**Statement of academic purpose**

Indonesia has been trapped in the so-called “middle income level” for nearly 29 years, and I suppose the main cause is premature deindustrialization. For reference, only 15 countries have successfully escaped from the middle income trap, such as Singapore which took 20 years and South Korea which took 18 years to escape from the trap. Premature deindustrialization is a condition where a country forcefully reduces its industrial capacity to high-value fields such as the service sector. Although Indonesia had its industrialization peak moment in the early 2000s, in which the contribution of the manufacturing industry towards Indonesia’s GDP held a record of 40% in the 2000, it declined due to lack of competitiveness towards China’s manufacturing cost, forcing Indonesia to deindustrialize and move to services and other informal sectors. While countries who successfully left industrialization tend to perform better economically, such as the US and UK, Indonesia happened to be one of the unsuccessful cases of deindustrialization as we are still categorised as middle income countries, and I believe OR skills can help Indonesia in bringing back its industrialization era.

The application of OR towards MSME industrialization in Indonesia cannot be underestimated as the possibilities are endless. The objective behind industrial businesses is actually simple, which is to minimise cost in order to maximise profit, and OR is a skill that complements this objective. While OR ensures an optimised industrial end-to-end process, it is also applicable in human resource allocation between skilled and unskilled workers to entrust the skilled ones to lead and train the unskilled ones, which later leads to higher employment. Not only limited to human resources, OR is also applicable in other types of resource allocation, such as material allocation. To complement this, we apply OR to build a robust end-to-end production process in factories to ensure competitive manufacturing costs with minimum waste disposal to avoid repeating the same mistake as we did in the early 21st century, whilst ensuring that we fulfil the Paris Climate Agreement. We know that the cost of rapid industrialization without proper waste management can be seen from China, such as polluted air and water, and we too, should learn from their mistakes. The intention of paving Indonesia’s way towards industrialization heightens my interest in pursuing OR for further studies.

My internship experience as CEO Office at Sayurbox, a Series B e-grocery startup in Indonesia, allows me to learn the end-to-end process of a B2B and B2C supply chain involving short life cycle products. This experience allowed me to observe and understand how e-groceries manage inventories and delivery systems to ensure fresh grocery delivery when customers receive their package through a combination of inventory management, transportation management and supply demand planning, considering that one of the constraints will be the shelf life of the products. I got the chance to optimise price determination methodologies for speedy process by using pricing tools to increase competitiveness among e-grocery players by nearly 20 percent, and also improve customer relationship journeys by improving our customer service AI chatbot. This shows the importance of having an optimised network flow from one process to another. This opportunity makes me realise how often we find OR issues, which shows the urgency of mastering OR, as I believe this type of issue will often be encountered in industries, especially ones who produce short life cycle products. It will be very meaningful when I pursue further studies in OR and specialise in supply chain & manufacturing, because having practical experience that is relevant to OR makes studying OR more manageable.

I also learned skills that will shape my business acumen through my current internship position as CEO Office at Finku, a fintech company in seed extension funding stage, focusing on personal finance. By having the flexibility to rotate to other roles, such as business development & partnership and product management, I learned to have a better view about the company, and ended up providing recommendations on operational flaws for better practices. Examples of these better practices includes improving better relationship with investors through monthly 5-minute email, creating B2B business to sell personal finance machine learning which will become a high demand product among digital banks, and brainstorming on Series A fundraising plans & other venture options. Moreover, I realised that problems in early-stage startups are mainly about discovering and testing a suitable end-to-end working system which can be heavily related to OR. Through this internship opportunity, I acquire a professional working ethos as I work alongside professionals with years of experiences from multinational companies; I believe it is important for an OR specialist to work professionally because one will deal a lot with external parties.

During my current internship at Finku, I also realised how Finku’s product development process has been so redundant that results in delayed product release. The current issue with late product release, which tends to be overlooked, can result in bigger issues once the startup is ready to scale up. More cost incurred if product release is on delay, while it is important for companies to control their expenses to ensure company runaway. To help tackle the issue, I decided to focus on optimising Finku’s product development process by utilising both Analytical Hierarchy Process & Multi-Objective Optimisation and simulation as a part of my study case in my current final year project. The opportunity to work on this project becomes a space for me to explore different parts of OR, which makes me like OR even more, and to learn how to translate real issues into OR problems, which is very essential because OR is all about simplifying complicated real life issues and providing the most suitable solution for the issue.

I envision that the LSE MSc Operations Research & Analytics program can support my goal in a lot of different ways. Gaining specialisation in supply chain and logistics has been my purpose of pursuing an advanced degree, and the undoubtedly distinguished education quality in LSE MSc Operations Research & Analytics will be a step forward. The emphasis of this program for consultancy roles to be part of its practical experience is designed to support the needs of students who aim to work in consultancy, like myself. The game theory and operations research modelling courses offered in the LSE OR program intrigues me because game theory studies strategic behaviour in decision making which is a very important component in running a company. Moreover, LSE’s OR department has several professors with interests in game theory, such as Professor Olivier Gossner, Dr Grammateia Kotsialou and Dr Robert Simon. I believe the opportunity of acquiring those skills from several perspectives is a great choice for my personal development. Additionally, being able to receive guidance from Dr Neil Olver will be an honour to fulfil my academic needs as his specialisation in building algorithms for optimisation in network has caught my interest, especially the publication about improving inventory problems using algorithms which can be applicable in Indonesia.

LSE also ensures its students have the opportunity to upgrade their professional skills - a university life that I have been looking for. Castore Consulting, part of LSE’s career society, provides rigorous training for future candidates applying for consultancy roles like me, while Women Leaders of Tomorrow can be a social space for ambitious future women leaders to connect and exchange thoughts. Through LSE societies that I am particularly fond of, they will help ensure that my academic growth pairs up with honing my professional ethics. Upon graduation, I can surely apply both my academic and professional skills gained from LSE to pursue my long-term goal of becoming an entrepreneur. It will be my personal honour if I can be a part of the LSE community, and bring the reputation of LSE as an alumni.