

Ali's 'out of the box' idea:

revolutionising the poultry industry in Pakistan and beyond



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An innovative system designed by Pakistani enterprise [Poulta Inc.](#) is modernising the poultry industry, enabling farmers to detect, predict and prevent potential production problems early on.

In Pakistan, there is an urgent need to improve the nutrition status of many sectors of the population, specifically the protein intake and nutrition security of vulnerable populations such as women of reproductive age and children. Two forms of malnutrition, in particular, are being experienced at levels high enough to warrant a public health problem: anaemia and stunting. The national prevalence of under-five stunting is 37.6% and, among the adult population, 52.1% of women of reproductive age are anaemic.

Inefficient farming practices are leading to shortages of chicken meat and eggs which, in turn, is driving up prices and making these nutritious sources of dietary protein unaffordable for many. "A friend lost 70,000 birds in a single day and it took him three days to discover that poor quality water had been the cause. I discovered that, globally, farmers are losing USD 100 billion every year due to poultry health issues, which is negatively impacting accessibility, availability and affordability of important protein sources," says Ali Murtaza Solangi, Founder and CEO of Poulta, a small enterprise operating in Pakistan to integrate data-driven systems into the poultry industry. "A sustainable farming technique was required to overcome these hurdles to benefit our nation and other countries around the world. That idea gave birth to our innovation in 2019 that is empowering farmers and lowering prices for consumers."

All systems go

Targeting a clear need in the market, Poulta developed an end-to-end data-driven system that helps poultry farmers of all sizes with early detection, prediction, and prevention of losses

"As an entrepreneur, always look for out-of-the-box ideas that are repeatable, scalable and global. But, most importantly, make sure your idea will be highly impactful for people, profit and planet."

Ali Murtaza Solangi, Founder, Poulta

across their poultry farm. Real-time, integrated data – on air and water quality, mortality rates, feed consumption, and other productivity factors – provides farmers with actionable insights. Farmers are also able to monitor multiple farms at once with this equipment, meaning they can use their time more effectively and streamline operations. Poulta has also developed one of the world's first traceability technologies for eggs and chickens, from farm-to-fork. This demonstrates when and where eggs and chickens are grown, how they reach the consumer, and assures products are hygienic and free of diseases.

This dynamic software system has the potential to improve the productivity of the global poultry sector and provide adequate protein to those in need – but first it needed to be tested. To ensure the system was robust, Poulta initially targeted four medium and large poultry companies in Pakistan which each tested their proof of concept. Since then, Poulta's digitally-powered solutions have been successfully deployed in 150 controlled poultry sheds, resulting in a 1% reduction in mortality, 10-15% reduction in medicine costs, 15% reduction in energy consumption, and a 5-8% increase in production; which has collectively helped farmers increase their profitability.

Accessing regional and global opportunities has been another strategy for success. In 2020, Poulta was awarded a Scaling Up Nutrition (SUN)



Pitch Competition cash prize of USD 10,000 sponsored by Cargill, for improving accessibility to healthier foods. The funds from the Cargill Innovation Prize have been used by the company in a variety of ways, such as to further improve product deployments to farmers, enhance their research and development (R&D) capacity, streamline device manufacturing, and cover operational expenses.

Poulta's proof-of-concept has proved so successful that the company has already begun to target European poultry producers. In the Netherlands, it is collaborating with food-based 'accelerators' and funders to establish itself in the country and provide fully-traceable eggs and chicks throughout the EU. Poulta is also working closely with universities and other academic institutes – in Pakistan, Europe, and the US – to help them keep pace with changes in technology and produce resources fit for next-generation smart poultry farming. Through these partnerships, Poulta has helped develop a global certification programme which will provide the poultry industry with certified skilled workers.

Innovating to overcome challenges

Accessing finance has been Poulta's biggest hurdle, particularly as a small business working to develop an innovative technology. The initial R&D phase, which required skilled and talented personnel, was difficult. "Developing vertically-integrated poultry farming features, and over 35 sensors, was not easy to achieve with our pre-seed money," Ali reveals. "In just one quarter, however, we have made sales of USD 200,000. This is an excellent achievement, but if we had more funds we could scale more quickly." The company has also been able to expand its talented team, which now comprises 50 people. As cases of COVID-19 spread in 2020, city lockdowns and mass social distancing orders came into effect across Pakistan. These restrictions proved to be significant for Poulta. In the country, chicken is typically served at large gatherings such as weddings and other functions, and these events comprise a significant proportion of demand in the poultry industry. Consequently, when gatherings were

banned by the government, requirements fell, negatively impacting poultry farmers' sales – leading to a decline in purchases of Pouлта's software and equipment. Furthermore, travel restrictions and border closures meant Pouлта was unable to source devices and manufacturing materials from overseas, namely China.

Despite the significant challenges Pouлта faced as a result of the pandemic, the SME managed to retain all employees and continue with manufacturing and R&D operations throughout 2020. For this, the employees credit Ali's adaptability. His ability to find ways to carry on with normal business operations, despite the restrictions, demonstrates both his and the company's resilience, while continued investment into R&D enabled the enterprise to improve products to support them moving forward. Moreover, Pouлта has developed improved versions of the monitoring hardware and software, which will aid them in scaling activities in the near future.

Pouлта emphasises the significance of the Cargill prize money in assisting these activities, as well as the networking and mentorship opportunities provided as part of the SBN Pitch Competition, which allowed the company to expand their

network and clientele via a global platform, and call on this wider support during particularly challenging times.

Aiming for the big leagues

For the months and years ahead, Pouлта has big plans. In 2021, the enterprise began paid deployments of their solution, as many of their clients from prior to the Pitch Competition were being used to demonstrate the potential of the equipment and thus not paying for the service. The results from these trials have successfully demonstrated the effectiveness of the services that Pouлта provides in improving production, reducing losses, and improving traceability in the poultry value chain and, as a result, 70% of the companies that were testing the solution have begun to pay for it. Scaling up is also key to Pouлта's plans for the future, and the company has its sights set on expanding into markets regionally, but also the EU, the US, and beyond.

Pouлта is on a mission to support farmers, improve nutrition, and provide, for the first time, an end-to-end digitised system for complete traceability of poultry products right up to the consumer's plate, for a healthier and safer final product.



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