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Malaysian Actuarial Student Association

Research Topic:
Global Recovery in Various Fields
Field:
The Future of Cinema After the Covid-19 Outbreak

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TABLE OF CONTENTS

1 ABSTRACT

Billions of dollars are bound up in blockbuster movie productions that have been completed but cannot be released as cinemas have gone dark due to COVID-19 lockdowns globally. Pressure now mounts both for studios and movie theatres that are facing financial challenges. This might have lasting effects on the future of the cinema after the Covid-19 outbreak. Therefore, with the use of financial statements analysis methods and distributed surveys, this research will be able to observe the financial state of the major companies in the cinema industry during the outbreak in selected countries. On the other hand, this research will also observe whether there is a shift in the social preferences of movie theatres to online streaming services during the outbreak. Later findings show that the decline in companies' profit and weak financial position create the urgency to maintain financial health while convincing potential customers to go back to the cinema.

2   INTRODUCTION AND STATEMENT OF PROBLEM

With the rising cases of Covid-19, governments around the world have decided to apply a lockdown and stay-at-home notice to their citizens. This policy has caused closures of venues that involve mass gatherings, including movie theatres. This is due to the fact that movie theatres are less essential and pose a high risk of becoming a Covid-19 cluster.

After some time of not getting any customers, movie theatre companies started to be concerned about their survivability during the pandemic. In terms of financial condition, their revenues and profit are declining, yet maintenance expenses, employee-related expenses and liabilities need to be settled. This is also the case for other companies or industries that are also considered less essential and affected by the lockdown.

On the other hand, online streaming services, which are the perfect substitute for movie theatres, are gaining more popularity from the public due to its easy-to-use and safety, especially during the pandemic. Even before the pandemic, these new-entrant services were considered to have a disruption effect to the incumbent (i.e. movie theatre companies). According to Statista, Netflix, the biggest online streaming platform in the world, has gained a significant raise in their subscribers over the past 5 years, not just from USA where they were originated, but also from international users around the world

Therefore, with the use of financial statements analysis methods and distributed survey, we will be able to observe the financial state of the major companies in the cinema industry during the Covid-19 outbreak in 4 selected countries: Malaysia, the United States of America, Canada and China. The observation will include both horizontal and vertical analysis of the financial statements. On the other hand, we will also observe whether there is a shift in the social preferences of movie theatres to online streaming services during the Covid-19 outbreak. The main questions that this research will intend to answer: will movie theatre companies be able to survive during and after the Covid-19 pandemic? What are the survival and recovery strategies that the movie theatre companies can take to battle the financial challenges during the pandemic?

3   LIMITATIONS OF STUDY

This research aims to see the current financial state of the movie theatre industry in 4 countries: Malaysia, The United States of America, Canada, and China. Specifically, this research will also examine the capabilities of the major companies in the industry to survive during the Covid-19 pandemic from a financial perspective. Therefore, the timeline of this research will be limited from the end of 2019 until the end of Q2 (June). A financial statement analysis will be conducted only on some companies that are publicly listed. However, due to time limitation, this research will only focus mainly on the income statements.

Alongside financial statements analysis, we will also distribute a questionnaire to see the public opinion on movie theatre and online streaming services. However, the result of this questionnaire will be only representing the opinion of groups who are familiar with online surveys. Geographically, the result of this questionnaire does not represent the opinion of citizens from all countries in the world. Therefore, this research will not intend to generalize the public opinion.

4 METHODOLOGY

4.1. Research Objective

Our research objective is to observe the financial state of the major companies in the cinema industry during the Covid-19 outbreak in 4 countries: Malaysia, the United States of America, Canada and China. The observation will include both horizontal and vertical analysis of the financial statements. On the other hand, we will also observe whether there is a shift in the social preferences of movie theatres to online streaming services during the Covid-19 outbreak through distributing questionnaires.

4.2. Research Method

The method used for this research is a mixed research method, which is a combination of both qualitative and quantitative research methods. This method is used to grasp a complete understanding of the research problem by converging quantitative and qualitative data. This mixed-methods study will address the current state of the cinema industry during the Covid-19 pandemic and public opinion on the future of the cinema industry. A convergent mixed methods design will be used, and it is a type of design in which qualitative and quantitative data are collected in parallel, analysed separately, and then merged.

In this study, we will use major companies' financial statements and questionnaires as quantitative data to do a descriptive analysis. The secondary data of financial statements will be used to see whether there is a significant decline in the financial condition during the pandemic. On the other hand, the primary data of survey results will be used to see the public opinion on the future of the cinema industry and to measure the use of online streaming services as the main substitute for the movie theatre. A questionnaire is a data collection technique with written questions/statements to obtain information about things you want to know from respondents. The method used to make an assessment is the Likert scale. Likert scale is a method that measures attitudes of disagree or agrees to a subject, object, or event. In this research, the Likert scale is categorized into five.

Alternative answers	Value
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

Alongside quantitative data, we will also use qualitative data such as literature studies, which include theories and social distancing policies applied during the Covid-19 lockdown. The theories will be used as grounded theory and an inductive approach will be used to confirm the theories by looking at empirical evidence from the quantitative data. According to Charmaz (2009), grounded theory refers to a set of systematic inductive methods for conducting qualitative research aimed toward theory development.

The reason for collecting both quantitative and qualitative data is to see the objective facts of movie theatre companies and public opinion, compared by grounded theory and policies applied by the government / movie theatres, and finally gain a broader perspective of the existing phenomenon.

4.3. Software Used

We will use Python as the main programming language for our research. The module used includes pandas (data organization), matplotlib (data visualization), seaborn (statistical analysis and visualization), and alpha vantage (Forex). Other software used are Tableau and Power BI (data visualization), and Google Forms as the platform to collect questionnaire results.

5 LITERATURE REVIEW

5.1. Online Streaming Services

Video streaming platforms have become popular during the pandemic, with some production companies releasing blockbusters online instead of in theatres. In a study, the Malaysian Digital Association (MDA) at the end of March reported demand for entertainment rose on a spike in streaming video consumption. Netflix gained 195% in sequential traffic in March on a rolling seven-day basis, Tonton (232%), dim sum (140%), and Viu (140%), according to a study by the MDA and its market intelligence partner Similar Web Ltd. Using January as a base, the report compared year-on-year change for February, the first half of March, and a rolling seven-day period (March 15-21) to chart the growth in traffic. Besides people holed up at home, a media analyst said the increased eyeballs in TV/OTT during the MCO can be attributed to the closure of cinemas nationwide and thus TV/OTT became the main source of entertainment. The analyst said the greater flexibility and ease-of-use of OTT over TV has driven the growth of the services and the platforms remain a threat to TV. The US box office has recorded zero revenue for the first time in history after the country's near-total cinema shut down in response to the coronavirus pandemic. Box office earnings in China reached about US\$15.6 million in a week after cinemas in most areas were allowed to reopen

5.2. Consumer Behaviour Theory

One of the roles of the consumer in the economy is to decide on what products/services to consume. The main objective of consumption is to maximize one's total utility. In order to achieve the goal of consumption, one needs to determine the right amount of consumption (e.g. by using consumption baskets) and the right amount of budget to be allocated in the consumption choices. Hence, the decision is made by considering both the utility (as the objective) and the budget (as a constraint). Mathematically, this is an optimization problem where consumers maximize their utility subject to budget constraint with fixed income:

$$\max_{\forall X} U(X_1, X_2, \dots X_n)$$

$$\text{subject to } P_{X_1} \cdot X_1 + P_{X_2} \cdot X_2 + \cdots P_{X_n} \cdot X_n = I$$

Considering duality, this problem can also be represented as minimizing the budget, subject to fixed value of utility.

According to the traditional (i.e. classical) economic stances, consumer behaviour is inherently rational (Tauber, 1972), meaning that their actions and choices are not motivated by emotion and impulsivity, but by measurable reason. On the other hand, consumers also assumed to have perfect knowledge about the whole market. However, this notion got a lot of criticism, especially from behavioural economists. Even earlier economists Daniel Kahneman and Amos Tversky introduced a theory that denies contemporary economic models. In 1979, their publication "Prospect Theory : An Analysis of Decision under Risk" refutes the paradigm of rational economic man successfully. This leads to the denial of a purely rational human behaviour in the economy. (Kahneman, Tversky, 1979).

5. 3. Characteristic Demand Theory

According to Lancaster (1966) in his paper "*A New Approach to Consumer Theory*", consumers don't derive their satisfaction (utility) from the content of their consuming basket, but they also examine the characteristics or the attributes of the goods inside the basket. Considering the example below where four different goods each have two attributes , z1 and z2. The straight line represents a vector of consumer's assigned score (utility) on both attributes, on four different groups. However, with a budget constraint, consumers can only attain a certain amount of satisfaction (by consuming), which is shown below as the point 1, 2, 3, and 4. Therefore, the kinked line that connects all the points is called the *efficient frontier*.
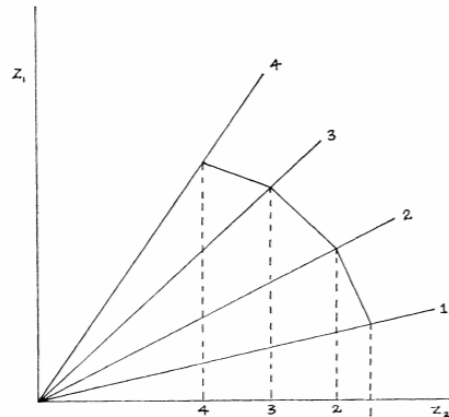
Some determinants of the efficient frontier's location are price, budget, and consumer's perspective on the attributes. After the frontier is determined, the consumer's equilibrium will be the points where the individual's indifference curve touches the efficient frontier. Therefore, the utility function is not merely maximized subject to the budget line, but also subject to the attributes a good equipped.
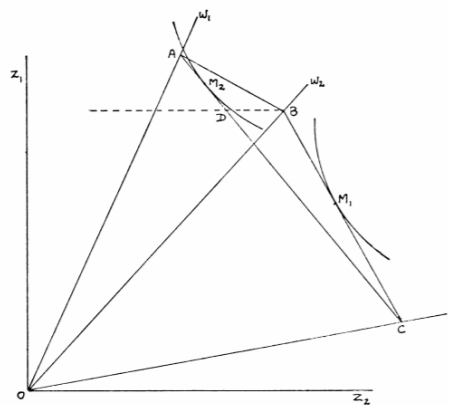
5. 4. Consumer Behaviour in Crisis

Looking at the field of buying behaviour in a crisis context, the majority of studies have been conducted on buying behaviour during a financial crisis or recession (Ang, Leong, & Kotler, 2000; Gázquez-Abad, Martínez-López, & Esteban-Millat, 2017; Puellas, Diaz-Bustamante, & Carcalén, 2016). In crises like the Covid-19 pandemic, consumers are believed to be more cautious and thoughtful about their consumption.

6. 1 FINANCIAL ANALYSIS OF MOVIE THEATER COMPANIES

The hypothesis of our research revolves around the dampening effects the global coronavirus outbreak has on the financial condition of companies in the cinema industry whilst the inverse is to be said on companies that are in the movie streaming business.

To investigate the leanings behind our hypothesis, we have decided to analyze the revenues and profit/loss figures of major cinema companies from Malaysia, the US, Canada & China - GSC Malaysia, AMC Entertainment, Cineplex & Wanda Film. The reasoning behind choosing companies from these areas is to get a global representation of the financial trend of cinema companies.

For the movie streaming company, our analysis will revolve around Netflix, which has gained immense sequential traffic amidst the pandemic and is the top paid-streaming platform as per data from respondents in our independent survey.

The process involved scouring the web and finding the relevant financial data for the companies we have selected for the analysis i.e. revenues and profit/loss figures in the currency of their head operations ('000) attributed to their cinema business unit for 3 financial quarters (FQs) i.e. Q4 2019, Q1 2020 and Q2 2020. The data was compiled into CSV files and then loaded for data manipulation in Python using the *pandas* library. The datasets obtained were as follows :

	Quarter	gsc_my_r	amc_us_r	cineplex_ca_r	wanda_cn_r	netflix_sm_r
0	'19 Q4	147480	1447700	443220	3841220	5467434
1	'20 Q1	78058	941500	364624	1254690	5767691
2	'20 Q2	1464	18900	21988	717620	6148286

Table 1.0.0 : 3 FQ Revenue figures ('000)

	Quarter	gsc_my_pl	amc_us_pl	cineplex_ca_pl	wanda_cn_pl	netflix_sm_pl
0	'19 Q4	11578	-13500	3472	1035090	586970
1	'20 Q1	-19473	-2176300	-178414	-157340	709067
2	'20 Q2	-41446	-561200	-98927	-788390	720196

Table 1.1.0 : 3 FQ Profit/Loss figures ('000)

6.1.0 REVENUE ANALYSIS

The revenue figures for all companies were then plotted into bar charts accompanied with a trendline using the *matplotlib* library to visualize our findings and infer the trend in revenue figure changes among the companies.
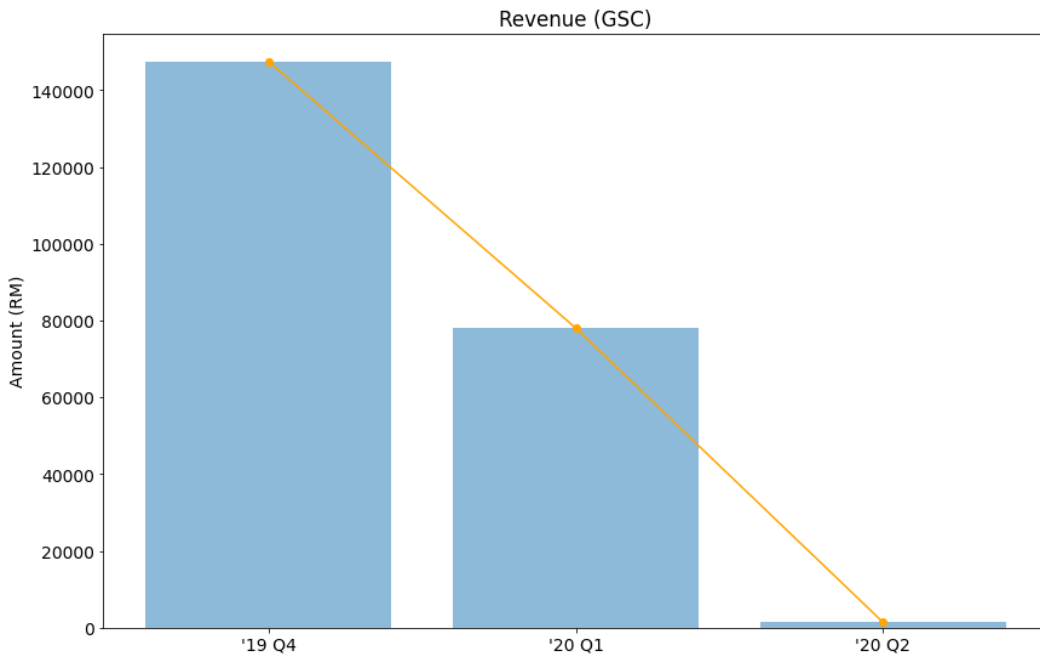

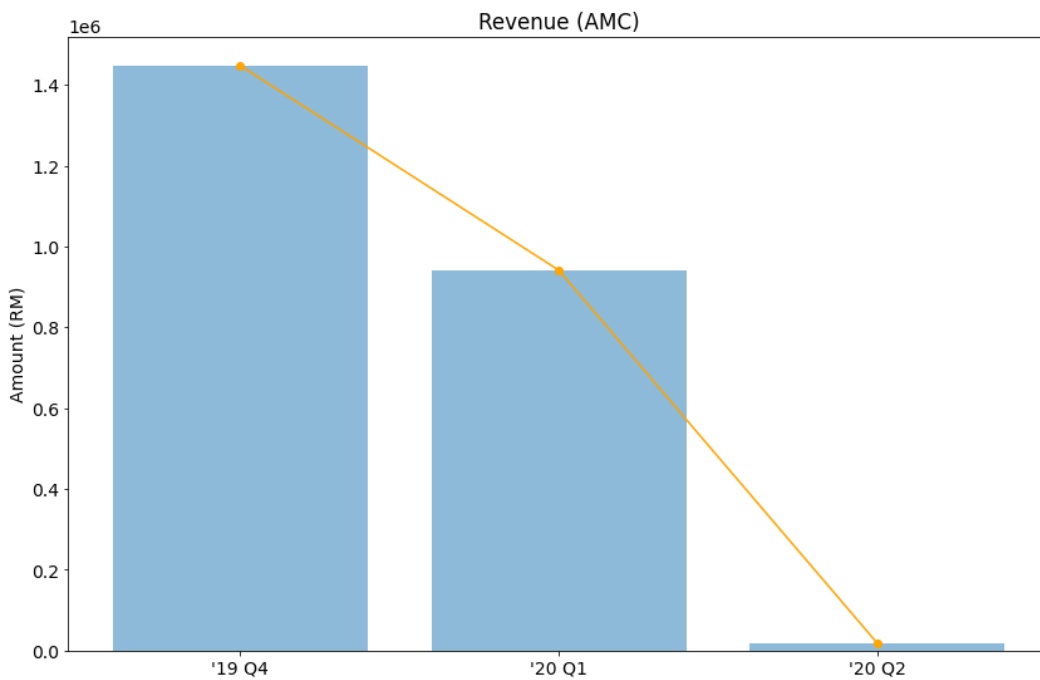Diagram 1.0 : GSC Malaysia 3 FQ Revenues

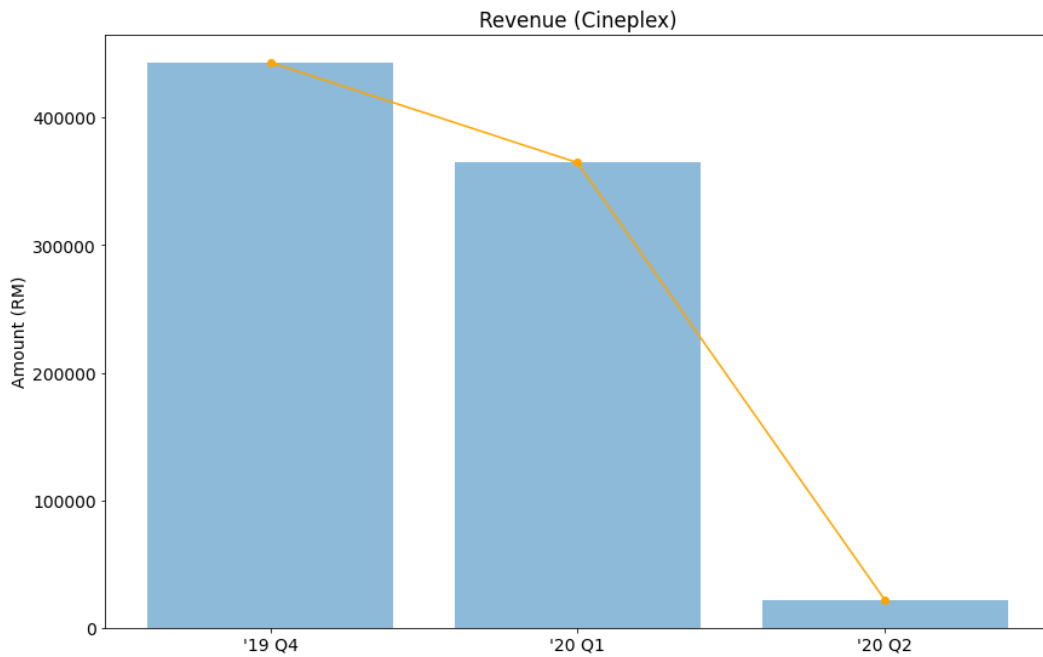

Diagram 1.1 : AMC Entertainment 3 FQ Revenues
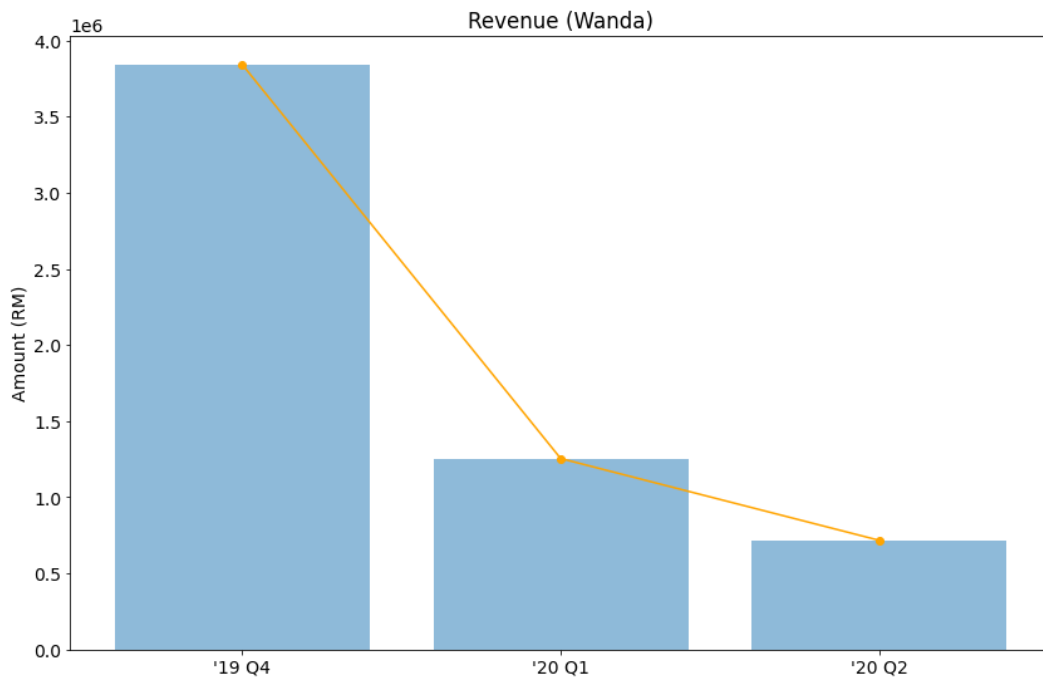
Diagram 1.2 : Cineplex 3 FQ Revenues
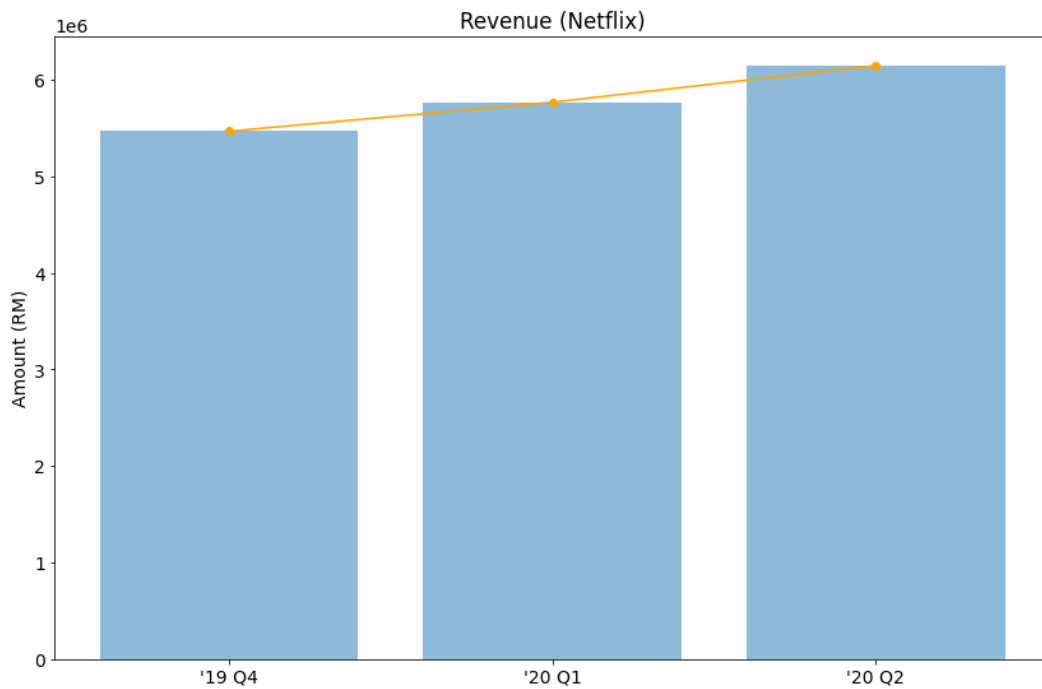

Diagram 1.3 : Wanda Film 3 FQ Revenues

Diagram 1.4 : Netflix 3 FQ Revenues

As can be inferred from the diagrams, all cinema companies i.e. GSC Malaysia, AMC Entertainment, Cineplex & Wanda Film have experienced the trend of falling revenues. The first three cinema companies have suffered a similar trend as revenues fell drastically in the second FQ of 2020 compared to the previous FQ. This is contrasted by Wanda Film to which the company experienced a larger fall in revenue between the fourth FQ of 2019 and the first FQ of 2020, resulting in an "elbow curve" trendline. The reasoning behind this might be due to the Chinese government having imposed its public lockdown in areas of the country earlier than other governments of the world and can be a possible factor to explain the trend towards China-based Wanda Film. Besides, the revenues of GSC Malaysia had experienced a linear fall as evident by the trendline.

All 4 cinema companies' revenue trends were contrasted by the revenue growth of Netflix to which revenues for the company had grown linearly across the 3 FQs and lends significant support to our hypothesis to which we inferred that the financial condition of cinema companies would suffer amidst the period of the coronavirus pandemic and the inverse can be said for movie streaming companies i.e. Netflix.

The change in revenues between two FQs - change interval (1) 2019 Q4 vs. 2020 Q1 and change interval (2) 2020 Q1 vs. 2020 Q2 were then calculated and tabulated using *pandas* and then tabulated into the following table :

	gsc_my_r_%	amc_us_r_%	cineplex_ca_r_%	wanda_cn_r_%	netflix_sm_r_%
1	-47.07	-34.97	-17.73	-67.34	5.49
2	-98.12	-97.99	-93.97	-42.80	6.60

Table 1.0.1 : Change in Revenues

Through the tabulation of data in the above table, we have decided to visualize the data points in terms of markers on a scatter plot through *matplotlib*, where blue markers indicate change interval (1) and change interval (2) as aforementioned. The following is the visualization :
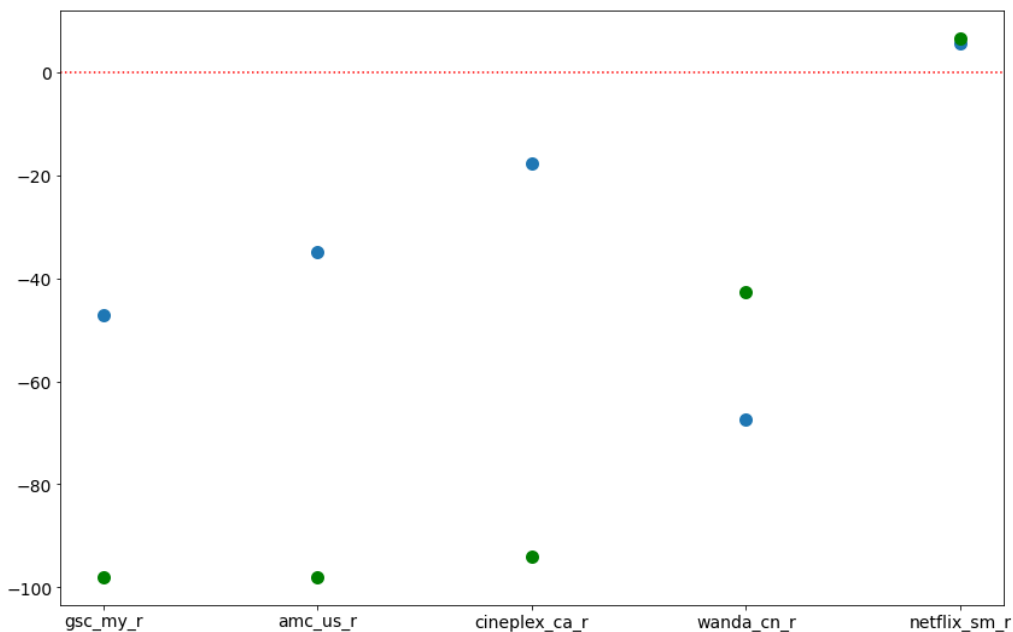

Diagram 1.0.1 : Change in Revenues Scatter Plot

From visual inspection of the scatter plot, we are able to infer that Cineplex experienced the largest percentage change of revenues between both changes - change interval (1) and change interval (2). GSC Malaysia, AMC Entertainment and Cineplex all experienced higher negative changes for change interval (2) compared to their respective changes in change interval (1) while Wanda Film had experienced lesser negative change between both change interval (1) and change interval (2). The change in revenues for Netflix for both change intervals have been relatively consistent.

6.1.1 PROFIT & LOSS ANALYSIS

Similarly, the profit & loss figures for all companies were also plotted into bar charts accompanied with a trendline using the *matplotlib* library to visualize our findings and infer the trend in profit & loss figure changes among the companies.
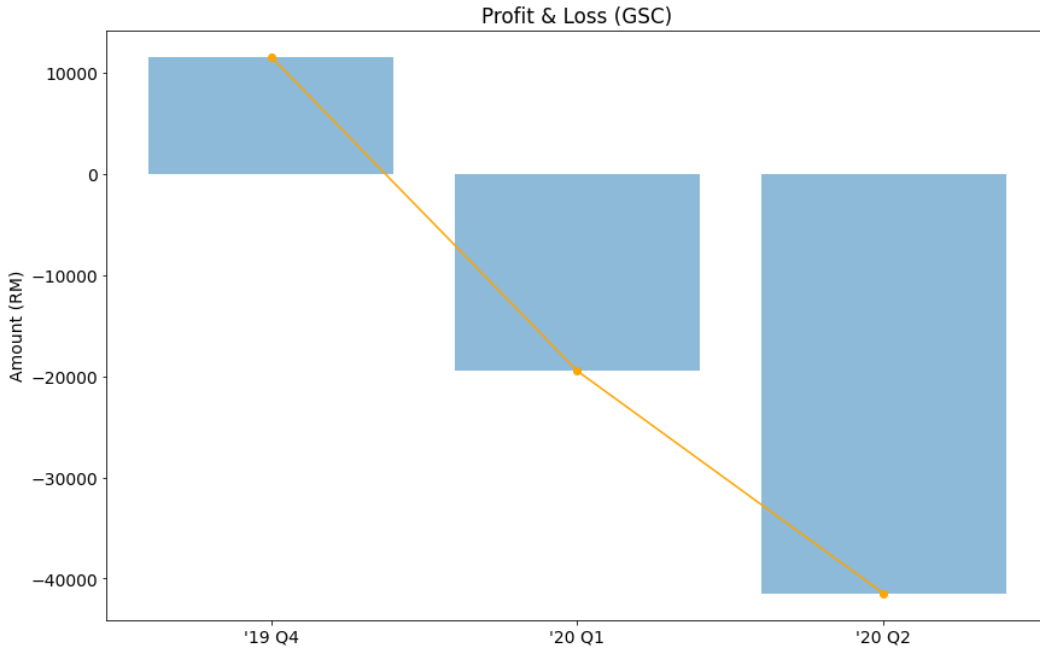

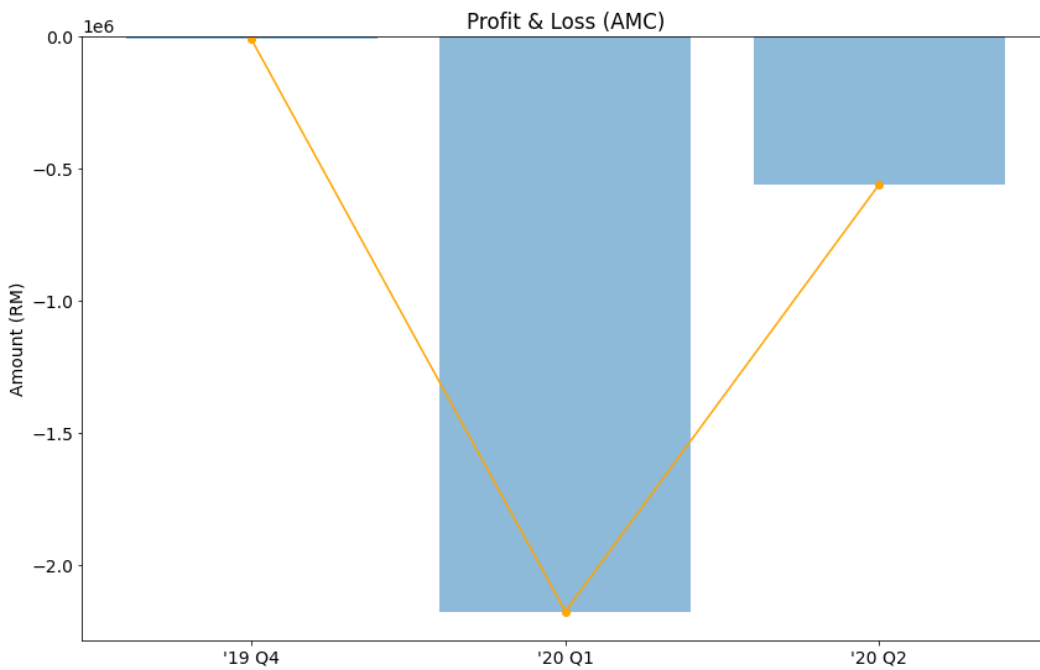Diagram 2.0 : GSC Malaysia 3 FQ Profit & Loss

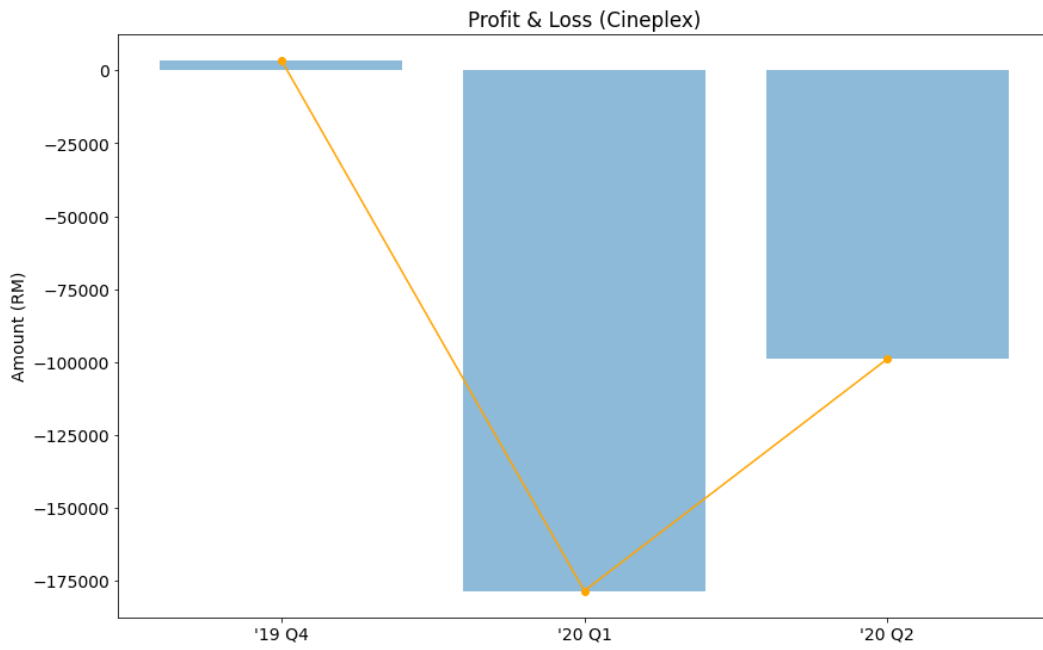Diagram 2.1 : AMC Entertainment 3 FQ Profit & Loss
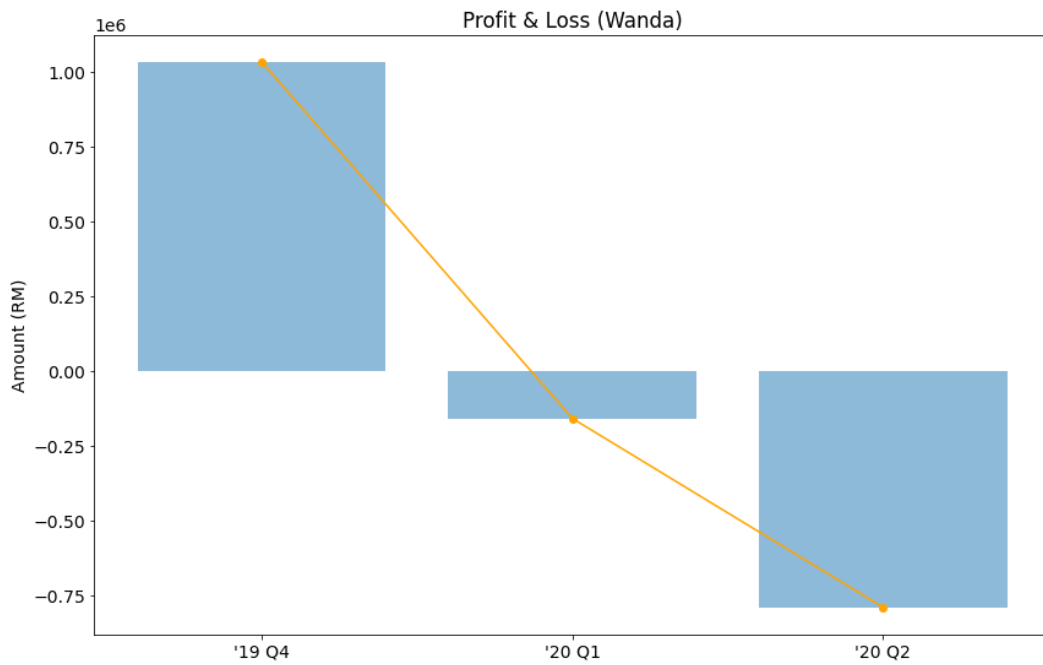
Diagram 2.2 : Cineplex 3 FQ Profit & Loss

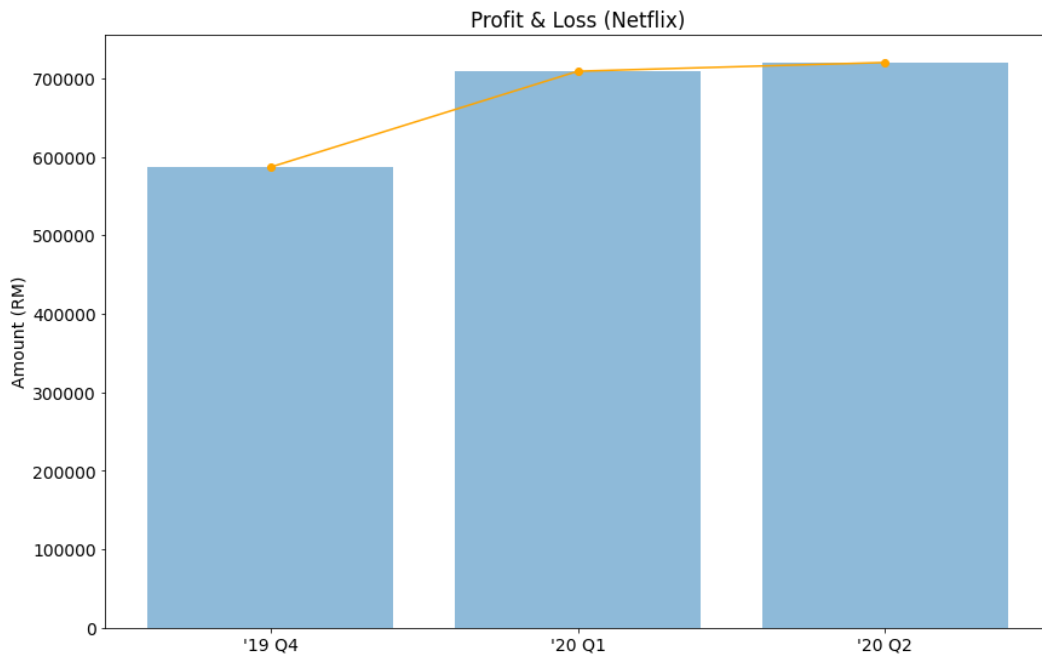Diagram 2.3 : Wanda Film 3 FQ Profit & Loss

Diagram 2.3 : Netflix 3 FQ Profit & Loss

As can be inferred from the diagrams, the operations of all cinema companies i.e. GSC Malaysia, AMC Entertainment, Cineplex & Wanda Film have ended up in monetary losses at the end of the second FQ of 2020. GSC Malaysia and Wanda Film had their profit in the fourth FQ of 2019 turning into losses of consecutively larger magnitudes come the first and second FQ 2020. On the other hand, both AMC Entertainment and Cineplex have experienced a larger drop in profit levels over the FQ interval comprising the fourth FQ of 2019 and the first FQ of 2020 compared to the FQ interval comprising the first FQ of 2020 and the second FQ of 2020. For AMC Entertainment and Cineplex, losses have been reduced over the second FQ interval which suggests some effective cost-cutting measures were in place.

Similarly, all 4 cinema companies' profit and loss trends were contrasted by the profit trend of Netflix to which revenues for the company had experienced a sharp growth over the first FQ interval and having stabilized over the second FQ interval. Once again, this reinforces our findings in 6.1.0 and that indeed, the coronavirus pandemic does suggest financial growth over the condition of a movie streaming company in Netflix.

The change in profit & loss between two FQs - 2019 Q4 vs. 2020 Q1 (1) and 2020 Q1 vs. 2020 Q2 (2) were also then calculated and tabulated using *pandas* and then tabulated into the following table :

	gsc_my_pl_%	amc_us_pl_%	cineplex_ca_pl_%	wanda_cn_pl_%	netflix_sm_pl_%
1	-268.19	-16020.74	-5238.65	-115.20	20.80
2	-112.84	74.21	44.55	-401.07	1.57

Table 1.1.1 : Change in Profit & Loss

Through the tabulation of data in the above table, we have decided to visualize the data points in terms of markers on a scatter plot through *matplotlib*, where blue markers indicate change interval (1) and change interval (2) as aforementioned. The following is the visualization :
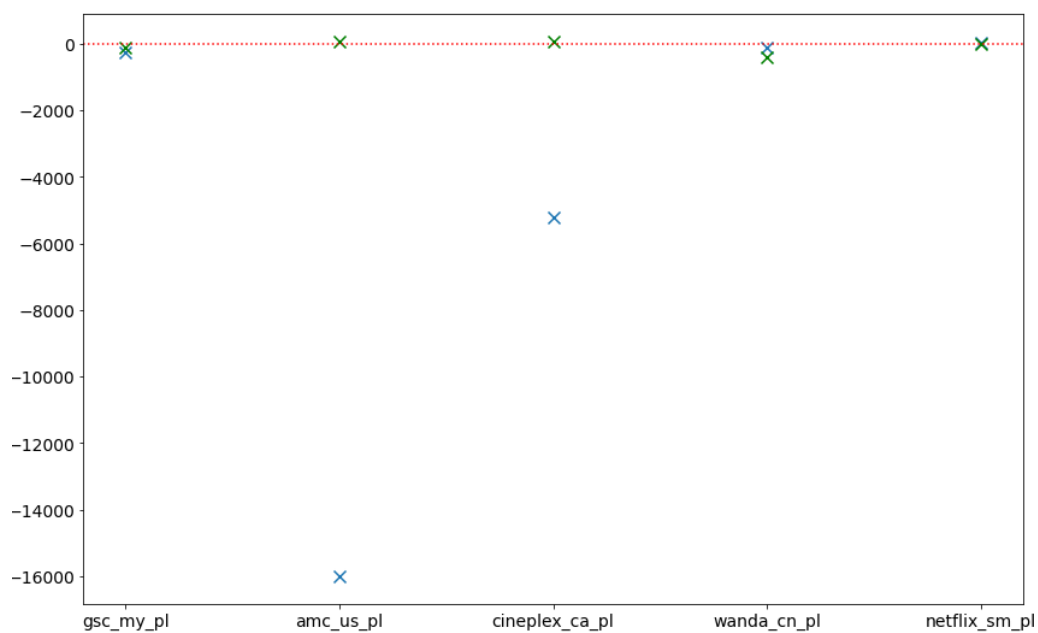

Diagram 1.1.1 : Change in Profit & Loss Scatter Plot

From visual inspection of the above scatter plot, we are able to infer that AMC Entertainment experienced the largest percentage change of profit & loss between both changes - change interval (1) and change interval (2). Cineplex comes second in terms of profit & loss volatility. Both companies are suggestively better at cost management come change interval (2) with lesser losses suffered in that interval compared to change interval (1).

As the profit & loss change of AMC Entertainment and Cineplex were too large in relation to the other companies chosen in our analysis, we have decided to plot a more focused scatter plot for the remaining companies to analyze the volatility of their profit and loss more thoroughly.
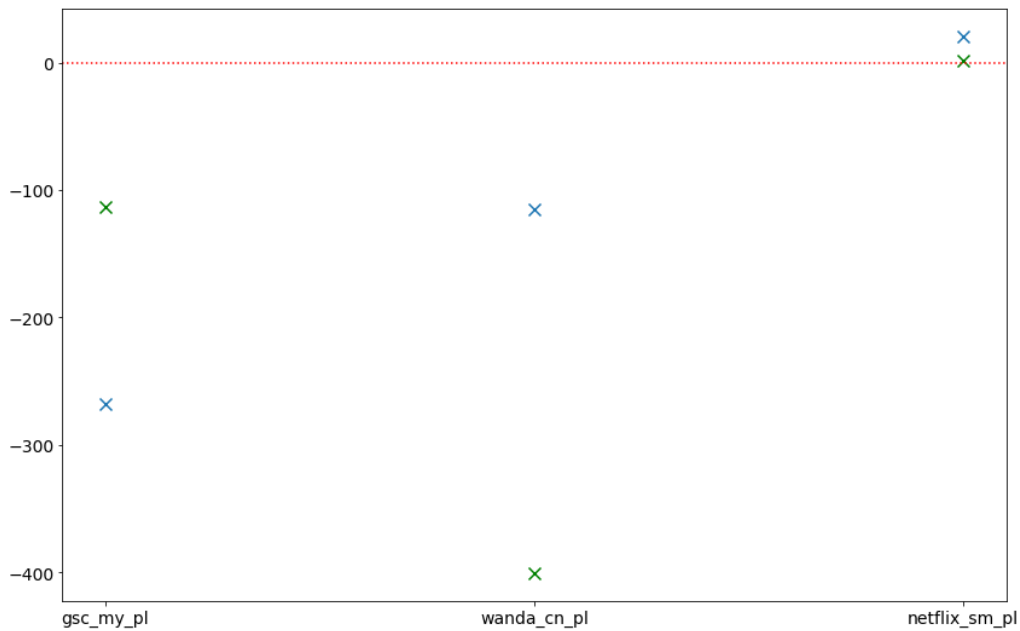
Diagram 1.1.2 : Change in Profit & Loss Scatter Plot (Focused)

From visual inspection of the above scatter plot, we are able to infer that Wanda Film experienced the largest percentage change of profit & loss between both changes - change interval (1) and change interval (2) among the remaining companies we have chosen to plot in this focused scatter plot. This is followed by GSC Malaysia which is the least volatile out of all cinema companies. GSC Malaysia's profit & loss change was also on a positive trend whilst Wanda Film experienced a negative trend for the same metric. With regards to Netflix, it had experienced relatively stable profit & loss change compared to the other companies in our analysis.

6.2 LINKAGE BETWEEN RELATIVE SIZING OF COMPANY, REVENUE, AND PROFIT & LOSS VOLATILITY

From the above visualizations, we have then been enlightened with the idea to explore whether the size of the cinema companies that we have analysed actually matter in relation to their revenue and profit & loss volatility. In this regard, we have sought to find the correlation of the following features : relative sizing, revenue volatility and profit & loss volatility.

To ascertain the relative sizing feature, we have used the relatively simple metric by looking at the 2019 Q4 revenue figures for all four cinema companies in our analysis - the higher the 2019 Q4 revenue figure, the larger the company is in relation to the others. The reasoning behind using this metric is that revenue can be a measure of market share in the industry, and as such market share loosely correlates with size of a company.

To allow for comparability of size of the companies in relation to one another, we have sought to convert the 2019 Q4 revenue figures to the same currency i.e. US Dollar. To do so, requests for FOREX data were made via the *Alpha Vantage* API using the *alpha vantage* Python library for the necessary currency pairs to facilitate the currency conversion. The FOREX rates were as below and in accordance to the timestamp at the point of making the API call which was obtained using Python's *datetime* module :

```
Extracted at : 2020-09-17 16:13:56.783265
```

	Pair	Rate
0	myr_usd	0.24110000
1	cad_usd	0.75650000
2	cny_usd	0.14790000

Table 2.0.0 : FOREX pair rates

With the above FOREX pair rates, a data frame of the revenue figures converted to US Dollar from the base currency of the companies headquarter operations were obtained as below :

	Relative_Sizing
gsc_my_r	35558
amc_us_r	1447700
cineplex_ca_r	335296
wanda_cn_r	568117

Table 2.0.1 : Relative Sizing data frame

The ranking of the size of the companies via the 2019 Q4 revenue figures metric were as follows from descending order : AMC Entertainment, Wanda Film, Cineplex and GSC Malaysia.

Before producing the revenue and profit & loss volatility data frames, we have also sought to standardize the figures attributed to each cinema companies' revenue and profit & loss to US Dollar. The following data frames were produced :

	gsc_my_r	amc_us_r	cineplex_ca_r	wanda_cn_r
0	35558	1447700	335296	568117
1	18820	941500	275839	185569
2	353	18900	16634	106136

Table 2.1.0 : 3 FQ Revenue figures in US Dollar ('000)

	gsc_my_pl	amc_us_pl	cineplex_ca_pl	wanda_cn_pl
0	11578	-13500	3472	1035090
1	-19473	-2176300	-178414	-157340
2	-41446	-561200	-98927	-788390

Table 2.1.1 :3 FQ Profit & Loss figures in US Dollar ('000)

The volatility in this regard refers to the unbiased sample standard deviation *(n-1)* for the revenue and profit & loss data points for each cinema company. The data frames produced were as follows :

	Revenue_Volatility
gsc_my_r	17609.574848
amc_us_r	724442.157801
cineplex_ca_r	169444.109329
wanda_cn_r	247008.440529

Table 2.2.0 : Revenue Volatility data frame

	Profit_Loss_Volatility
gsc_my_r	2.664120e+04
amc_us_r	1.124443e+06
cineplex_ca_r	9.118320e+04
wanda_cn_r	9.260303e+05

Table 2.2.1 : Profit & Loss Volatility data frame

All features were then compiled into one single data frame to aid the calculation of the correlation between relating sizing with either revenue volatility or profit & loss volatility.

	Relative_Sizing	Revenue_Volatility	Profit_Loss_Volatility
gsc_my	35558.0	17609.574848	2.664120e+04
amc_us	1447700.0	724442.157801	1.124443e+06
cineplex_ca	335296.0	169444.109329	9.118320e+04
wanda_cn	568117.0	247008.440529	9.260303e+05

Table 2.3.0 : Data Frame with all 3 features

To visualize our findings, Python's *seaborn* library was utilized to generate a heatmap from the features contained the the data frame of Table 2.3 as below :
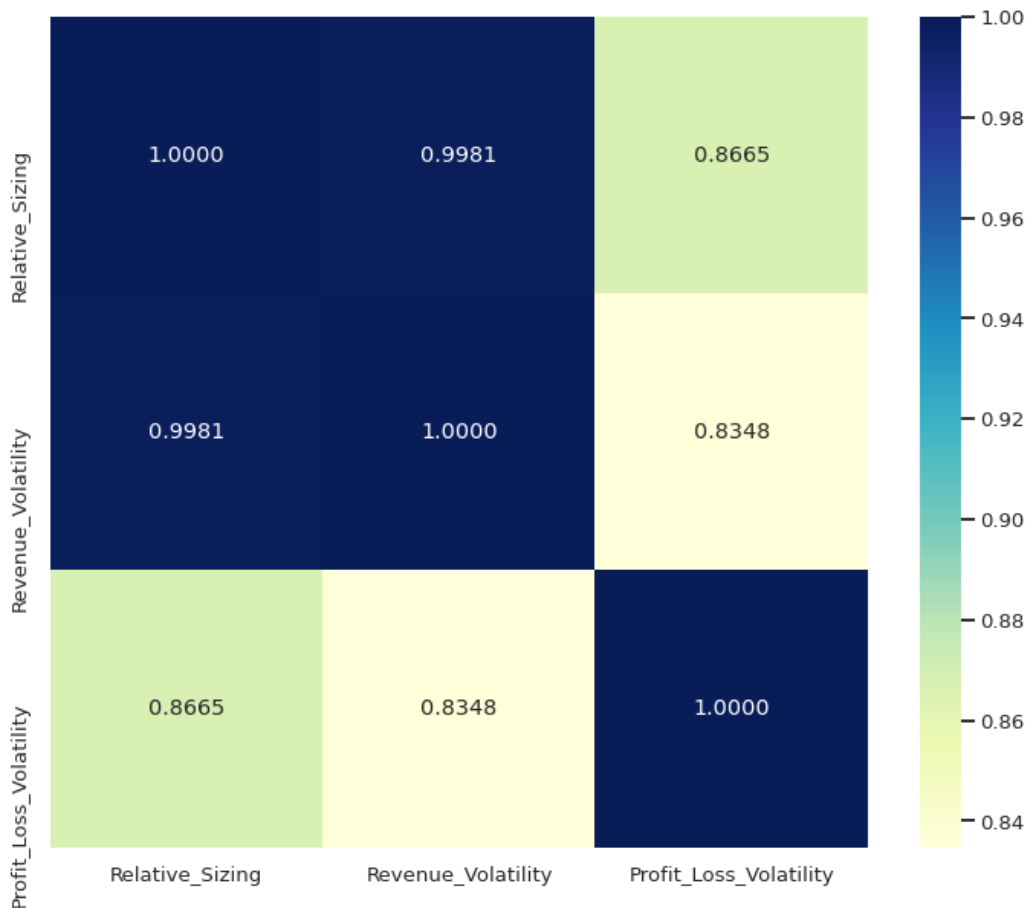

Diagram 2.0 : Heatmap of all 3 features

The heatmap shows that there are strong positive correlations between relative sizing of the companies and revenue volatility (0.9981) as well as relative sizing of companies with profit & loss volatility (0.8665). This indicates that in general, the larger sized firms that we have analysed in accordance with our sizing metric experienced higher volatility in terms of their revenue and profit & loss figures across the three FQs implicated in our analysis.

6.3. RATIO ANALYSIS

Hornby A.S. et al (2002) defines ratio as a "relation between two amounts determined by the number of times one contains the other". Ratio analysis is a type of financial statements analysis that compares two or more elements in the financial statements of a particular period (vertical analysis) by generating a value, which is commonly called as "financial ratio". Continuing the horizontal analysis from the previous part, we will compare the elements inside the second quarter (Q2/2020) financial statements of the four companies observed. The financial ratios we use are liquidity ratios and solvability ratios, which determine the ability of the companies to pay their short-term liability and long-term liability respectively. Specifically, we will use current ratio and acid test ratio for the liquidity ratios, then debt to asset ratio and debt to equity ratio for the solvability ratios. Below are the results for our ratio analysis:

Company	Current Ratio	Acid Test Ratio	Debt to Asset	Debt to Equity
GSC	3.052999	2.3048	0.05674	0.0601
Cineplex	0.092965	0.0591	0.88599	7.7713
Wanda	0.78935	0.4949	0.5095	1.0388
AMC	0.3972	0.3384	1.13976	-8.15475

As current ratio measures the ratio between current asset and current liability, a good value of the ratio will be more than 1, where the amount of current asset exceeds the current liability. From the four companies, there is only GSC that managed to keep their current ratio healthy. We can also see that Cineplex and AMC are in a dangerous position. In the case of Cineplex, this is caused by their total asset that is hugely dominated by non-current assets (96% of total asset).

The next ratio – acid test ratio – is a modification of the current ratio, where inventories and prepaid expenses are not accounted for in the ratio calculation. Hence, this ratio will only consider liquid current assets, such as cash and equivalents, receivables, etc. The calculation results show the same condition for the four companies, where cineplex and AMC are in dangerous positions.

The next two ratios are the proportion of total liabilities to total assets (Debt to Asset) and total shareholders' equity (Debt to Equity). A good value of these ratios will be less than 1, where the amount of total debt (liabilities) is less than both total assets and total shareholders' equity. Looking at the four companies' ratio, AMC is the only company where the Debt to Asset ratio is more than 1, which shows that their total debt slightly exceeds their total assets (1.139). Then according to the last ratio, GSC is again the best company among the other four. We can see that AMC is having a negative Debt to Equity ratio, which was caused by the negative shareholders' equity that they have at the second quarter of 2020.

The results of the ratio analysis above show that alongside the profitability aspects, companies also need to focus on their financial position, mainly on their debt management strategy.

6.4. SURVEY RESULTS & ANALYSIS

As mentioned in the previous chapter, we will conduct a survey by distributing a questionnaire to find out the public's opinion on the cinema industry and online streaming services during and after the Covid-19 outbreak. After 2 weeks of gathering responses, we finally had **45 responses** from various countries. As seen in the graph below which shows the age distribution of the respondents, most of the respondents are teenagers who are considered to be familiar with both movie theatres and online streaming services.
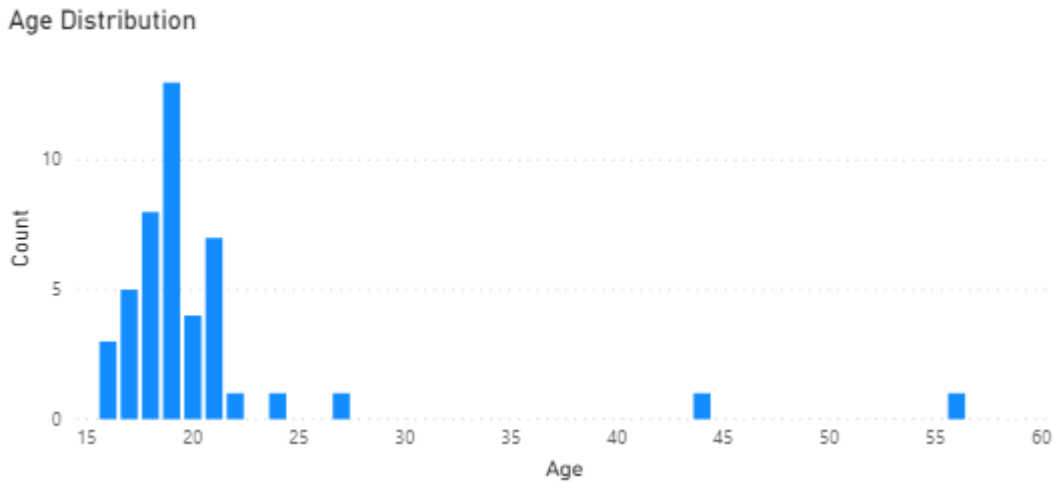

Diagram 3.0 : Respondents' age distribution

The survey begins with finding out how much people spend on entertainment expenditure, such as movie tickets, streaming services, concerts, subscriptions, etc. From the donut chart below, we know that 66.67% of the respondents have spent below RM 100 for entertainment expenditure, the lowest category for the available choices. However, we are not able to know neither the ratio of entertainment expenditure and one's income nor the specific details of the expenditure.
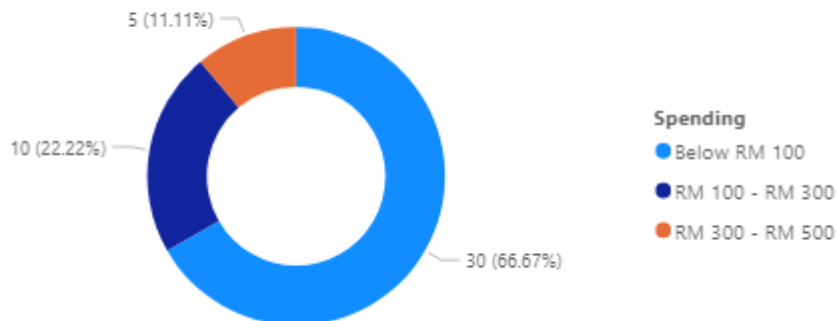

Diagram 3.1: Respondents' entertainment expenditure

The next questions of the survey will be starting to focus on movie theatre versus online streaming services. From the donut chart below, we can see that most people are going to the cinema (movie theatre) for once a month. More specifically, about 80% of the time, people are going to the cinema at least once a month.

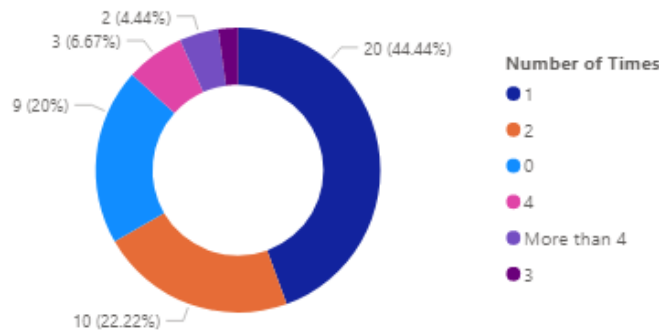How many times in a month do you go to the cinema (on average) ?

Diagram 3.2: Respondents' frequency of attending movie theatres

Now, how about online streaming services? This survey also measures how long the respondents spent their time streaming movies / TV series online before and after the Covid-19 lockdown. From the bar chart below, we can see a lot of things change before and after the lockdown. The most obvious changes are the decrease in the number of people who never streamed movies / TV series online (7 to 5) and the increase in the number of people who streamed for more than 4 hours.
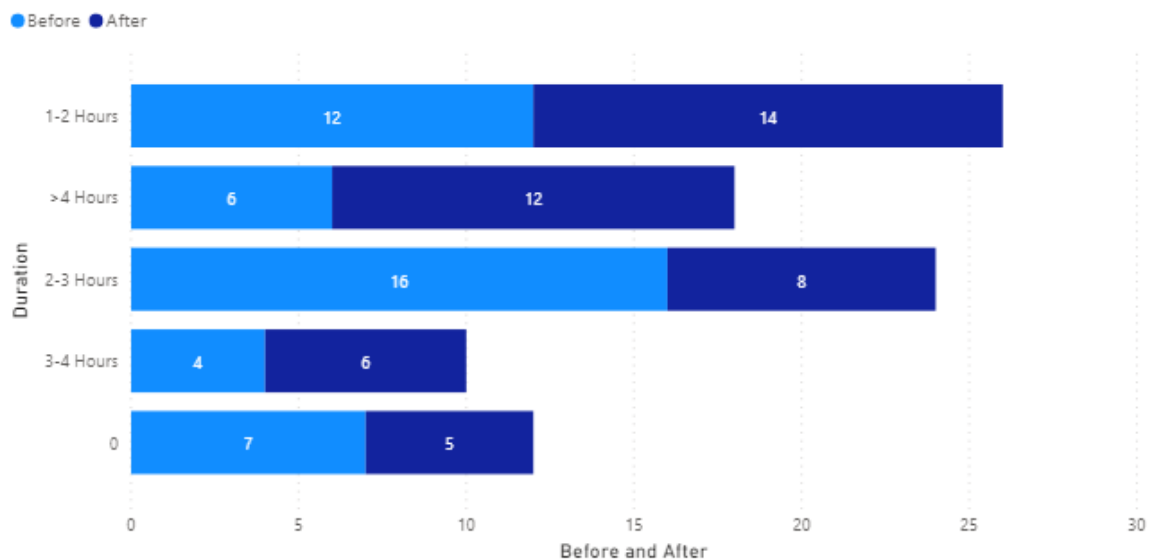

Diagram 3.3: Streaming duration before vs. after the lockdown

However, even though it's not shown in the bar plot above, most of the respondents stick to their streaming duration. The table below shows specifically the change of streaming duration after the pandemic.

Streaming Duration Change	Number of Respondents
Increase	17
Stays the same	22
Decrease	6

Table 3.0: Change of streaming duration after the pandemic

Next, we also asked what platforms the respondents used when using online streaming services. We can see from the tree map below that Netflix is the most used streaming service platform, followed by pirated websites and iQIYi. As mentioned in the previous part of this chapter, Netflix has gained a significant amount of profit during the Covid-19 lockdown.
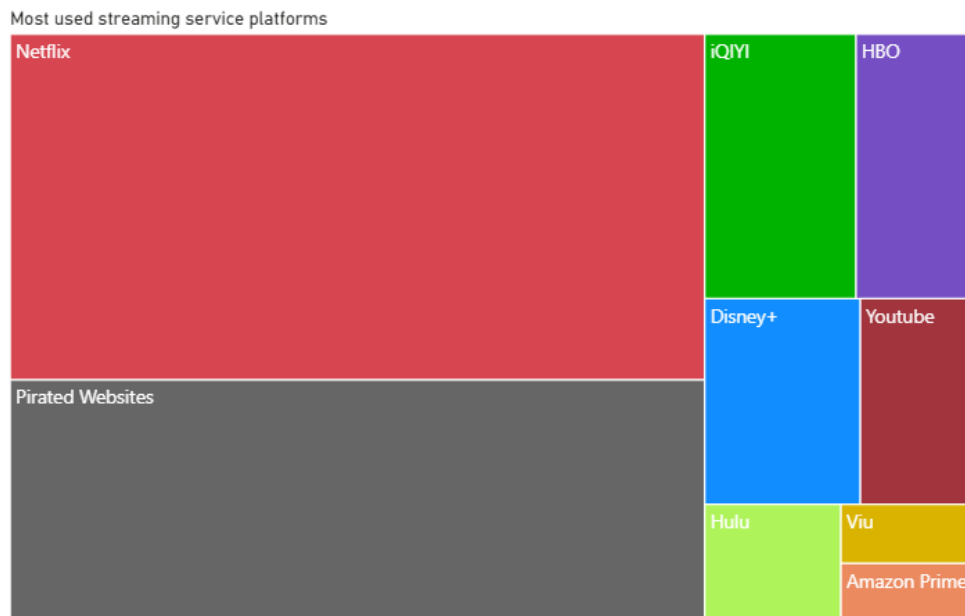

Diagram 3.4: Most used streaming service platforms

By seeing the number of increases in the streaming services users during the lockdown, we also asked the respondents whether they are willing to go back to the movie theatres if the Covid-19 outbreak is fully or partially contained by the government. The answers are nearly divided evenly. Those who answered "No" or "Maybe" might be concerned with the hygiene issues of the movie theatre. How about those who answered "Yes"? The survey shows that most respondents are missing the audio quality and the chance to meet with their friends while watching in the movie theatre. Of course, these qualities are not easily replaceable by online streaming services.

If the Covid-19 is fully/partially contained by the government,
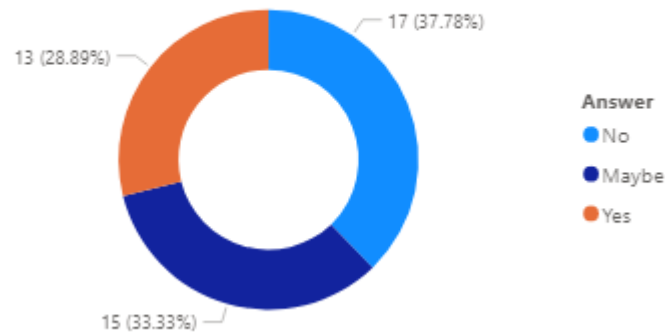will you still want to go to the movie theaters?

Diagram 3.5: Preference of going back to the cinema after Covid-19 is contained

The last part of the survey contains Likert scale questions with various topics regarding the public's preference on movie theatre and online streaming services.
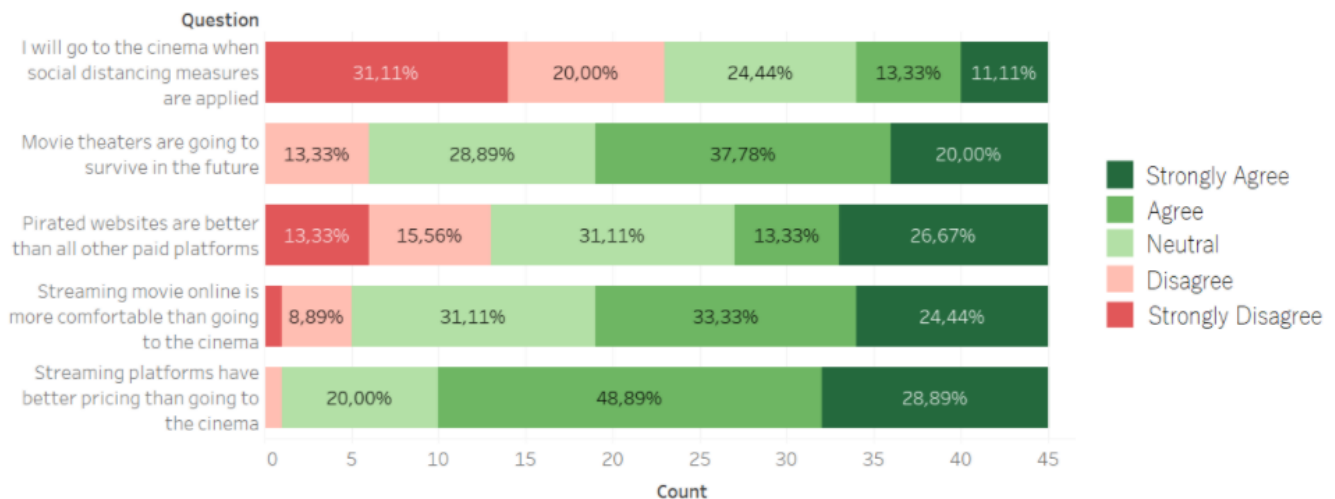

Diagram 3.6: Likert scale questions results

We will examine each question with the corresponding polls results. The first question which asked whether people are going back to the cinema when social distancing measures are applied, is mostly answered as "strongly disagree" (31.11%). This might show the existence of public fear despite the social distancing measures in movie theatres. The second question which asked the respondents' opinion on the movie theatres companies shows that most of the respondents agree (37.78%) that they are going to survive despite the current pandemic. The third question which asked the respondents' preference on pirated websites shows that most of the respondents are neutral (31.11%). The fourth question which asked whether streaming movies online is more comfortable than going to the cinema shows that most of the respondents agree that it is true (33.33%). Finally, the last question which asked whether streaming platforms have a better pricing than movie theatres surprisingly shows that most of the respondents agree. This is compatible with the fact that online streaming services are using subscription mode instead of pricing each movie/series.

Comparing the survey results with the characteristic demand theory, movie theatres, as a consumption good, have a lot of attributes that determine consumer's utility. As mentioned in the previous part, respondents who answered "Yes" on the Diagram 3.5's question are missing the surround sound attribute of movie theatres, that can't be attained while streaming movies online. Indeed, there are some attributes that make watching movies in the cinema a whole different experience than streaming movies online. However, speaking on attributes, one of the attributes with the highest concern is hygiene.

Before the Covid-19 outbreak, movie theatres were known to have a bad reputation on hygiene issues. This is due to the short time break between movies which gives the cleaning service a short period of time to clean the theatres. It is also worsened by the behaviour of the audiences that are not maintaining cleanliness. After the Covid-19 outbreak, movie theatres are also considered as one of the high-risk venues for Covid-19 contagion due to its lack of ventilation. As previously mentioned, Covid-19 transmissions are likely to be indoor transmission instead of outdoor transmission. Spaces with low ventilation increase the risk of trapped droplets, which is transmitted when people are communicating, coughing, or sneezing.

A research by Qian, et al. (2020) reveals that among 318 Covid-19 outbreaks from China, there was only one outbreak (two cases) that was identified as outdoor transmission. The rest are identified as indoor transmission with home cases and transportation cases as the top two types of transmissions. This research is the reason why movie theatres that decide to reopen need to apply a highly strict social distancing measure. However, there are some companies that still decided to reopen their movie theatres. Below, we will examine two examples of how GSC and AMC reopen their theatres with different strategies.

Golden Screen Cinema (GSC) is one of the biggest movie theatres in Malaysia and also one of good examples for other movie theatres to apply social distancing measures as a strategy to convince potential customers. According to The Star, an interview with Golden Screen Cinemas Sdn Bhd public relations and branding manager, Sharmine Ishak, revealed that there are indeed some safety measures applied in order to lower the risk of Covid-19 transmission. The safety measures include contactless transactions, filling of digital declaration form, temperature check, check-in with MySejahtera app, enhanced cleaning procedures, and finally theatre's seat distancing. Relating to the previous theory, GSC is emphasizing their hygiene attribute, the attribute that people avoid during the pandemic.

On the other hand, AMC entertainment is one of the biggest movie theatre companies in the United States. It is known that their stock price was rising more than 13% after the company announced a special promotion "Movies in 2020 at 1920 prices". The theatres began to open on August 20th with a $0.15 price of ticket. Even though this is a way of getting back the customers, the company needs to be aware of their weak financial position, especially on their liquidity and solvability.

6.5. RECOVERY STRATEGY FOR MOVIE THEATERS

On how movie theatres can embark on their recovery strategy after the pandemic, they present several challenges.

For one, certain companies have high operation cost in relation to their limited audience numbers. For example, this is the case for IMAX style theatres. In addition to that, there is a challenge in that cinema companies would be able to settle their liabilities as discussed in 6.3. Following that, another challenge that presents itself is that studio companies lost their preference on 3rd parties that are theatres for distribution as they are wary that they are not able to recoup their production cost. For example, Mulan was distributed directly through Disney Plus for $30.

Given the above challenges, there can be recommendations on the strategies that cinema companies can employ to recover. Firstly, better financial management that revolves around cost-reduction strategies, stringent cash flow management and also debt management. This is vital for the financial survivability of companies operating in countries where theatres are not allowed to open just yet. Special promotions can be made to attract more demand and alternately, there might be a chance for companies to explore other avenues for revenue streams such as the sale of merchandise. Lastly, to gain the confidence of the public to start going back to cinemas, safety measures and standards of procedures have to be maintained strictly.

7 CONCLUSIONS

Watching movies in the cinema has been a significant part of human's lifestyles for decades. Even though this year is a tough time for movie theatre companies in terms of financial condition, the public have not lost their favour on movie theatres as there are some attributes that online streaming services will not be able to emulate. Thus, during the Covid-19 pandemic, companies that are struggling to get their customers back while reopening the movie theatres need to emphasize some key attributes that are highly concerned by the public. On the other hand, companies also need to maintain their financial health in order to survive until the pandemic is contained.

Future researches are suggested to do a thorough analysis on the financial statements of more movie theatre companies and movie production (studio) companies outside the four companies observed. With more financial data in the coming quarters, researchers will be able to do the horizontal analysis efficiently and obtain more information about the state of the cinema industry.

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