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Building a sustainable end-to-end aquaculture solution

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Gibran Huzaifah, founder and CEO of eFishery, speaks about his entrepreneurial journey in the aquaculture space.

It was an anecdote from a biology professor concerning the promising prospects of catfish farming that put Gibran, an aquaculture science graduate, on the path of becoming the founder and CEO of eFishery. eFishery is an agricultural tech start-up that provides automated feeding solutions to fish and shrimp farmers, and offers them services such as financing and market access. Using technological advancements, eFishery is now constructing an end-to-end value chain for fish and shrimp farming businesses, resulting in an integrated, sustainable ecosystem that would strengthen the future of global food security. Gibran talks about how he became a fish farmer-turned-tech entrepreneur, the aspirations that he has for eFishery, and what budding entrepreneurs can learn from his experience.

HOW DID YOU GET INTO THE FISH FARMING INDUSTRY?

I studied biology at ITB, the Institut Teknologi Bandung (or Bandung Institute of Technology). I didn't want to take money from my parents, so I started doing different things to pay for my tuition and daily needs. In my third year of college, I attended a class on aquaculture. We used to call the class 'Package A' because all its students are guaranteed an A-grade! So it's a very popular class, and that was my initial reason for taking it. But it was surprisingly inspiring for me. The professor told us that seafood would become one of the most important protein sources for humans, and it would hold much potential for the food production sector.

He also mentioned how Vietnam was very successful in catfish farming, but as the Vietnamese didn't consume catfish that much, it was rebranded as dory fish and exported to the US and Europe. What the professor said next changed my life: "We're currently in the middle of the catfish revolution in Indonesia, because over the next five to 10 years, catfish, which is now considered street food, can be served in five-star hotels and restaurants. It's up to you whether you want to be part of this revolution."

After that class, I decided to set up my own catfish pond. I started renting one pond from a suburban area outside the city. It was surprisingly cheap, costing around S\$40 per year. I then put the fish in and started my first cultivation cycle. Two years later, I was operating 76 ponds. Each pond is about 200 square metres with around 20,000 fish in it. For a long time, I was running the business single-handedly! Every morning after class, and late in the evening, I would feed the fish myself. The first harvesting cycle was challenging because I didn't have experience with the market. I tried selling the fish to small restaurants, but they didn't want to buy it from me. I tried selling it to the stalls at the wet market, but they already had their existing suppliers. In the end, I had to sell it to the middlemen and made very low margins. But after about two months, I learnt how to reach out and build the customer base myself. Everything that I did at the very beginning was very exciting because I did it myself, trying to figure out the supply chain, the market operations, and then scaling my business down the road.

WHAT LED TO THE IDEA FOR eFishery?

When I was operating 76 ponds, I wanted to grow my business bigger. I tried to learn from farmers who operated on a much larger scale than mine. When I consulted a farmer who operated 1,000 ponds and had 25 years' experience in building his business, he said that his biggest challenge was the feed, which accounted for 70 to 90 percent of the total costs. It was also the biggest cost for me. In fact, the feeding cost became a bigger challenge as the business grew. This was because farmers

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needed to hire more workers to feed the fish daily. The workers could be unreliable—sometimes they put in too much feed and overfed the fish; at other times, they were lazy and forgot to feed the fish. Occasionally, they even lied about feeding the fish, and instead stole and sold the feed to other farms. You couldn't really know for sure!

I came up with an idea and asked the farmer, "What if I build you a machine that you can use to control the feeding process automatically from your phone? Would you be willing to use it?" He was taken aback, but he replied, "If your technology can work effectively, all of my 1,000 ponds will use it." I realised this is a huge opportunity. No one was doing it, and Indonesia had 3.4 million farmers and 30 million ponds across the country. I began to figure out how to build an automatic feeder.

WHAT CHALLENGES DID YOU FACE WHEN BUILDING THE PROTOTYPE? WHEN DID YOU START ENLISTING PEOPLE TO HELP YOU?

I started building the prototype in a scrappy way, using second-hand materials. I googled a lot! I hired vocational students to do the hard work. That took two months and about S\$250. The early prototype of the automatic feeding machine was SMS (text message)-based. You sent the SMS to the machine, and it would disperse the feed. I felt the prototype was good enough for me to go back to the farmers, and they were all excited because no one had built it before. But then one farmer realised that he needed to send 1,000 text messages to his 1,000 ponds, as it was one SMS per pond. I had clearly not thought it through enough. It was then that I realised that I really needed tech expertise and decided to get a partner with an engineering degree.

At the same time, a friend of mine, who had lived in the same dormitory as me at university, gave me some great advice. He had started the e-commerce platform and unicorn, Bukalapak, after graduating from ITB, and he believed that the tech scene in Indonesia would become massive. When I told him about my automated feeder idea, he told me this was an IoT (Internet of Things) solution. If it could capture data, I could do a lot more with it and spin it as an IoT company for aquaculture. That was when I started reading about what the technology could do. I looked at the business model of Amazon and Alibaba, and began adapting mine to create what would become the ecosystem for eFishery. The challenge during the early phase of the business was not about capturing the data; it was convincing farmers to use my technology as most



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did not have the tech-savviness to understand my technology. They didn't even have a smartphone! We needed to start with lending them smartphones and educating them on how to use the technology.

Once we had the feeders deployed, capturing the data was the easy part. But this whole process took us six years, from deploying the first product in 2013 to activating the data for other use cases in 2019. The reason was that we didn't have enough user density to get any meaningful value and start a new business model based on the data. But today, data is our key revenue driver, and this could happen because we had invested those six years to convince farmers to use our technology.

WOULD YOU SAY THAT YOU HAVE A STRONG SIXTH SENSE OF WHERE YOUR VENTURE IS HEADING?

Definitely not! I'm not a visionary. I just solve problems that I can see right now, and right away. A lot of what we do at eFishery comes from that logical approach to solving problems. For example, we started building an automatic feeding solution because we knew that the problem for farmers was high feeding cost, so we created a cheap feeding method. When we extended the service from catfish farmers to shrimp farmers, it was solving the same problem. They were still aquaculture farmers after all, so the model remained the same.

The interesting part came when the farmers asked, "Could we buy the feed from you because we bought the feeders from you anyway?" After we started selling them feed, they asked whether they could buy on credit because they received money only after selling their fish. So we thought of using the data to build a credit-scoring mechanism. This way, we could convince the financial institutions to provide credit for farmers to buy our feed.

So our approach has always been to be obsessive about listening closely to the farmers, solving their problems, and figuring out how to build our capabilities to do so. We always start from their problems. That's also why we continue to stay at the frontline and distinguish ourselves from other service providers in the market.

WHAT IS YOUR BUSINESS MODEL LIKE? HOW DID THE COVID-19 PANDEMIC AFFECT YOUR BUSINESS?

We tell the farmers, "If you join us, you can get access to financing. You can also access cheaper feed and the market more easily, just like in a co-operative. All you need to do is pay a membership fee of S\$10 per month, per pond." We don't sell an IoT service, end-to-end marketplace, or services that are so complex to farmers that they can't comprehend what they are buying into. Rather, we like to think of ourselves as a digital co-operative.

Because we are in the essential services sector, the pandemic didn't impact us that much because at the end of the day, people need to eat anyway. In fact, due to hard times during the pandemic, people tend to eat more fish as compared to other meats, so it has helped us. In the beginning, it was very hard for us to convince investors; now, because we're solving important problems for society, people finally see that essential sectors like ours have the resilience to even grow amid the pandemic. As for the operations side, we had a remote working policy since 2017, so when the pandemic happened, we had already established the culture, processes, and system for us to operate remotely and in a productive manner.

AS YOUR BUSINESS GREW, YOU HAD TO EVOLVE FROM ENTREPRENEUR TO CEO. HOW HAS THAT JOURNEY BEEN?

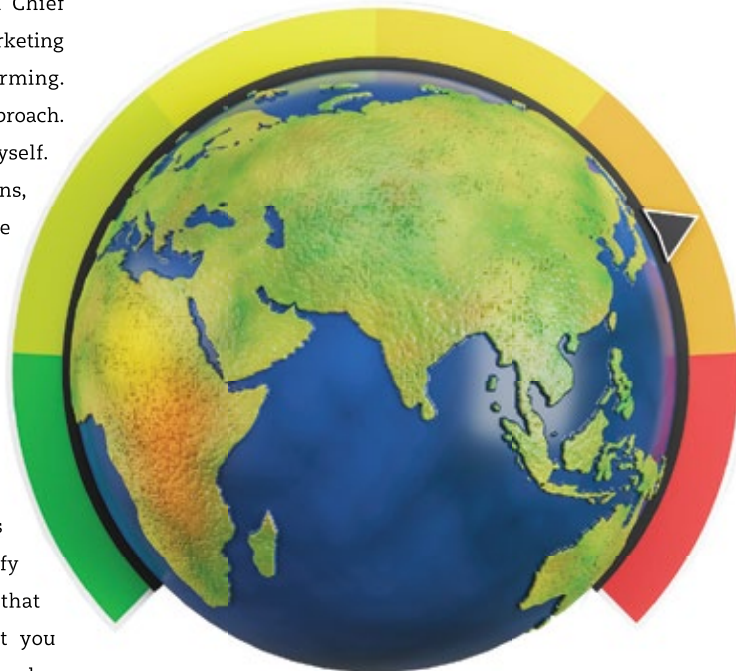
It was very challenging for me because I'm a first-time founder. I started eFishery right after I graduated from college. I didn't have any experience working in a large organisation. I built the prototype myself and I was the first salesperson.

I believe the most important part of this journey is that you need to know when to let go of your responsibilities as a founder. It is quite a delicate balance. When founders give up their responsibilities too early, they lose a lot of insights compared to when they did things themselves. I made the same mistake. Early in the business, I hired a Chief Marketing Officer who had 20 years' experience in marketing consumer products, but no direct experience in farming. It did not work out too well, and I had to change my approach. I ended up building and managing the sales team myself. But once I got to the point of having 50 salespersons, I knew that I did not have the experience to manage them. That's my second point—knowing who and when to hire. This means if you have 50 salespersons, don't hire someone who has experience in only managing 50 people. Instead, hire someone who has experience in managing 300. And the third—always stay at the frontline, even when you have people as your direct report. You need to know what's happening at the customer level and in the field. This way, you can gather strong insights to build and modify the system. And fourthly, you need to understand that it is the systems, the design, and the culture that you have put in place that will enable the organisation to scale.

WHAT CONCERNS YOU THE MOST TODAY WHEN YOU LOOK AHEAD TO THE NEXT FIVE TO 10 YEARS?

First, it's definitely climate change. We know that it will impact the food production sector as a whole, and fish farming and shrimp farming specifically, given the diseases that marine life is more prone to. We are figuring out which technology we need to invest in more, such as genetics, or new farming types, like vertical farming for fish farming. We need to look at this closely because we need to change our farming practices now.

Second, it is about sustainability. We have been farming unsustainably, using antibiotics and pesticides that release pollutants into the environment. However, aquaculture is still in the early phase, as it has started growing only since the last two decades, so we have the opportunity to rethink how we can farm our fish more sustainably, and this will eventually add value and give us premium status in the developed markets. We need to think about how we can embed sustainability into our business model and technology, and incentivise farmers to farm more sustainably. We are also looking at long-term technology, like alternative fish meal for example, that we can start investing in and working with a good partner.



Third, it is paying attention to the consolidation in the sector. There will invariably be a consolidation of certain types of commodities in the market. You can see that in the US agricultural market, where every farmer grows corn, soya, or other similar types of commodities, such as livestock, it is the large agricultural or food companies such as Cargill and Syngenta that own these farms. It may be the same for aquaculture. We are concerned that smallholder farmers might not have a chance to survive. That's why our approach to building the aquaculture sector is a co-op model, at least from the business perspective. It enables us to ensure that smallholder farmers will have room to grow when the sector and the economy grows.

LOOKING BACK, WHAT ARE SOME OF THE GREATEST INFLUENCES IN YOUR PERSONAL LIFE THAT HAVE SHAPED HOW YOU MAKE DECISIONS AND RUN eFishery TODAY?

When I started college, I lived in a different city from my family. I come from a very humble family background, and my family had trouble sending me money. At some point, I didn't have any money and was practically homeless. I stayed in a mosque for three straight days. I didn't have anything to eat for more than 70 hours and had to drink from the tap in the mosque. I also didn't have any friends then because I was the only one from my high school who was accepted into ITB.

During those three days, I felt like I was dying of hunger. I thought this would be the end of my life. Fortunately, I received money from my family on the third night. The next morning, I read from the newspaper that a man had starved to death. I cried because I recalled how miserable I had been when I was hungry. I thought to myself that Indonesia is such a rich country, so it's ironic that there are still people who would starve to death or suffer from malnutrition. That was when I had an epiphany—I wanted to fight against hunger. I wanted to make sure that at least in Indonesia, no one would starve to death. Having that purpose really shaped the way that I operate the business, because it was never about making eFishery a unicorn, or myself a rich man. It's about how we solve problems for farmers and eradicate hunger.

I hope everyone in the company shares the same purpose as me. As we continue to build and grow eFishery, it's not only for our personal financial goals but also using

our company as a tool to solve bigger social problems that are as meaningful to them as they are to me. Since I come from a humble background, it's always about bringing positive impact to society.

WHAT ADVICE WOULD YOU HAVE FOR BUDDING ENTREPRENEURS?

These are very exciting times for new entrepreneurs because capital is abundant, the market is growing very fast, and there are high levels of digital savviness. However, I see some pitfalls for new entrepreneurs. Being a founder is a cool job and it is easy to start a company, but that's a wrong motivation. If you don't start by focusing on solving the right problems and having the right mindset, at the end of the day, you won't create any value for society. It will be a company that doesn't leave any legacy.

I always tell budding entrepreneurs to start from your 'why'. Why do you want to start a company? Why is this important for you? Often people start by looking outwards, thinking about what business can be funded and what investors will go after. Instead, start by solving a problem that not only matters to you but is also important to society. Because if you build a business from tackling a problem that is big enough, it will be a long-lasting venture.

At the end of the day, you just need to start—start early, start small, and learn as you go. And be open-minded about what you need to learn, knowing that you still have a lot of things to learn. Prioritise your self-development, because the company can't grow if you don't grow. 🙏

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