Economics and statistics are crucial organizational pillars and key to understanding complex issues in the 21st century, from daily registration at the workplace to the 'fast-counting' process in a presidential election with an error margin of less than 1%. This piques my interest to further find solutions for complex, intractable problems in multi-agent systems at the intersection of both fields.

So common can the impact of these fields be felt it became the plot point of a Grey's Anatomy episode, where the team of doctors has to perform twelve kidney transplant surgeries simultaneously. This left me trying to calculate the possibility of such a situation occurring in real life. This eventually led me to Agarwal et al.'s "Market Failure in Kidney Exchange," where they concluded that the main problem of kidney exchange is not in the scarcity of kidney donors, but in the inefficiency of hospital systems when matching kidney donors and recipients. Their solution, using the top trading cycle to prioritize recipients using an algorithm to determine the feasibility and urgency of each transplant case, can improve efficiency by 55%. However, it has yet to be widely practiced. I am left frustrated to know that the kidney exchange market is still fragmented due to opportunistic hospitals, which leads to many unnecessary deaths.

Why is it not possible to make a mutual agreement with hospitals? How can the factors involved in the execution of conditional probability be determined? What makes the efficiency of other sectors of the economy feasible, unlike kidney transplants? I am therefore left hanging to learn more about economics and statistics, as they can exist even when money doesn't.

Hence, I strove to improve my quantitative analysis skills to bolster my solution-seeking capacity. During my InvestIN investment banking course, I learned how the discounted cash flow (DCF) formula enables investors to evaluate a company's future valuation, which is significant for M&A companies. However, this prediction is not always accurate. While companies like Zoom and Tesla quickly outstripped their expected valuation, companies like Lidl fell short, as they failed to innovate in the US market. I initially noticed that having a culturally-sensitive business model that suits each country is paramount. This makes me hypothesize a modification to the DCF that can detect outliers, which considers a country's unique culture and competition, which Lidl failed to analyze in the US market. Yet after reading Stahl et al.'s research on the impact of cultural differences in M&A, I noticed I was oversimplifying the issue. Other factors such as the social climate surrounding an acquisition (Hambrick & Cannella), and many others are equally important. I am excited to learn more to test and improve this model to perform a more accurate predictive analysis of business valuation.

As I aspire to work for a top business consulting firm, I took advantage of various opportunities to hone my communication, creative problem-solving, and lateral thinking skills. Being the head of the Indonesian Society improves my creativity skills, as I composed a play which features Indonesia's rich culture gradually changing due to globalization. As the runner up of the Indonesian National Schools Debating Championship, I evaluate a variety of topics, one being “THW Break-up Amazon”. The government will defend SMEs, while the opposition will advocate for maximizing growth under capitalism. As a business executive at Allianz Insurance Company, I learned how it makes themselves profitable by using insurance claims statistics.

The accelerating evolution of data makes it ubiquitous in all aspects of work. My unwavering urge to solve world issues, along with my interests in combining economics and statistics to accomplish it makes me look forward to studying it at university, both inside and outside of the classroom.

Hi Nathan,

I’m loving where this essay is headed towards. This essay not only shows your intelligence, but also you drive to learn from the best. It is clearly demonstrated how much you know about economics and statistics as well as your ambition to maximise learning. However, this essay still has some issues that I hope you can fix.

One is addressing the course you actually want to study. Since you are applying to Imperial for your undergraduate degree, it is a bit unclear if you are interested in applying for a Mathematics course or an Economics course (which isn’t available at all from Imperial). I did my own digging and found that Imperial is doing a new course on Economics and Data Science, which seems more fitting to what you are trying to study. If this is your desired course, please do mention it in the essay.

Another issue is that when you are referencing journals or media, please take note of referencing conventions. Make sure that you also take note of what type of media it is. It is also helpful to provide your own ideas when discussing these references. What did you think about this theory? What can be improved from the statements found within a piece of article relevant to your subject of interest? This significantly help the admission officers and professors reading your essay understand your thinking process.

These are the main issues I would like you to address before submitting your essay. I wish you the best of luck for your application.

Regards,

Calysta Tesiman, Essay Editor