stakeholders operating in and around aquaculture perceive of assistance programs:

A1. Does your company have access to programs that have assisted (or are meant to assist) with overcoming any of the barriers you mentioned?	☐ Yes ☐ No
A1a. Please use the space to provide further details:	Click here to enter text.
A2. Please describe the type of assistance (including the name of the programme)	
A3. How useful was the assistance you have received?	Choose an item.
A3(a). Additional comments:	Click here to enter text.
A4. Please describe briefly what kind of assistance you would think is necessary in order to overcome any specific barriers?	Click here to enter text.