

**MSE-5**

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### The Seemingly Unreasonable

Throughout our centuries long existence, Armenians have known to be a culture of hard-working, curious, inventors and creators. In fact, the cultural history of our existence is etched deeply in inventions such as our alphabet, drawn out by renowned linguist, Mesrop Mashtots. Other nations have always known and valued the innovative skills and abilities of Armenians. As early as the 15th century, Shah Abbas of Iran relocated thousands of Armenians to Iran in pursuit of building and improving the Persian Empire. Unfortunately, on account of our history, including genocide and displacement, Armenians have been scattered throughout the world; in these diasporas, they continued to flourish and impact society through fields of science, technology, economics, and health. Today, a century after the Spanish Flu, the world is facing yet another unprecedented pandemic, Covid-19, with an Armenian innovator fighting at the forefront. Noubar Afeyan is an inventor, entrepreneur, and philanthropist known foremost as a co-founder of the biotechnological company Moderna. Afeyan is not your ordinary inventor, as his innovations go beyond one invention. His most prominent innovation is Flagship Pioneering; founded in 2000, Flagship Pioneering invents companies who find “seemingly unreasonable” solutions to challenges facing human health, sustainability, and technology.

Human health is one of the most influential factors of a growing economy. As Armenians, a strong economy is what keeps our country alive; therefore, innovators such as Afeyan contribute greatly to the Armenian cause as well as the world. Flagship Pioneering is the invention epicenter for life and science companies that are at the forefront of finding solutions for human health. The most prominent and world renowned company Afeyan has founded dealing with human health is Moderna. Moderna is known to use mRNA technology to program

a patient's body cells to create its own drug. Since its creation, Moderna has used its mRNA technology to develop personalized cancer vaccines and drugs for infectious diseases. Moreover, once the Covid-19 pandemic hit, Moderna was able to use its mRNA technology to quickly facilitate a vaccine for the disease. The impact of this innovation was tremendous, saving millions of lives all around the world. Furthermore, the vaccine is helping people go back to their pre-pandemic lifestyles, which in return stimulates the economy.

In addition to human health, sustainability plays a great role in human life. Sustainable means “lasting,” and is defined as the idea to meet our own needs while not jeopardizing the needs of future generations through natural resources, environmental degradation, and social resources. Sustainability is integral to human life because it maintains environmental quality and sets society on the right path for the future. As part of Flagship Pioneering, Afeyan founded companies focusing on sustainability, such as Indigo Agriculture. The innovation behind Indigo Agriculture started when they asked the “seemingly unreasonable” question, “What if microbes are as central to the health and development of plants as they are to that of humans?” Indigo utilizes natural microbes to promote better-growing crops and conditions while at the same time being environmentally sustainable and friendly. Furthermore, they discovered that the microbes in plants drastically improve crop resilience to heat, drought, and insects, which in return improves crop yields. In an unlucky turn of luck for our country, only seventeen percent of Armenia's land is suitable for farming, and the agricultural system is not able to grow affordable food; therefore, innovations like Indigo are helpful to societies like ours all around the world. Indigo finds new efficient ways to increase harvests, which helps to be an economically sustainable nation. If Armenia can plant Indigo's microbiome-coated crops, they can produce a greater quantity of food on their own and improve their living standards. Also, if Armenia can

produce large quantities of crops, we will be able to export internationally. “Agriculture is the most important industry in the world, and it is dead last in terms of its adoption of new technologies and business models. If we figure this out, we can make an enormous positive difference in the world.” David Perry: CEO of Indigo

Technology is another branch of Flagship Pioneering’s focus. Globally, technology is the backbone of economic growth. Implementing technological innovations enables the development of more efficient goods and services. Afeyan implements new technologies to make advances in both healthcare and agricultural companies. One of his technological and agricultural companies is CIBO Technologies; CIBO uses technology to help agriculture growers transition to regenerative agriculture. Regenerative agriculture is a system that focuses on the soil, water, and protection of the ecosystem. These sustainable technological and agricultural advancements are essential for the global economy and more specifically for Armenia to become a self-sufficient country.

As an Armenian, it is essential to be creative and innovative, as our little country depends on each and every one of us to think outside the box, in order to create a strong and independent homeland. Since we live in different corners of the world, seeing an Armenian name receiving any sort of credit always brings a sense of pride to the entire community. Afeyan is an extraordinary innovator, entrepreneur, and philanthropist who has sparked a sense of pride and excitement through his remarkable contributions to society. Being at the forefront of creating a vaccine for the ongoing Covid-19 pandemic, Afeyan's contributions made the entire Armenian population proud, with the realization that a person from such a small country is helping the world on a global scale with his innovation. Moreover, he encourages many to ask “seemingly unreasonable” questions and uncover solutions to complex social and economical problems.

“It always seems impossible until it’s done,”- Nelson Mandel. In the big picture, Armenians have contributed not only to their society but also globally; they made impossibilities possible through inventions such as the MRI, PET scan, the ATM prototype, even the green color in the U.S. dollar, and many more. These contributions make Armenians known all around the world as inventors, creators, and valuable members of society. When thinking of Armenian innovations, it always brings me the feeling of, “Oh wow, an Armenian did all this!” Afeyan is a significant Armenian innovator who overcame global challenges with his innovation-inclusive company focusing on healthcare, sustainability, and technological advances.

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