

PesCo, the shared value solution towards sustainable fishing in Peru

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Abstract:

Over three billion people depend on marine and coastal resources for their livelihoods¹. On the other hand, per capita consumption of these resources has doubled in the past 50 years². To satisfy consumer demand, multiple industry players incur in unsustainable practices: overfishing, mislabelling and destructive extraction methods. This puts biodiversity, marine ecosystems and communities dependant of those resources at risk. Public policies have been placed to tackle this problem but are not effective among artisanal fishermen. PesCo, a peruvian social enterprise, has build a shared value solution which is transforming artisanal fishing practices and educating consumers towards sustainable fishing. This case describes how PesCo succeeded and what competitive challenges remain ahead.

Keywords: sustainability, fishing industry, Peru

¹ United Nations (UN) website [<https://sustainabledevelopment.un.org/topics/oceanandseas>]

² Food and Agriculture Organization of the United Nations (FAO). The State of World Fisheries and Aquaculture 2014. Rome. Page 62. [<http://www.fao.org/fishery/sofia/en>]

1. INTRODUCTION

PesCo is the first peruvian fishmonger to directly buy seafood from artisanal fishermen, paying premium prices to them by the removal of intermediaries. It was founded in 2019 by Simone Pisu, a blue economy consultant and marine biologist who decided to solve unsustainable fishing through a social enterprise. In 2022, it was selected as winner of the World Bank's call for solutions to overfishing³.

PesCo sells seafood to restaurants, hotels and to direct consumers. This business started operations as a digital store (see figure 1) and afterwards opened two physical stores in Lima (see figure 2), where customers can also order seafood dishes.

Figure 1. Initial screen from the official website of PesCo.



Source: [<https://pescopescaderia.com/>], as available at 11/22/2022.

Logistics is key for quality assurance. PesCo offers high quality products by buying seafood the same day it is caught and keeps its freshness and integrity with its own cold chain system⁴, transporting resources from multiple locations

³ The World Bank, in order to accelerate validated solutions to overfishing, created the Coastal Fisheries Initiative Challenge Fund. PesCo is leading a team who has won this competition: <https://www.worldbank.org/en/programs/solutionstooverfishing/winners>

⁴ Cold chain consists of a series of operations involved in time and temperature controls in post-harvest handling, receiving, processing, freezing, glazing, packing, storing, transporting and selling fishery products for food safety and quality. Definition retrieved from: <https://asean.org/wp-content/uploads/2022/04/REGIONAL-GUIDELINES-ON-COLD-CHAIN-MANAGEMENT-OF-FISH-AND-FISHERY.pdf>

to its stores and then to its B2B clients. Apart from quality, PesCo offers responsibly caught products and social impact. It actively communicates with its customers to inform them about restricted fishing seasons (in figure 3, PesCo shares how this policy works and informs about current restrictions to its client), minimum catch sizes (figure 4) and the responsible fishing communities involved (in figure 5, PesCo shares a description of one of its responsible fishing allies).

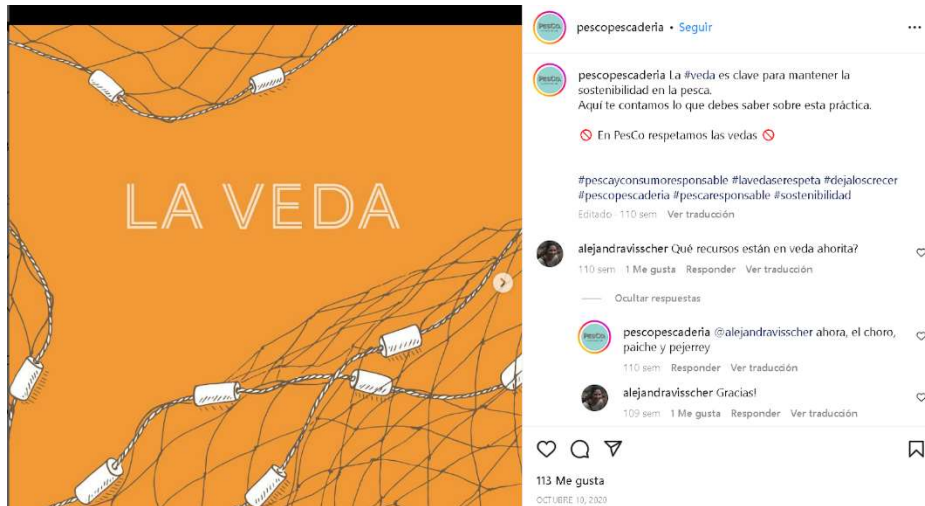
Figure 2. PesCo's physical store in Miraflores District, Lima.



Source:

[<https://www.facebook.com/PesCoPescaderia/photos/pb.100064000901775.-2207520000./1104469683703741/?type=3>], as available at 11/22/2022.

Figure 3. One of PesCo's Instagram posts about fishing restrictions.



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Source: [<https://www.instagram.com/p/CGK0VhVpTPW/>], as available at 11/22/2022.

Figure 4. One of PesCo’s Instagram posts about minimum catch sizes.



Source: [<https://www.instagram.com/p/CF8QXXEJ8ZI/>], as available at 11/22/2022.

Figure 5. One of PesCo’s Instagram posts about responsible fishermen.



Source: [<https://www.instagram.com/p/CGVLJZuAP4y/>], as available at 11/22/2022.

2. CASE DEVELOPMENT

The problem of unsustainable fishing and artisanal fishing as a sweetspot for shared value creation

Shared value is a concept developed by Porter and Kramer (2011) defined as “policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates. Shared value creation focuses on identifying and expanding the connections between societal and economic progress”. Though it seems to be a powerful framework to build business strategies, it has been a criticized concept for ambiguity and told to be just a management fashion (Beschorner & Hajduk, 2017; Crane et al., 2014). Through a systematic review of literature published from 2010 to 2020, Menghwar, P.S., & Dawood, A. (2021) developed a more precise definition of shared value based on the work of Porter and Kramer, with three key characteristics:

- Creating shared value is an strategic process
- The societal problem(s) to be solved are aligned with the value chain
- Solving de societal problem(s) results in direct economic profits

Therefore, shared value creation is a strategy which finds its sweetspot where societal needs and profitable opportunities are intertwined in a specific value chain. A clear understanding of this sweetspot helps firms deliver an effective shared value strategy, as it happened in the case of the peruvian cocoa industry (Borda et al., 2021). This, for social enterprises, should be specially considered as a way to succeed both in their social and economical goals.

In the case of the fishing industry, the sweetspot for creating shared value starts with the following environmental, social and economical issues:

- **Unsustainable fishing.** As per capita consumption of hydrobiological resources grows, artisanal fishermen incur in unsustainable practices: overfishing, mislabelling and destructive extraction methods. Overfishing occurs when vessels catch fish faster than stocks can replenish (WWF, n.d.)⁵, threatening both the species existence and the marine ecosystem where it lives, i.e. coral reefs. Mislabelling is an act of fraud, i.e., selling flounder to a customer but telling him it is tuna. This is easier as fish are sold as filets, making it hard to differentiate species. Extraction methods can be harmful to the marine ecosystem, i.e. trawling (see figure 6). These practices have placed multiple species at risk of extinction and have altered marine ecosystems.

⁵ World Wildlife Fund (WWF) website [<https://www.worldwildlife.org/threats/overfishing>]

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Figure 6. Trawling explanation.



**Illustration is representative of gear used, not set to actual scale.*

Commercial bottom trawl vessels targeting rockfish, California halibut, dover sole, Pacific cod and lingcod off the U.S. West Coast drag large, heavy doors and footropes across important coral and sponge habitats, destroying nearly everything in their path. The distance between the heavy trawl doors can be from 110 to 650 feet wide and the doors can weigh up to 1300 pounds.

Source: [<https://usa.oceana.org/bottom-trawling/>], as available at 11/22/2022.

- **Artisanal fishing.** Transformation of artisanal fishing practices is necessary to establish sustainable extraction rates. As stated before, consumption of seafood has increased, but the majority of consumers are not aware of fishing seasons restrictions and minimum catch sizes, therefore they may even buy irresponsible, illegally caught products. This situation promotes unsustainable artisanal fishing. As most artisanal fishermen already earn less than the minimum wage (see table 1), they prioritize economic value over species sustainability. In 2022, the Peruvian artisanal fishermen population grew to 88,000 people⁶, as it is an independent economic activity with low barriers to entry. The following table summarizes the latest statistical data from the peruvian artisanal fishing context.

Table 1. The peruvian artisanal fishing context.

Reason to be fishermen	Economic need (59%), family tradition (38,5%)
Age groups	Youth (21,2%), adult (65,9%) and elder (12%)
Highest education level	High school (62,5%), elementary school (26,5%)

⁶ According to the National Ministry of Production, [<https://www.gob.pe/institucion/produce/noticias/634552-produce-en-el-peru-hay-mas-de-88-000-pescadores-artesanales>]

Average net income	Less than the minimum wage (67,9%)
Insurance	Owns health insurance (30,3%)
Legally authorized to go fishing	65,6%
Current member of a fishing organization	53,6%

Source: IMARPE (2017), [<https://hdl.handle.net/20.500.12958/3300>], as available at 11/22/2022.

PesCo's shared value strategy

PesCo has achieved shared value creation by training its suppliers. It looks for artisanal fishing associations throughout Peru and establishes sustainable fishing as a condition to be a PesCo supplier. To make it possible, it provides them with training on product handling, fishing gear usage and skin diving, along with workshops about the importance of fishing restriction seasons and minimum catch sizes. In addition, PesCo sets up a traceability system based on blockchain technology to follow up the status of every fish caught. All this makes fishermen able to provide high quality raw products bought directly by PesCo at higher prices, increasing the average artisanal fishermen's income between 20-30%⁷.

Shared value not only benefits fishermen but also protects the Ocean through sustainable fishing, which is PesCo's reason to exist. PesCo has established sustainable fishing in six peruvian locations, therefore increased protection of life below water and marine coastal ecosystems (see figure 7). Just in 2021, PesCo sold more than 15 metric tons of responsibly caught seafood from artisanal fishing communities.

This shared value strategy has benefited PesCo in the following aspects:

- **Competitive advantage:** training suppliers increases product quality and safety. Seafood needs delicate handling and specific storage and transportation conditions to preserve its taste and texture. Moreover, if products are not carefully manipulated, they can even be toxic for human consumption. As B2B clients want their customers to get the best food service experiences, PesCo's value proposition becomes highly differentiated from its competitors, enabling it to charge a premium price.

- **Brand:** customers easily remember PesCo as the fishmonger who works with artisanal fishermen and protects the environment. Social value makes it easier to generate both brand awareness, consideration and loyalty. PesCo communicates that social value permanently, educating and nurturing its client base.

⁷ As stated by the World Bank, [<https://www.worldbank.org/en/programs/solutionstooverfishing/winners>]

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- **Financial resources:** PesCo's ability to create shared value (both economic and societal benefits) has unlocked financial access and blended finance opportunities to grow its business. Specifically, PesCo has raised debt at preferential rates from NeSsT⁸, an impact investment fund who has also provided them with consulting services and networking opportunities. PesCo has also received non reimbursable funds from the Peruvian government.

Figure 7. Location of PesCo's current sustainable fishing artisanal suppliers.



Source: prepared by the authors from data provided by PesCo (2022).

⁸ NeSsT is an impact investment fund with a portfolio focused on Latin America [<https://es.nesst.org/about-nesst>]

Success factors

Not every fishmonger could have been successful at creating and delivering shared value as PesCo does. Below are described the success factors identified in PesCo's case:

- **Human resources.** PesCo's founder focused its career toward artisanal fishing. He not only knows how fishing associations work but also has worked with multiple peruvian artisanal fishing associations for many years. Therefore, PesCo had higher chances than any other fishmonger to make strategic alliances with these artisanal fishing communities, convincing them to make substantial changes in their working habits. According to Barney (1991, pp. 99-120), resources are valuable when they enable a firm to conceive or implement strategies to improve its efficiency and effectiveness. Under the resource based view, PesCo's founder is considered an inimitable resource, which provides a temporary competitive advantage. This resource settled up the environment for shared value implementation.

- **Physical resources.** PesCo owns a cold chain system that allows safe transportation of seafood from the artisanal fisheries to customer's hands. Even though this is not considered an inimitable resource, having an own cold chain system eliminated the need to involve intermediaries between PesCo and its suppliers, so price premiums can be directly transferred to the artisanal fishermen, motivating them to engage in the proposed shared value creation model. That's how PesCo is able to help fishermen with income increases.

- **Quality assurance.** PesCo verifies both product quality and prevents non sustainable practice compliance risk by looking at the product's physical appearance before it enters its cold chain system. This key activity, according to Osterwalder & Pigneur (2010) is focused on providing superior quality, which is also the key element differentiating PesCo from other industry players.

Challenges on competitiveness and sustainability

In social enterprises, both social and economic missions co-exist in a tensioned balance, and sometimes entrepreneurs drift away from their social values in pursuit of commercial gains (Muñoz & Kimmitt, 2019). While PesCo's B2B client base grows, the quantity bought from responsible artisanal fishing suppliers remains practically unmoved. Working with artisanal fishermen restrains PesCo's capacity to serve its B2B client needs in terms of ordered quantities. This was a red flag for the business, as B2B clients account for the firm's highest proportion of revenue. If PesCo doesn't make a move, other medium sized firms will take its place in the B2B market. But PesCo won't buy seafood from other suppliers, or at least none of its members would expect that to happen. This situation reflects how the pursuit of competitiveness and the commitment to sustainability may enter in conflict even in a social enterprise.

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A short term solution was implemented: buy seafood from other artisanal fishermen to whom PesCo hasn't trained, and at least validate that extracted products sold to PesCo are responsibly caught. But this solution can't be the one PesCo picks to scale up its business in the long term, as it won't guarantee that suppliers have become responsible fishermen, as they also sell products to other firms and PesCo can't track that production.

3. QUESTIONS FOR DISCUSSION

Question 1. What industry conditions should be considered to design scalable solutions for overfishing.

Transformation of artisanal fishing is the main challenge to stop overfishing and solutions could address this problem from different angles. Based on Porter's Diamond (2011) applications for shared value opportunity screening will be shaped by the following conditions:

- **Local demand conditions.** Unfortunately, peruvian consumers are unaware of the importance of responsible fishing practices. Communicating that products have been responsibly caught won't influence consumers' decision making process on a significant level. Nevertheless, past experience in the food industry has revealed that placing highly visible labels with information about the product's negative impact on consumer health has changed buying patterns in a significant way. This may work for similar initiatives in the artisanal fishing sector regarding traceability and quality production.

- **Related and supporting industries.** More than a half of peruvian fishermen are associated, which facilitates scalability; but more than 34% are not legally registered fishermen (IMARPE, 2018)

- **Factor conditions.** Financial benefits for social enterprises are growing, which acts as a stimulus to create even faster growth models.

- **Context of industry structure and rivalry.** Most social businesses are transparent about strategy and are willing to collaborate with their rivals.

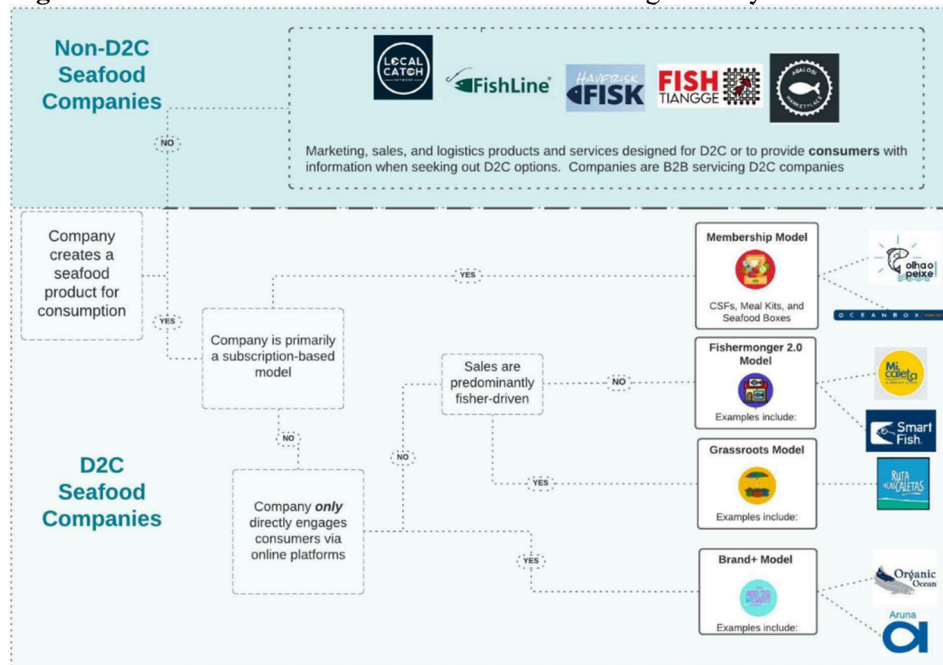
Question 2. Should PesCo work with non artisanal fishing groups?

PesCo should not expand its scope of work to non artisanal fishing groups just because it's current need is related to economics of scale. Instead, it should develop alternative ways to keep up with the demanded quantities without compromising its social and environmental mission. This will reinforce responsibility towards the social purpose in the minds of the organization members and also secure brand value maintenance and growth by avoiding the associated risks arising from third parties.

Question 3. How can PesCo unlock fast business growth in line with its social mission?

One way in which PesCo can scale up its operations is the establishment of strategic alliances with other industry players with the same social business orientation. These player may or may not be fishmongers, as multiple D2C⁹ businesses have appeared and gained market share (see figure 8). Osterwalder & Pigneur (2010) see key strategic alliances as the ones who promote the value proposition and drive business growth. Two challenges will arise in this scenario: partner acquisition and partner training. In the Business Model Canvas from Osterwalder & Pigneur (2010), this should be placed as two key activities. The first one could make use of current dialogue spaces oriented to sustainable fishing, artisanal fishing and marine policy to screen and select future allies. The second one should have remarkable results in order to avoid brand reputational loss, which could materialize if products are not handled, transported or packed by allies as it happens at PesCo. In both activities, the set up of a network of changemakers for the fishing industry would be useful to share resources and experiences for improvement.

Figure 8. Different D2C business models in the fishing industry.



Source: Future of Fish D2C Report (2022), as available 11/22/2022.

⁹ Direct to consumer

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4. CONCLUSIONS

PesCo represents one successful case on how to solve overfishing through shared value, which is why it was one of the winners of the World Bank's Coastal Fisheries Initiative Challenge Fund. We learn from this case that shared value business opportunities can be successfully replicated if conducted with both enabling, delivering and scaling processes or resources. Enablers could be knowledge, networks, or any other resource useful to deeply understand and reach out to the stakeholders involved in the social or environmental problem that a business seeks to solve. Delivering the value created from shared value opportunities is the way a firm prepares itself both to physically or digitally deliver goods or services. Scaling processes are, at last, the key difference between solutions to tackle the world's biggest challenges. PesCo has enabled a model with high value but limited scalability, and we expect it to improve in the near future through partnerships with other local players, sharing its model with founder teams able to replicate it in other fisheries.

Additionally, in the pursuit of competitive advantage, social enterprises should always keep in mind how business decisions will pull them closer or not to their social goals in the long term. We recommend establishing key performance indicators that track business performance and social performance at the same time.

This case aims to inspire fellow researchers and entrepreneurs to make contributions to solve sustainability issues around the world.

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