



MARCH 2024

RESEARCH PULSE

CONTENTS

1

HELLO FROM RESEARCH PULSE

2

**GEN AI: NOT MERELY A
SUMMARISER**

3

**INSIGHTS FROM RESEARCH ON THE
IMPACT OF NEOLIBERAL HIGHER
EDUCATION MANAGEMENT
PERSPECTIVES ON STUDENTS**

HELLO FROM RESEARCH PULSE

Hello everyone.

As we continue to develop our research capability and profile at Curtin Singapore, it is consequential that we will need to share research outputs and insights from our research that are on-going or complete, as well as those that are researcher-driven or demand-driven.

Starting from this issue of Research Pulse, we endeavour to share the on-going work of our researchers. In this issue, we share insights from research in the fields of AI and higher education management.

Thanks for tuning in and we hope you enjoy reading about our research.

Best Wishes,

Dr Adrian Tan
Research Director
Curtin Singapore

GenAI: Not Merely a Summariser

Contributed by Mr Leo Kee Chye

The year 2023 stood out prominently to the public at large as we were amazed, amused, and even spooked by the uncanny resemblance of the cognitive ability of Chat Generative Pre-trained Transformer (ChatGPT), to or even surpassed that of humans. ChatGPT is a kind of Generative Artificial Intelligence (GenAI), using a specific type of Large Language Models (LLMs). To date, they have been updated to the more powerful versions of GPT-4 from OpenAI, Gemini Ultra from Google as well as Llama 2 from Meta and many others.



The aim of this article is not to reiterate the prowess of GenAI, with reference to ChatGPT, in assisting us with the mundane and repetitive tasks of summarising, rewriting, checking for grammatical errors, creating outlines for presentations and so much more. Instead, the agenda is to share the view of GenAI as a valuable intellectual sparring partner in our cerebral pursuits, utilising tools such as the Socratic Method to stimulate our critical thinking abilities and engaging in Devil's Advocate debates. This approach also encourages us to venture into areas of study beyond our familiar intellectual boundaries.

GenAI: Not Merely a Summariser

Contributed by Mr Leo Kee Chye

continued...

According to Bubeck et al., (2023) as well as Lee, Goldberg and Kohane, (2023), GenAI, in the case of ChatGPT shows early “sparks” of Artificial General Intelligence (AGI) with advance reasoning and learning from new information without retraining as well as finding solutions across different fields. What is most surprising, despite inherently limitations, is GenAI’s ability to display “emergent” properties that could be due to the training on large corpus of data in the form of LLMs. Researchers have attempted to train GenAI in more specific or narrower domain of data, but by so doing, they found that the cognitive “sparks” has been curtailed and diminished. Specialised GenAI is analogous to, say, a plumber who is a specialist in his domain but practically an ignoramus in everything else. Compared to another plumber, who may not be a specialist in his field but worldly in his knowledge, the latter could display the ability to think outside the box, resembling the “sparks” of AGI.

In this article, I will share how I use GPT-4 and ask a series of questions that cannot be simply put together by some competent search engines. I had prepared the prompts beforehand and took down the immediate responses without cherry-picking them. There is no operating manual for using GPT-4, and I adopted a trial and error approach. My purpose is to engage in an intellectual conversation with GPT-4, in the spirit of the dialectical method. I intentionally allow the dialogue to be casual, peppered with some quirky elements found in human conversation, making it less intimidating and as natural and spontaneous as possible. This will be extremely useful for researching for new concepts and proposals. The replies from GPT-4 are in the figures to my prompts (me) are in the figures.

GenAI: Not Merely a Summariser

Contributed by Mr Leo Kee Chye

continued...

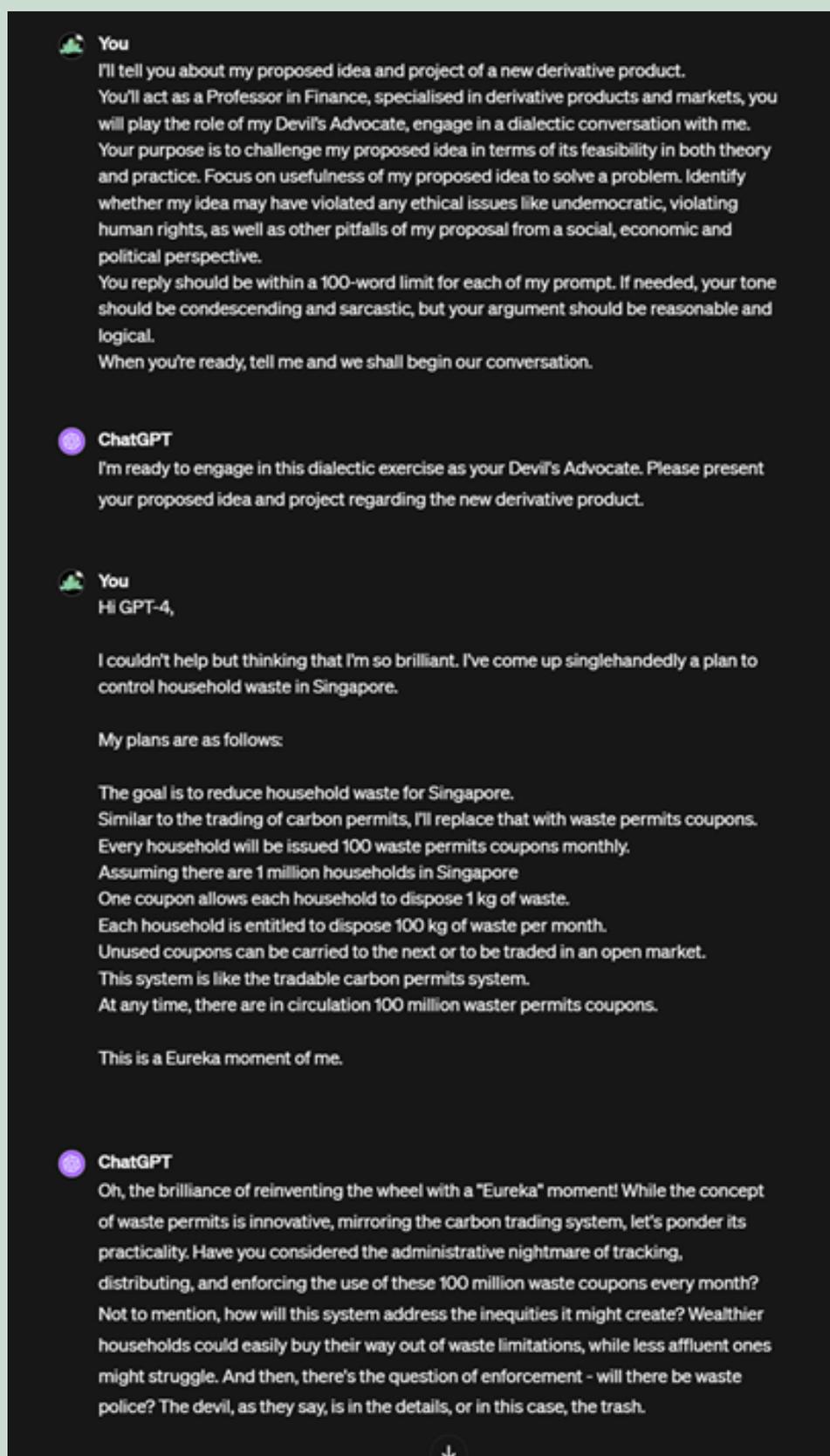


Figure 1

GenAI: Not Merely a Summariser

Contributed by Mr Leo Kee Chye

continued...

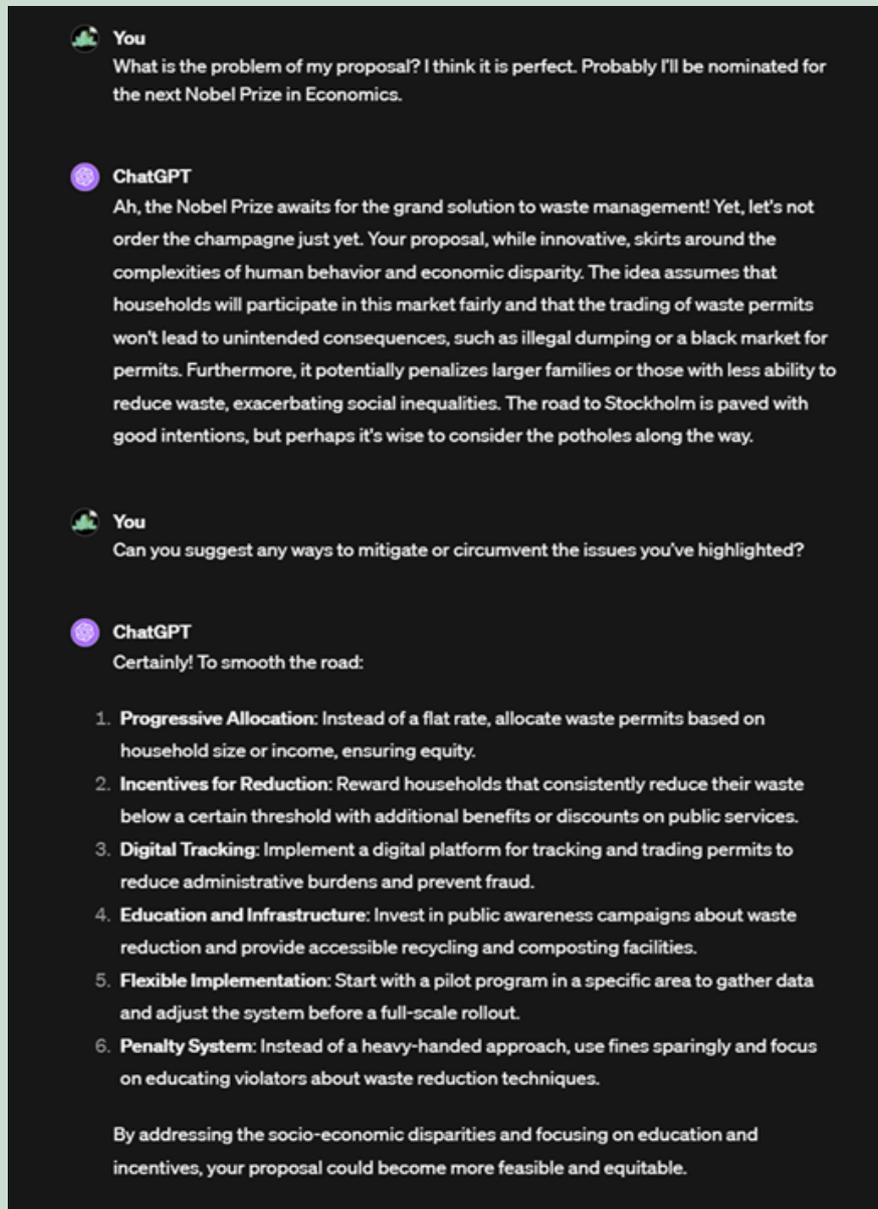


Figure 2

This proposal of mine should be quite novel, at least to my knowledge while 'Googling', and I have found close to nothing regarding using of derivatives to deal with household wastes. Hence, I am impressed with the responses GPT-4 has given so far, especially with so little information on the Internet to go with.

Because I have restricted each response to within 100-word, I believe GPT-4 can do better than that.

GenAI: Not Merely a Summariser

Contributed by Mr Leo Kee Chye

continued...

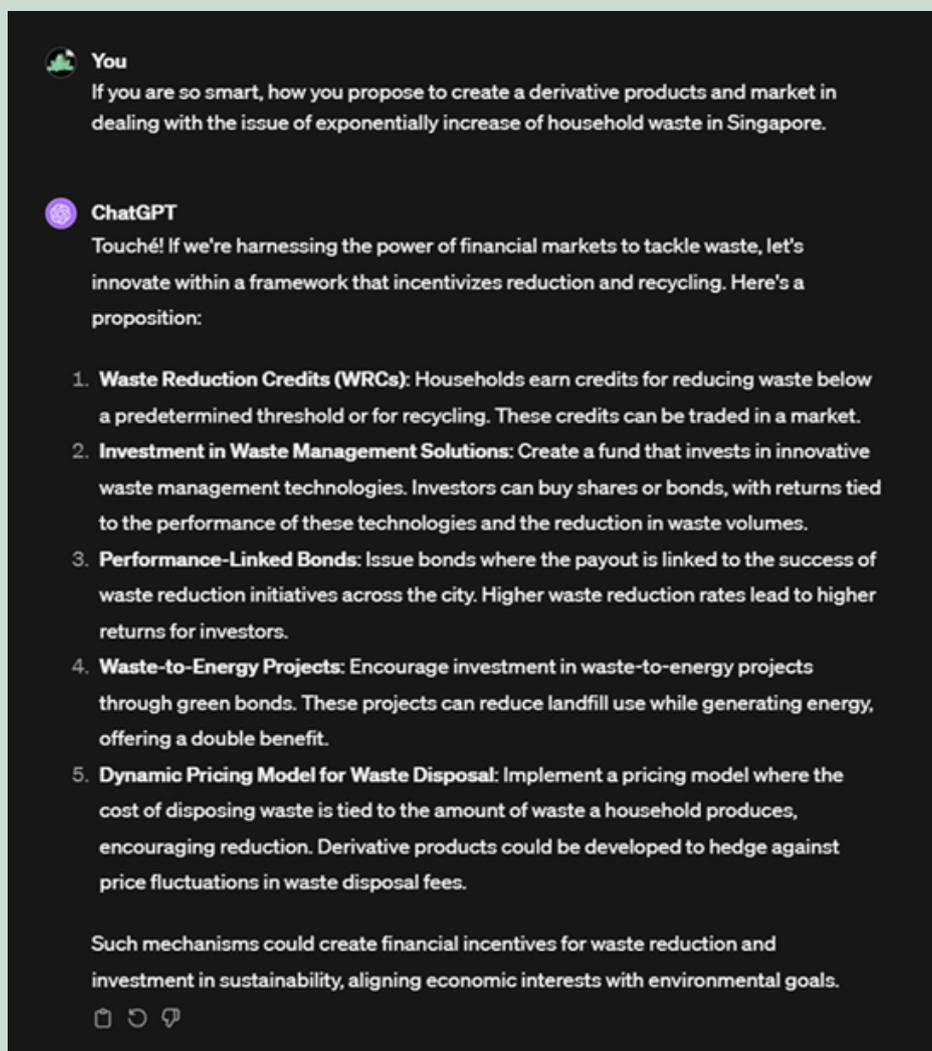


Figure 3

I have to admit that points 3, 4 and 5 (of Figure 3) which were suggested by ChatGPT is surprisingly refreshing, providing me much food for thought if I want to pursue this proposal further. My point of this exercise is that GPT-4 is capable of being a worthy sparring partner which is an excellent way of tossing ideas back and forth.

GenAI: Not Merely a Summariser

Contributed by Mr Leo Kee Chye

continued...

Due to a little quirk of mine, Hegal's famous quote came to me while writing this article. I never quite comprehended its meaning when I studied Hegal's philosophy during my undergraduate days nor even till this day. But my intention of including this is to set the ground for my next prompt (Figure 4).

"Can you word play with Hegal's quote you gave, relating to generative AI?"

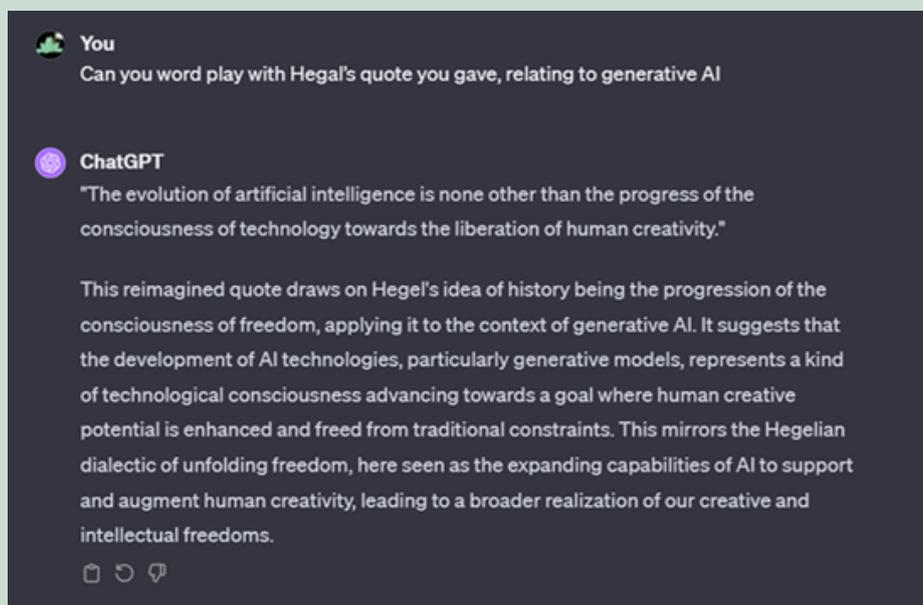


Figure 4

What better way to end this passage than to have a quote from our protagonist of this article:

According to GPT-4 (2024), *"The evolution of artificial intelligence is none other than the progress of the consciousness of technology towards the liberation of human creativity."*

GenAI: Not Merely a Summariser

Contributed by Mr Leo Kee Chye

continued...

From the experiment which I had conducted with ChatGPT, it is possible to propose that GenAI is more than just a summariser. As academics, it is potentially a valuable tool for us to explore concepts, question assumptions, challenge beliefs, and explore ideas beyond our professional and academic disciplines. As a sparring intellectual partner, GenAI also allows us to engage in dialectical dialogues or to have it to play out the Devil's Advocate, to stimulate critical thinking, provoke counterarguments, elicit 'Eureka' moments and ultimately lead us towards liberation of our human creativity.



References:

Bubeck, S., Chandrasekaran, V., Eldan, R., Gehrke, J., Horvitz, E., Kamar, E., Lee, P., Lee, Y.T., Li, Y., Lundberg, S. and Nori, H., 2023. *Sparks of artificial general intelligence: Early experiments with GPT-4*. arXiv preprint arXiv:2303.12712.

Lee, P., Goldberg, C. and Kohane, I., 2023. *The AI revolution in medicine: GPT-4 and beyond*. Pearson.

Insights from Research on the Impact of Neoliberal Higher Education Management Perspectives on Students

Contributed by Dr Adrian Tan

It has been more than 5 years since I completed my PhD, and as I assume the academic label of a mid-career academic for slightly more than a year now, the nostalgic experience of completing the momentous academic milestone of my life crept back into me. I was researching on the impact of the quality of service and experience on students' learning outcomes in higher education institutions (HEIs). I chose to research this topic for my PhD as I was intrigued with the rising neo-liberalisation of the management practices of higher education institutions, and how these might impact what students experience from their higher education journey.

As a lecturer working in a higher education institution in Singapore then whilst pursuing my PhD, I was deeply disturbed by the divergence in ideas about higher education between a service marketing and education business perspective, and what the core mission of higher education is truly about. That said, my research was motivated by the increasing marketisation of higher education as a global phenomenon, the common adoption of quality of service as a business growth strategy by HEIs, and the increasing international focus on higher education learning outcomes among HEIs.



Insights from Research on the Impact of Neoliberal Higher Education Management Perspectives on Students

Contributed by Dr Adrian Tan

continued...

Through the use of a quantitative multi-method approach which included the use of structural equation modeling, six hypotheses were tested in the research. From a theoretical perspective, the findings of the research showed the insignificance of market-oriented strategies used in the education business in influencing student satisfaction and experience, and the insignificance of student satisfaction in shaping student learning outcomes and experience. The research findings also manifested that while influences of student satisfaction and quality of the student experience on student learning may be stakeholder dependent in the higher education business, the fundamental mission and purpose of HEIs is in providing quality learning experiences that benefit quality student learning to positively impact student learning outcomes, which ultimately reflects the value that stakeholders of higher education generally demand.



From a practical perspective, the research findings highlighted the importance for higher education administrators to be attentive to the perspectives of various stakeholders in the management and improvement of quality in student learning. It is also crucial for HEIs to balance the need for service business orientation with the core mission and ethos of higher education. At this juncture, it is worth noting that the research was conducted within the context of Singapore.

Insights from Research on the Impact of Neoliberal Higher Education Management Perspectives on Students

Contributed by Dr Adrian Tan

continued...

As I read and further reflected on my thesis again, it dawned on me that what I had discovered from my PhD research is really important and remains applicable in higher education management. The perennial imbalance between the ideals of business decision-making from an education business view and the ethos of higher education for students remains obstinately unresolved and contentious.

Perhaps it is also timely to reflect further on John Dewey's words "I believe that much of present education fails because it neglects this fundamental principle of the school as a form of community life"¹. My phenomenological view is that the disparity between a business view and education view of higher education persists, and that more research could be developed to reconcile the divergence.



¹ Quote from John Dewey's Pedagogic Creed (<http://dewey.pragmatism.org/creed.htm>).