


FINAL PROJECT

Background	<p>Livestream e-commerce is the future of e-commerce. TikTok's livestream e-commerce sales have grown significantly in recent years.</p> <p>With the rise of social media, TikTok has become a global platform for people to share their lives and interact with others. It is one of the most popular social media platforms in the world. It has since become a platform for people to make money, by selling products on TikTok Shop. Livestream e-commerce is increasingly prioritised by TikTokshop and other e-commerce platforms such as Shopee.</p> <p>Livestream provides users with an immersive shopping experience, amidst the social element of entertainment. It also helps with converting online users into customers. For example, one study found that livestream purchasing increased by an average of 76% worldwide from pre-pandemic times to 2021.</p> <p>The analysis will be helpful for TikTok to assess whether it should focus on livestream e-commerce sales, or general e-commerce sales as a whole. Financial institutions and consulting companies such as McKinsey Inc. can also benefit from the analysis.</p>
Problem Statement	<p>With the nascent introduction of TikTok Shop, it needs to find a strategic focus on either livestream e-commerce to drive its sales, or to focus primarily on its e-commerce sales provided on TikTok Shop.</p> <p>This is a pertinent business problem for TikTok as it is estimated that the livestream e-commerce industry is worth \$600 billion in China, and \$25 billion in the US, by 2023. TikTok Shop needs to capture first mover advantage and beat its fierce competitors such as BeLive technology, Shopee, Amazon, Facebook and many other e-commerce sites. Else, TikTok may find it diluting its revenue and profit margins.</p>
Data	<ol style="list-style-type: none"> 1. Statista https://www.statista.com/topics/8752/livestream-commerce/#topicOverview <ul style="list-style-type: none"> ▪ Livestream e-commerce sales for China ▪ Livestream e-commerce sales for the US ▪ Livestream e-commerce sales for Singapore 2. https://emplifi.io/resources/blog/live-shopping-statistics 3. https://trends.acommerce.asia/country/singapore/live-streaming-boosts-retailtainment-amid-e-commerce-explosion-in-singapore/#:~:text=A%20recent%20report%20by%20AI,to%20recover%20from%20the%20pandemic.
Visualise	<p>Data visualisation of the trends of livestream e-commerce during and after the pandemic; in the form of bar graphs, pie charts, line graphs, box plots, etc.</p> <p>Age groups</p>

Analysis	<p>Trend analysis would focus on Singapore in the APAC region.</p> <p>Age (Gen Z is the winner)</p> 
Findings	Livestream e-commerce sales have got the highest potential.
Recommendation	Conclude by going ahead with a strategic focus on livestream e-commerce sales on Tiktok.

Week	Concept	How I've used it	Line number	Filename
1	HTML, CSS, JS	Used a combination of the 3	N/A	N/A
2	addEventListener	Used .getElementById method	30	script.js
3	Change of colors	Applied different colors (namely black background and white font) to elements	5-8	styles.css
4	Change of font	Applied different fonts to elements to suit Tiktok	2	styles.css
5	Functions	Created a functions	4	counter.js
6	Use of header, main, footer	Used a combination of all 3 elements	11-23	index.html
7	Use of count	Incremented count using count += 1	12	counter.js
8	Data visualization	Plotted graphs, such as bar graphs, pie chart, and polar chart	17	index.html
9	Data visualization - Excel	Plotted graphs, such as line graphs in Excel	N/A	N/A
10	Links	Used <a> tag to create hyperlinks	28	index.html
11	Lists	Created ordered and unordered lists using and 	31-35	index.html
12	Images	Inserted images using tag	37	index.html
13	Button	Created a button using <button> and <a>	39-43	index.html

WEEKLY JOURNAL ENTRIES

WEEK 9

Storyboard

- Researching on problem statement
- Researching on data sets from Kaggle, Statista etc.
- Initial problem statement was on Income Inequality: Distribution of wealth among the world's top billionaires
- Decided to change problem statement as there was no quantifiable way to measure the income inequality nor provide concrete recommends as per the world's top 500 billionaires ranked by Forbes. Moreover, there was also a loss of interest in above-mentioned topic.

WEEK 10

Changed problem statement

Q1. What is your project about?

Livestream e-commerce.

Q2. What is the data you plan to use?

Live e-commerce sales and projected growth data from Statista. Analysis from China, US, and ASEAN data.

<https://www.statista.com/topics/8752/livestream-commerce/#topicOverview>

Q3. What is the question you plan to answer?

Is livestream e-commerce the future of e-commerce in Singapore?

Q4. Why is this an important question?

- One study found that livestream purchasing increased by an average of 76% worldwide from pre-pandemic times to 2021.
- TikTok's livestream e-commerce sales have grown significantly in recent years across US, China and ASEAN
- Livestream e-commerce industry is worth \$600 billion in China, and \$25 billion in the US, by 2023.

Q5. Which rows and columns of the dataset do you plan to use, to answer this question?

Data sets from Statista. Due to the limitations of live commerce online, Statista is the only credible resource that is available for project analysis. Other sources such as Kaggle do not provide above-mentioned data. Cleaned data from each respect .xlsx files from the links cited.

WEEK 11	Fundamentals of Web-site <ul style="list-style-type: none"> ▪ Set up the basic fundamental codes of the web-site ▪ Imported data from Statista ▪ Cleaned data and created data visualisations on excel ▪ Basic UI/UX <p>There were many challenges such as embedding tiktokshop website on my webpage, live. In addition, the black background could not seem to match up with the white font and there were constantly hiccups.</p>
WEEK 12	<ul style="list-style-type: none"> ▪ Focus on coding up the remaining website features ▪ Adding in data ▪ Adding in data visualisation ▪ Refined the fundamentals of the webpage by making it nicer and looking like tiktok's UI/UX (at least for the font and genera aesthetics) ▪ Spend loads of time figuring out how to turn the background black and make the text white
WEEK 13	<ul style="list-style-type: none"> ▪ Recommendation and conclusion ▪ Final touch-ups and final write-up ▪ Project Submission: Write-up + Code files + Reflection
<p>Source for data:</p> <p>Statista</p> <ul style="list-style-type: none"> ▪ Gross merchandise volume of China's e-commerce market from 2011 to 2021 https://www.statista.com/statistics/1129543/china-e-commerce-market-gross-merchandise-volume/ ▪ Awareness and usage of live commerce in Southeast Asia in 2021, by country https://www-statista-com.libproxy1.nus.edu.sg/statistics/1271637/sea-live-commerce-awareness-and-usage-by-country/?locale=en ▪ Expected growth in livestream e-commerce revenue worldwide in 2022, by sector https://www-statista-com.libproxy1.nus.edu.sg/statistics/1347523/expected-live-commerce-revenue-growth-worldwide/ 	

Appendix A: Initial Problem Statement

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Background	<p>Billionaires have undue influence on markets and industries, tracking their wealth can provide insights into investment trends, emerging industries, and potential market disruptions. This is especially relevant in the age of digital revolution and artificial intelligence.</p> <p>Understanding the distribution of wealth among the top billionaires can help economists and policymakers analyse income inequality, wealth concentration, and the impact of wealth on the global economy. This information can guide decisions regarding taxation, social programs, and wealth redistribution policies.</p> <p>Further, the analysis will be helpful for financial institutions and consulting companies such as Mckinsey Inc.</p>
Problem Statement	<p>Income inequality remains a significant challenge in the 21st century – and the global pandemic has only exacerbated this issue. According to the World Bank, the Gini coefficient (which measures income inequality) increased in many countries during the pandemic. As the economic consequences of the pandemic have disproportionately impacted the poor and middle-income populations through job losses and wage reductions, the wealthy have continued to accumulate even greater fortunes. This has been particularly evident among pharmaceutical companies, such as Pfizer, which reported revenues of over \$81 billion in 2021, and technology-driven organizations like Zoom, which saw its annual revenue grow by over 300% in the 2021 fiscal year.</p> <p>This project aims to explore potential strategies for reducing income inequality by first examining the wealth distribution among the world's top 500 billionaires. According to Forbes' 2021 Billionaires List, the combined net worth of these individuals reached a record-breaking \$13.1 trillion, an increase of more than \$5 trillion since 2020 (pandemic).</p> <p>The project will investigate the sources of wealth for these billionaires; the dominant industries in which they operate, and the countries where they reside.</p> <p>Further, the study will examine the role of taxation, government policies, and global economic structures in perpetuating or mitigating income inequality. A 2021 report by the International Monetary Fund (IMF) highlighted the potential benefits of progressive taxation and wealth taxes in reducing income disparities.</p> <p>In addition, the project will consider the philanthropic activities of the top 500 billionaires. Many have pledged to donate a significant portion of their wealth to charitable causes through initiatives like the Giving Pledge, which has over 200 signatories, including Warren Buffett.</p>
Data	<p>1. Bloomberg Billionaires Index https://www.bloomberg.com/billionaires/</p>

Visualise	Data visualisation of the World's 500 Richest People during and after the pandemic; in the form of bar graphs, pie charts, line graphs, box plots, etc.
Analysis	<p>By analysing the impact of various approaches to wealth redistribution, such as progressive taxation, social welfare programs, and investments in education and infrastructure, we can identify potential ways to narrow the wealth gap.</p> <p>Examining the wealth distribution of the world's top 500 billionaires sheds light on the underlying factors contributing to income inequality and identify potential strategies to foster a more inclusive global economy.</p> <p>By exploring the potential for philanthropy to address social and environmental issues, we can better understand the role that the ultra-wealthy can play in promoting a more equitable world.</p>
Findings	For example, a significant portion of the billionaires on the Forbes list have accumulated their wealth through the technology sector, such as Jeff Bezos of Amazon and Elon Musk of Tesla and SpaceX.
Recommendation	NIL