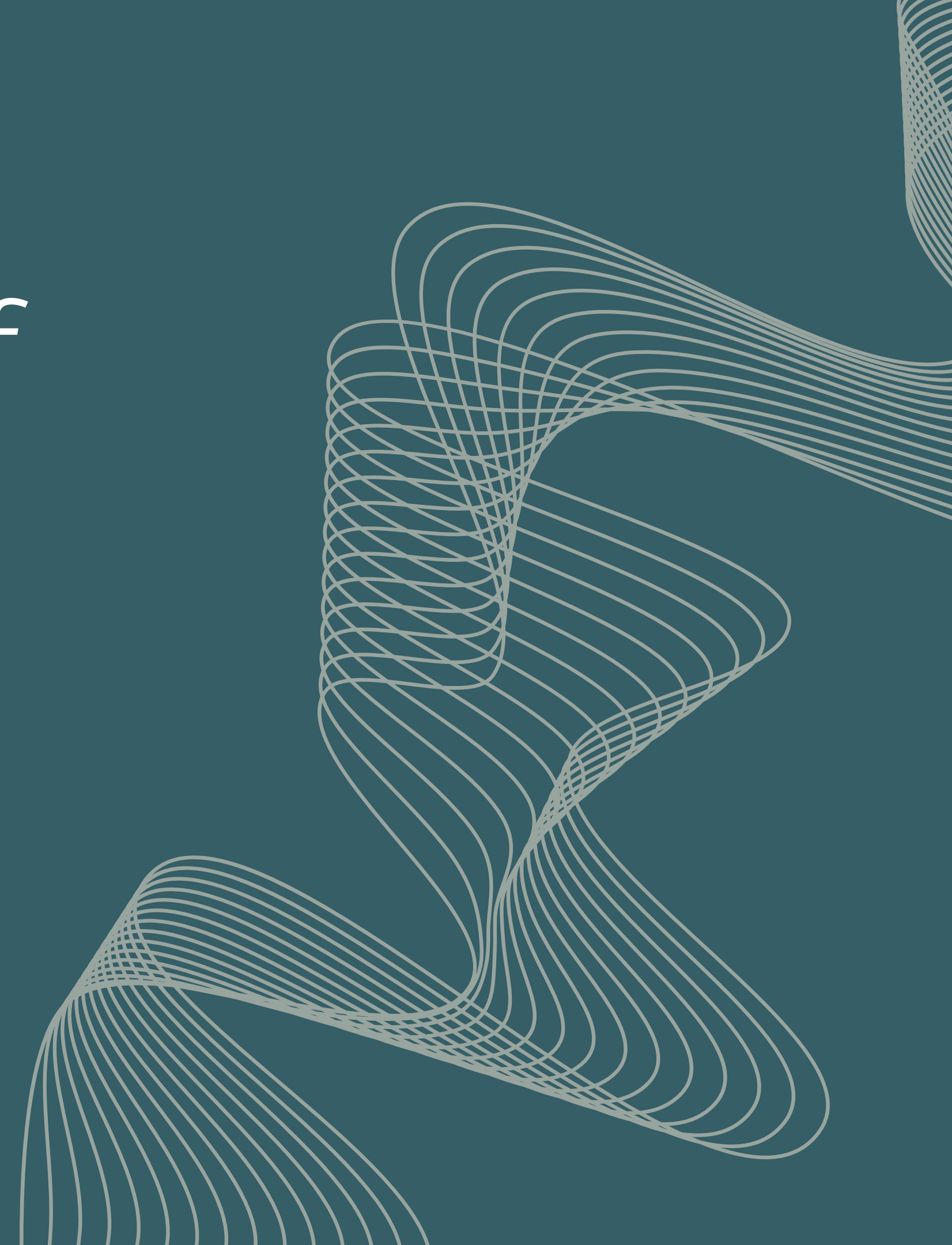


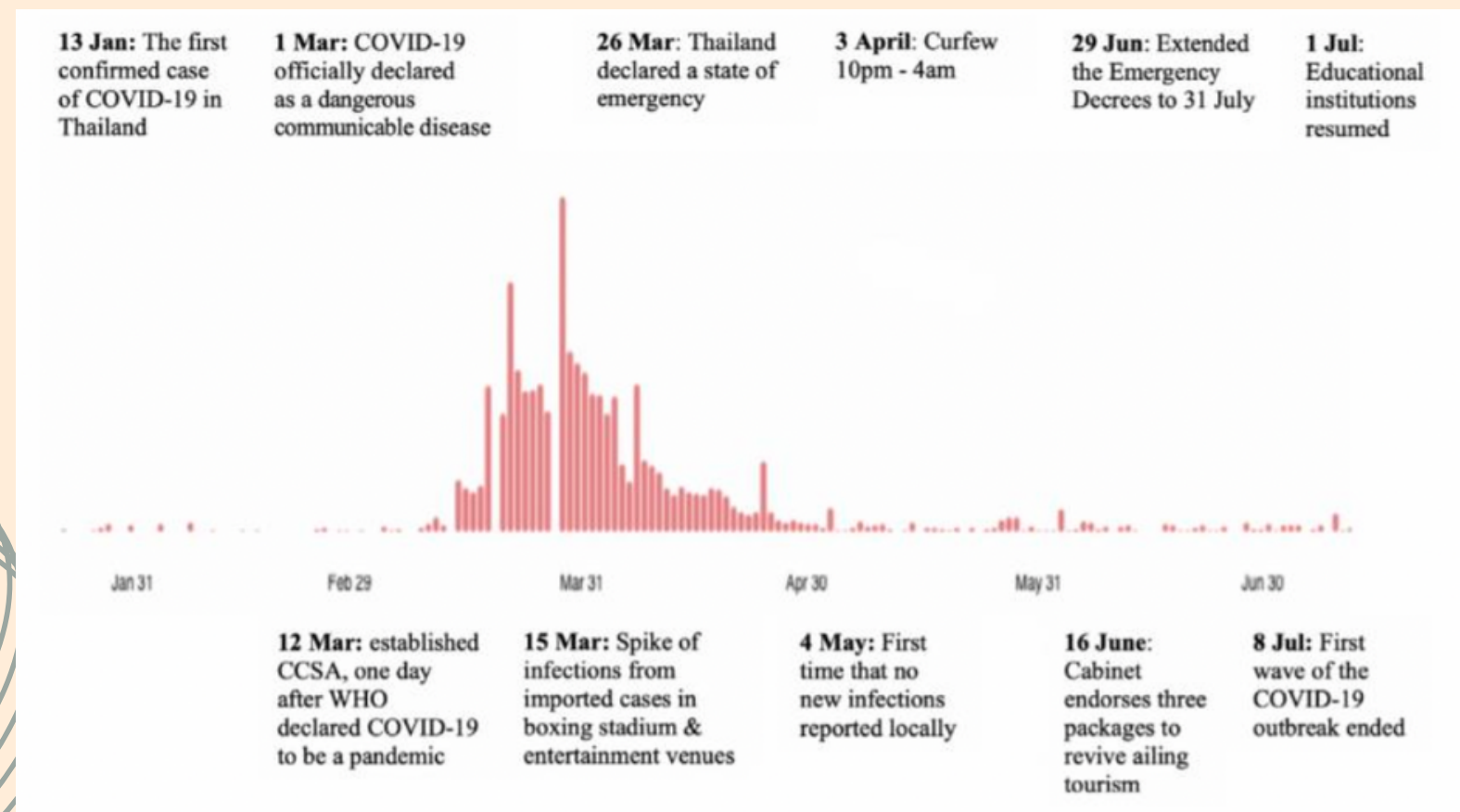
EE406 Assignment 4

Impact Analysis of COVID-19 using Alternative Indicators

Presented by **Group A**



Introduction and Project's background



- On 13 January 2020, Thailand reported the first COVID-19 case detected outside China.
- By end March, 60 of Thailand's 77 provinces had reported cases and the epidemic was widespread.
- By the end of July 2020, 78% of Thailand's 77 provinces had the capacity to diagnose COVID-19
- In 2020, the epidemic peaked in late March

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	ACCUMULATED	DEATH
BANGKOK	45,301	497
CHONBURI	5,414	30
PHUKET	891	4
CHIANG MAI	4,203	24

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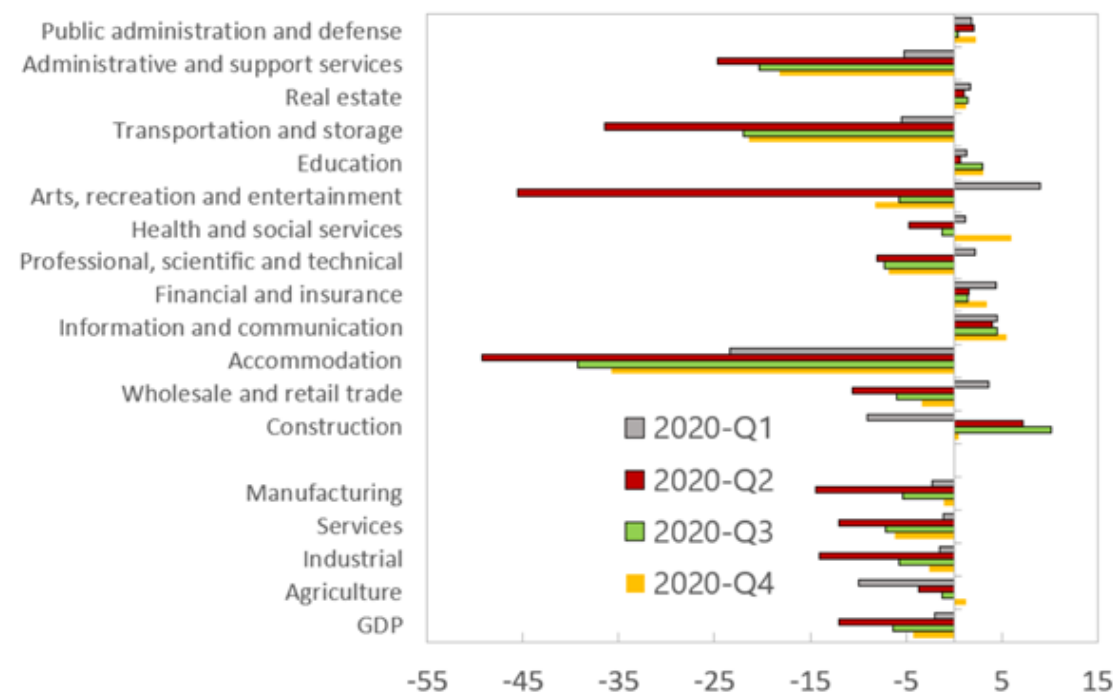
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Introduction and Project's background

Thailand's GDP by industry

Accommodation, food services, entertainment, and transportation were especially affected by the pandemic in 2020.

(annual percent change)



Source: Haver Analytics.

IMF

- Thailand's GDP fell by 6.1 percent in 2020
- Low-skilled workers and informal and migrant workers have been hit hard
- The financial sector has thus far weathered the pandemic well
- Stress has been building up in the small and medium enterprises sector

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Sources of data



TWITTER



GOOGLE EARTH



MINISTRY OF
PUBLIC HEALTH



APPLE MOBILITY
INDEX



GOOGLE

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Briefs of analytical methodologies



Microsoft Excel



Rapid Miner

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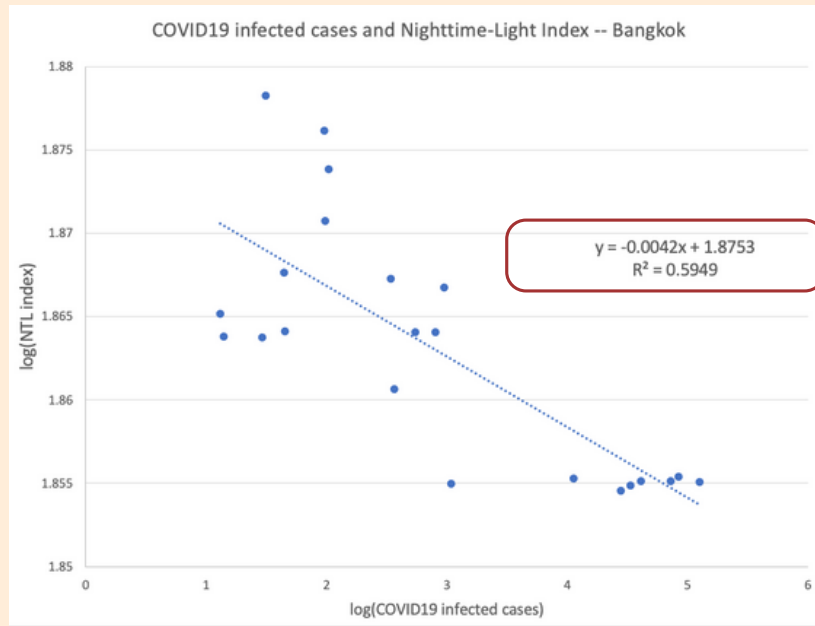
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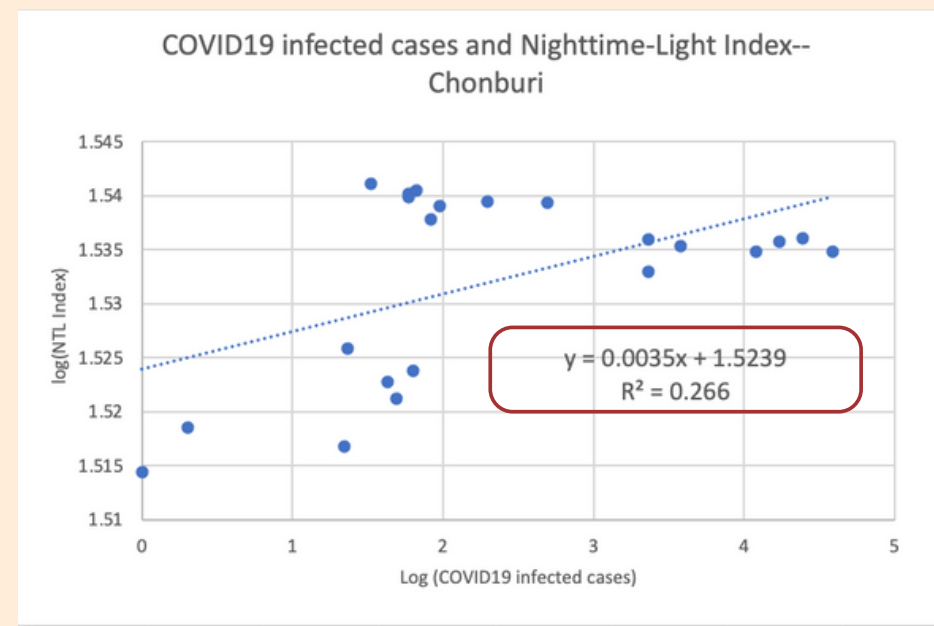
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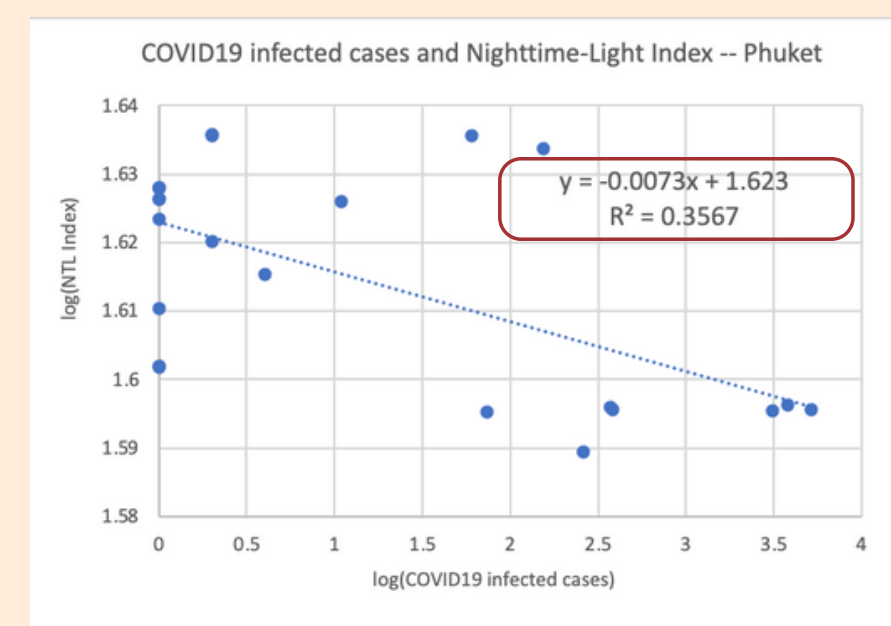
Task #1: COVID-19 and Nighttime Light (January 2020 - October 2021)



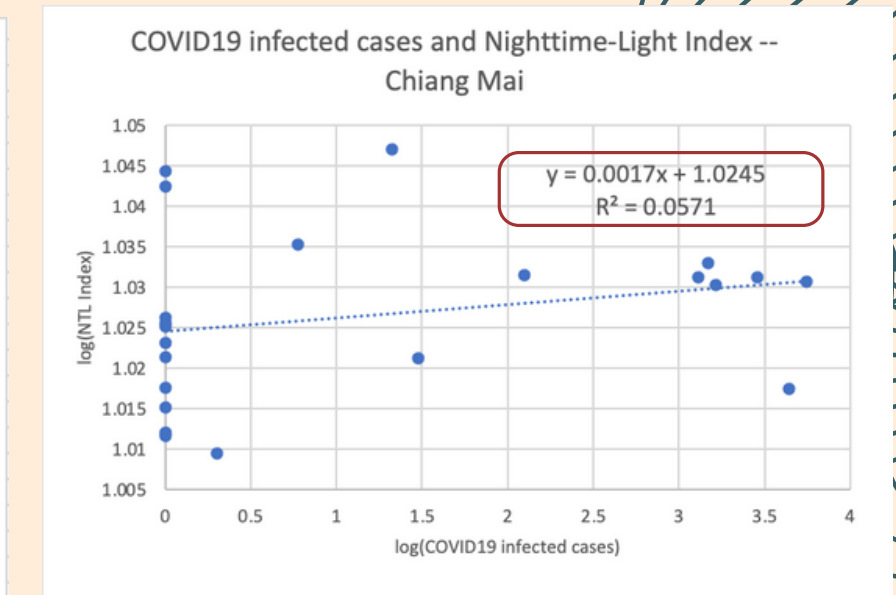
Bangkok



Chonburi



Phuket



Chiang Mai

- BANGKOK R-SQUARED IS 0.5949
- CHONBURI R-SQUARED IS 0.266
- PHUKET R-SQUARED IS 0.3567
- CHIANG MAI R-SQUARED IS 0.0571

BANGKOK REGRESSION MODEL IS THE BEST FIT MODEL SINCE THE VARIATION OF PERCENTAGE CHANGE OF NIGHTTIME LIGHT CAN BE EXPLAINED BY THE PERCENTAGE CHANGE OF COVID19 INFECTED CASES WHICH IS AROUND 59.49%.

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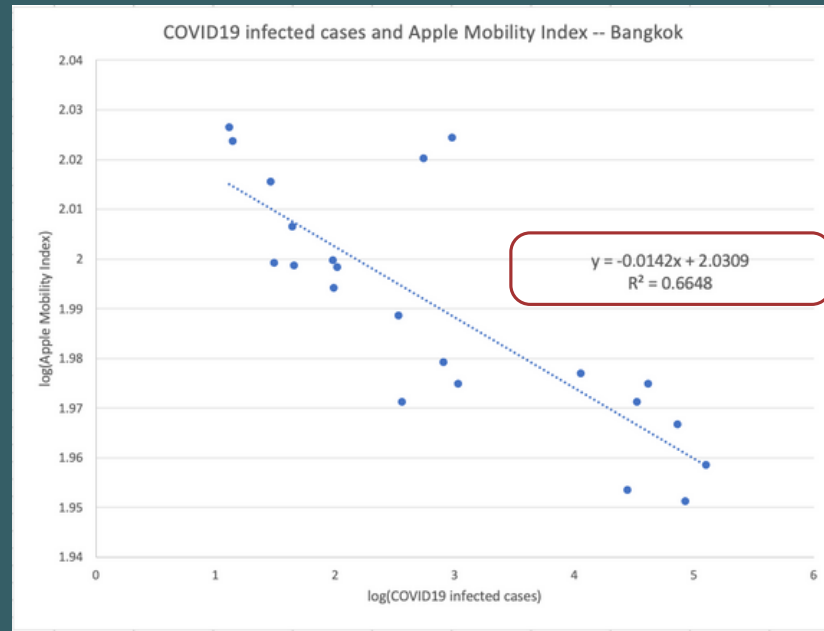
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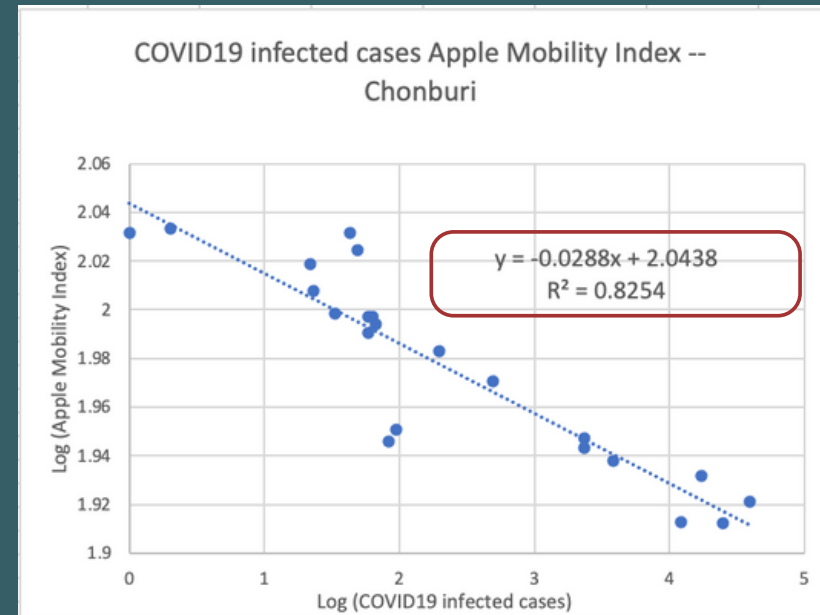
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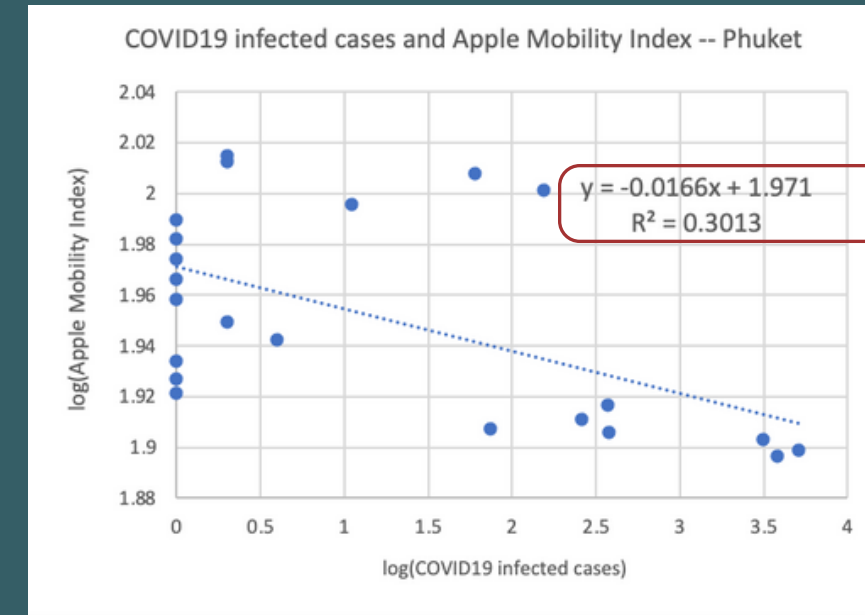
Task #2: COVID-19 and Apple Mobility Index (walking) (January 2020 - October 2021)



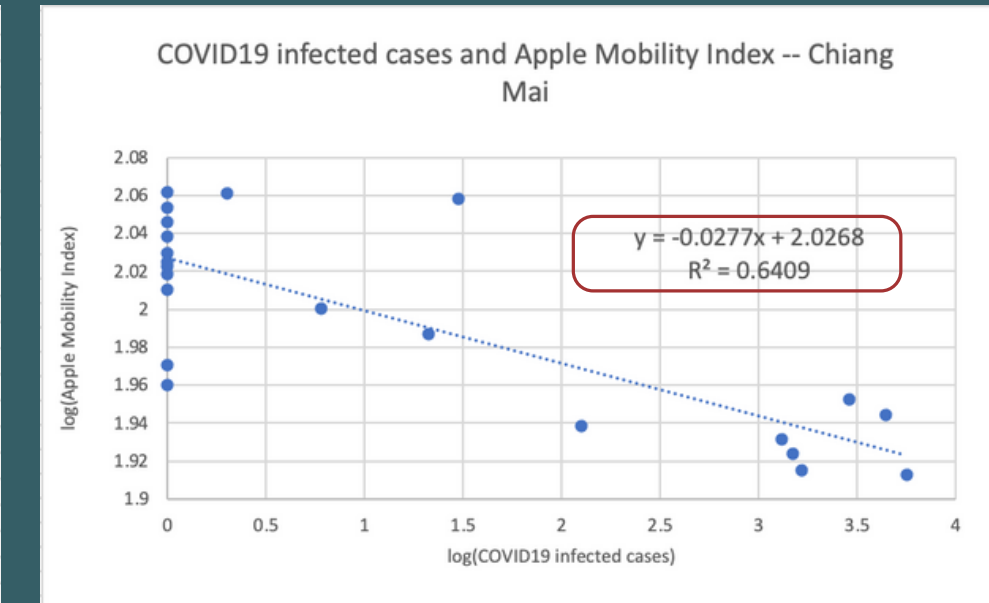
Bangkok



Chonburi



Phuket



Chiang Mai

- BANGKOK R-SQUARED IS 0.6648
- CHONBURI R-SQUARED IS 0.8254
- PHUKET R-SQUARED IS 0.3013
- CHIANG MAI R-SQUARED IS 0.6409

CHONBURI REGRESSION MODEL IS THE BEST FIT MODEL SINCE THE VARIATION OF PERCENTAGE CHANGE OF APPLE MOBILITY INDEX CAN BE EXPLAINED BY THE PERCENTAGE CHANGE OF COVID19 INFECTED CASES WHICH IS AROUND 82.54%.

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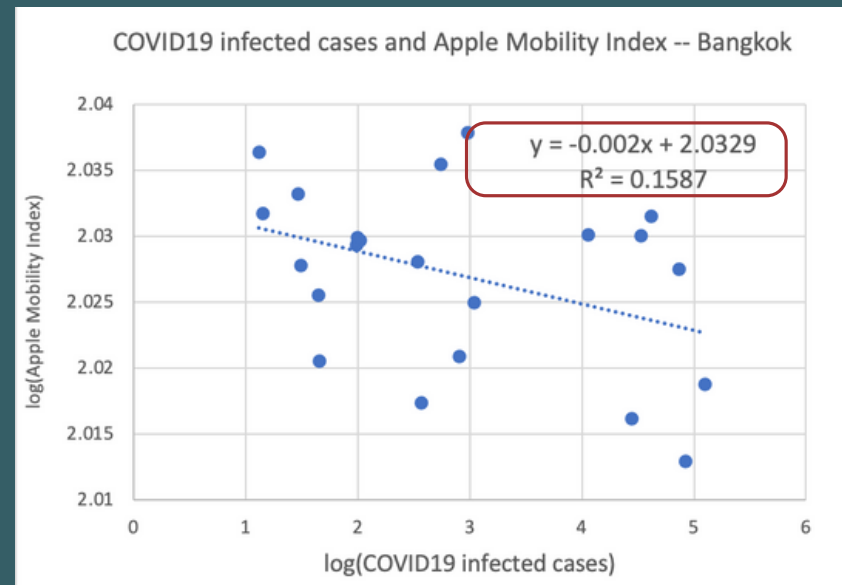
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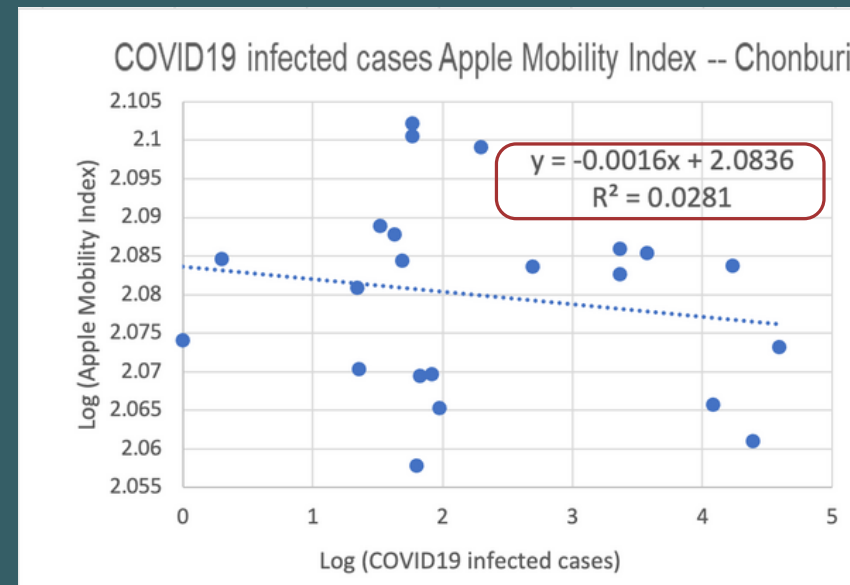
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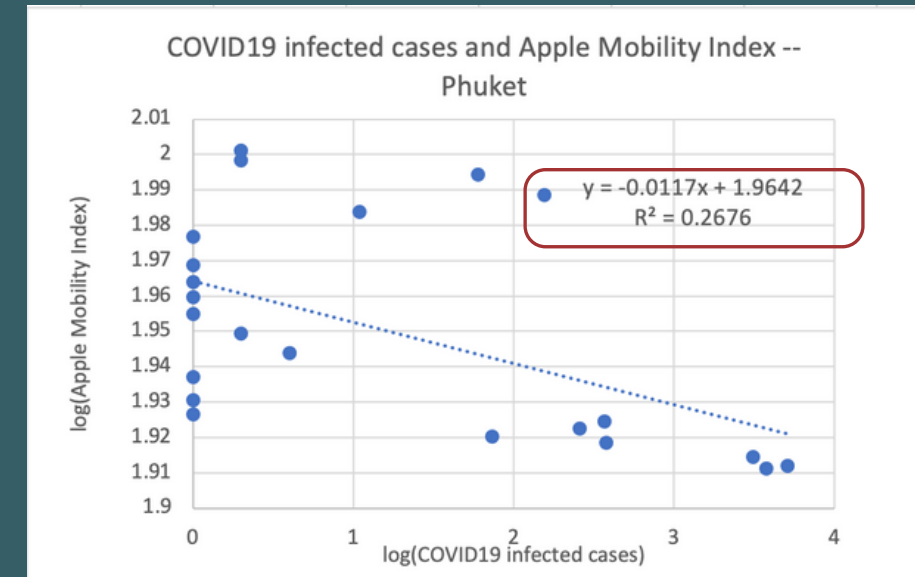
Task #2: COVID-19 and Apple Mobility Index (driving) (January 2020 - October 2021)



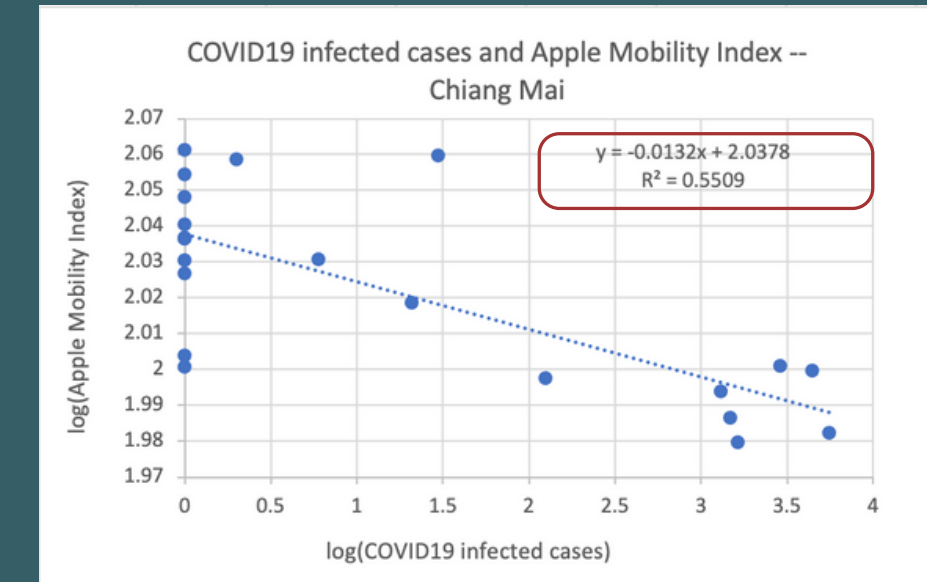
Bangkok



Chonburi



Phuket



Chiang Mai

- BANGKOK R-SQUARED IS 0.1587
- CHONBURI R-SQUARED IS 0.0281
- PHUKET R-SQUARED IS 0.2676
- CHIANG MAI R-SQUARED IS 0.5509

CHIANG MAI REGRESSION MODEL IS THE BEST FIT MODEL SINCE THE VARIATION OF PERCENTAGE CHANGE OF APPLE MOBILITY INDEX CAN BE EXPLAINED BY THE PERCENTAGE CHANGE OF COVID19 INFECTED CASES WHICH IS AROUND 55.09%.

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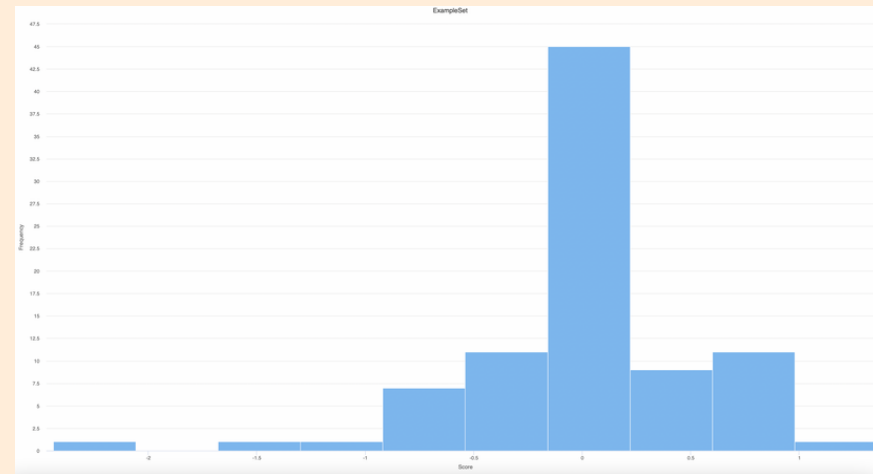
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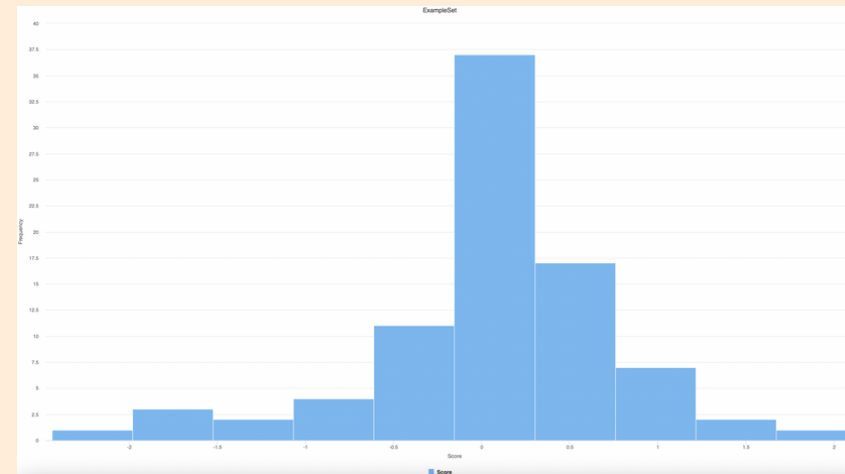
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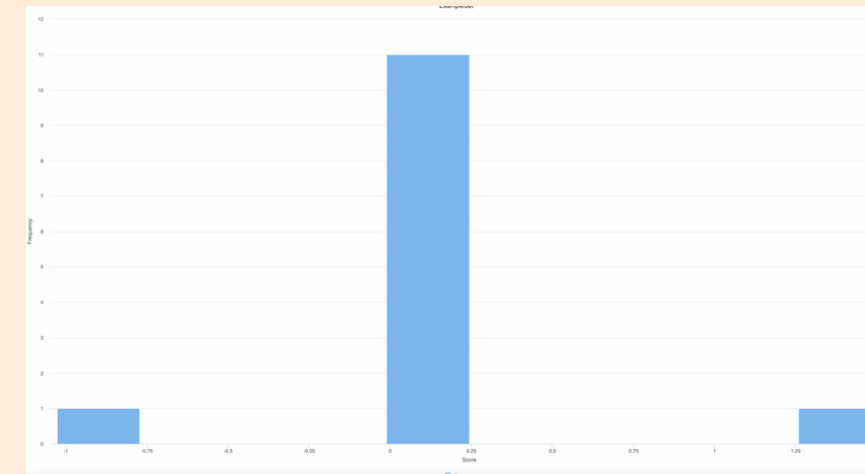
Task #3: COVID-19 and Sentimental Index (based on Twitter data)



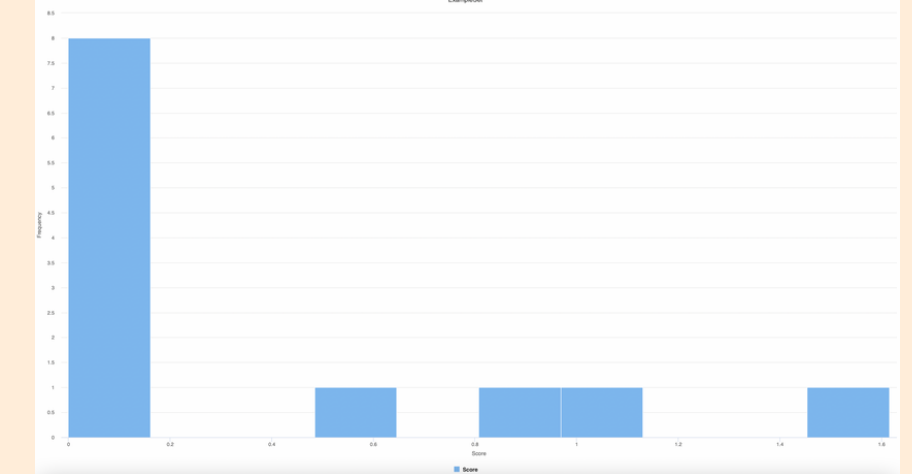
Bangkok



Chonburi



Phuket



Chiang Mai

- Min: -2.436
- Max: 1.359
- Average: -0.008
- Div: 0.538

- Min: -2.436
- Max: 1.359
- Average: -0.008
- Div: 0.538

- Min: -1.026
- Max: 1.513
- Average: 0.047
- Div: 0.527

- Min: 0
- Max: 1.615
- Average: 0.35
- Div: 0.539

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Task #4: Result discussion

- ARE NIGHTTIME LIGHT INDEX AND APPLE MOBILITY INDEX CORRELATED WITH THE COVID19 CASES?
CAN BOTH INDICATORS REPRESENT THE ECONOMIC IMPACT OF COVID19?
 - NIGHTTIME LIGHT INDEX IS NOT CORRELATED WITH THE COVID19 SINCE THE R-SQUARED OF OVERALL OF 4 PROVINCES IS RELATIVELY LOW.
 - APPLE MOBILITY INDEX ON DRIVING IS NOT CORRELATED WITH THE COVID19 SINCE THE R-SQUARED OF OVERALL OF 4 PROVINCES IS RELATIVELY LOW.
 - APPLE MOBILITY INDEX ON WALKING SEEM TO CORRELATED WITH THE COVID19 SINCE THE R-SQUARED OF OVERALL OF 4 PROVINCES IS RELATIVELY HIGH.
 - TO SUMMARIZE, NIGHTTIME LIGHT INDEX AND PPLE MOBILITY INDEX ON DRIVING CANNOT BE REPRESENT THE ECONOMIC IMPACT OF COVID19 WHILE AND PPLE MOBILITY INDEX ON WALKING CAN BE REPRESENT THE ECONOMIC IMPACT OF COVID19.

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Task #4: Result discussion

- WITH THE LESSENERED RESTRICTIONS OF GOVERNMENT'S COVID19 CONTAINMENT POLICIES, ARE THE SENTIMENT INDICES CURRENTLY REFLECTING THE POSITIVE ATTITUDE AND RECOVERING SITUATION IN THOSE PROVINCES?
 - WE GO THE SCORE FROM THE SENTIMENT ANALYSIS
 - BOTH NEGATIVE AND POSITIVE VALUE CAN BE OUR OUTCOME
 - PHUKET AND CHIANG MAI REFLECT POSITIVE ATTITUDE ON LESSENERED RESTRICTIONS OF GOVERNMENT'S COVID19 CONTAINMENT POLICIES
 - BANGKOK AND CHONBURI REFLECT NEGATIVE ATTITUDE ON LESSENERED RESTRICTIONS OF GOVERNMENT'S COVID19 CONTAINMENT POLICIES

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Policy Recommendation

- ACCORDING TO CHONBURI AND CHIANG MAI, THERE IS A NEGATIVE RELATIONSHIP BETWEEN COVID19 INFECTED CASES AND NTL. GOVERNMENT SHOULD BE MORE STRICT TO THE LOCKDOWN POLICY.
- AS WE ARE LIVING IN THE TECHNOLOGICAL BASED SOCIETY, THE GOVERNMENT SHOULD INCREASE BUDGET IN TECHNOLOGY SECTOR SUCH AS DATABASE SYSTEM.
- THERE SHOULD BE A COLLABORATION AMONG GOVERNMENTS IN MANY COUNTRIES. ALSO, GOVERNMENT AND PRIVATE SECTOR AS WELL.

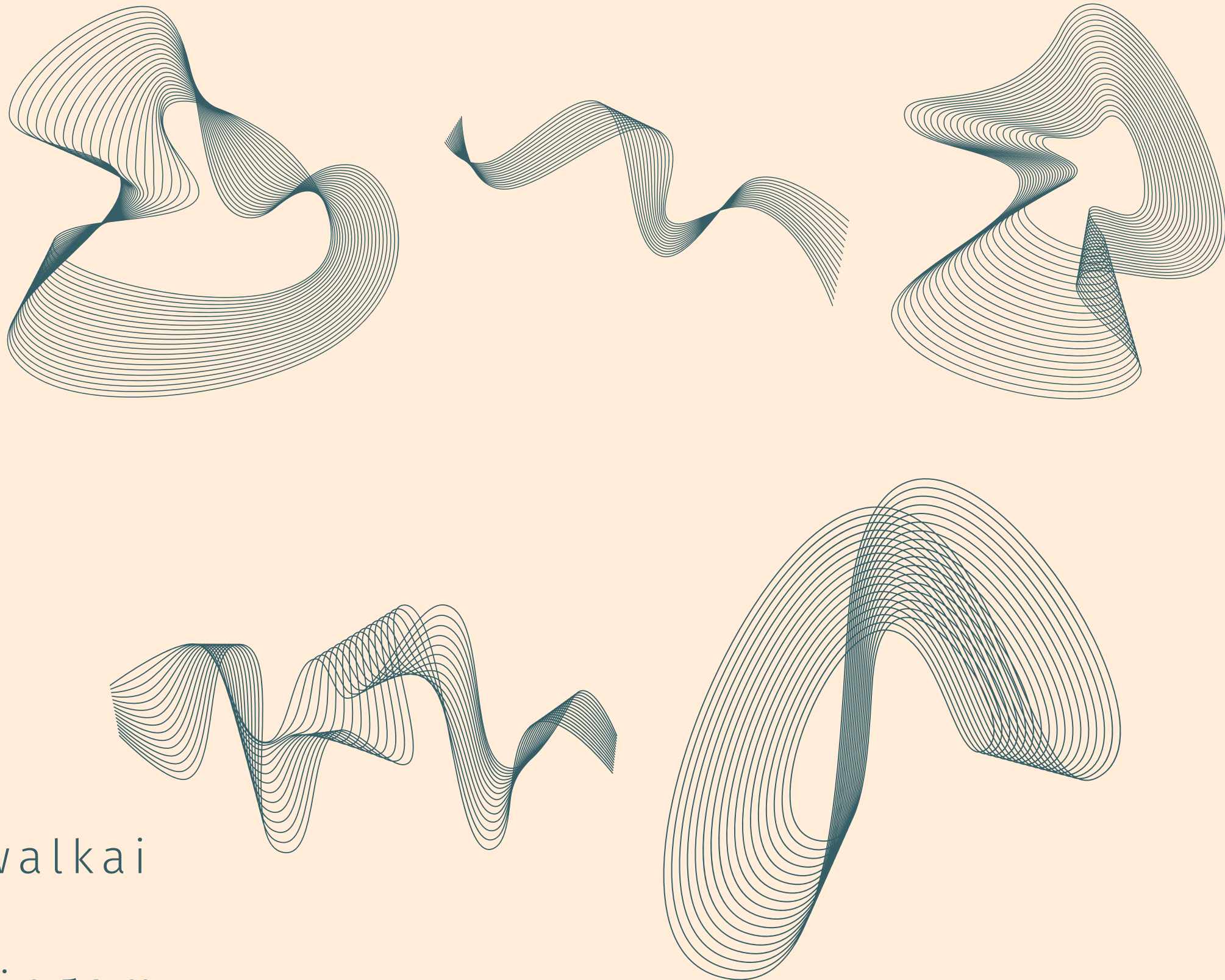
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The image features four abstract, teal-colored line art designs on a light beige background. These designs are composed of numerous thin, overlapping lines that create a sense of depth and movement. They are positioned around the central text: one in the top left, one in the top right, one in the bottom left, and one in the bottom right.

Thank you

6104640674 Pavita Kriathkungwalkai

6104641060 Suchaya Chuldilok

6104641375 Panida Phumphothingam