

**SUMMARY**

**Workflow: Collecting Raw Data**

**Travel Booking Websites**

1. Travel booking and reviews websites such as Klook, Tripadvisor, Traveloka and Google Map Reviews offer the best source of raw data, specific to individual attractions on Sentosa Island. Excluding Google reviews, an approximate of 3000 reviews in Bahasa Indonesia can be sourced from these 3 websites.
2. Scraping raw data from these websites has its challenges due to its dynamic nature (mix of Html, Javascript, CSS, etc). Scraping efforts can be made difficult of varying complexities, dependent on how these websites are configured.

**Twitter, Instagram and Tik-Tok**

3. Twitter is very accessible to scrap raw data from. Twitter has advanced query options and functions to filter date ranges, hashtags and by language, etc.
4. Instagram and Tik-Tok are not accessible to scrap raw data from. A demonstration was carried during the meeting on 7<sup>th</sup> April.

**Facebook**

5. Scraping data from Facebook from various contributors has its challenges which are illustrated and described in the Pre-Meeting notes.
6. Obtaining raw data of travel experiences and reviews from Indonesian travellers is difficult. There is a lack of posts in Sentosa official Facebook page.

**YouTube**

7. YouTube is not a reliable source to obtain data. Reviews and comments are not substantial and relevant, even if the source comes from popular Indonesia travel bloggers' video logs. Comparing the various social media and websites, efforts to scrape raw data from YouTube can be the most unproductive.

**Proposed Task for the Week (8<sup>th</sup> to 14<sup>th</sup> April 2022)**

1. Focus on scraping raw data from Twitter and major travel booking websites. The collected data will be stored as csv format.
2. Review the marketing brochures provided by SDC on the 7<sup>th</sup> April and incorporate it in our data collection efforts.
3. Will present the collected data on 14<sup>th</sup> April meeting. Initiate conversations on the scope of works, following the process of raw data has been completed.

**PRE-MEETING NOTES (03)****07 April 2022 (Thurs)****BRIEFING TO SENTOSA DEVELOPMENT CORPORATION (SDC)****TRAVEL WEBSITES WITH REVIEWS (Presented by Alfred Tan)****Travel Guidance Platforms**

1	<a href="https://www.tripadvisor.cn">https://www.tripadvisor.cn</a>
2	<a href="https://www.tripadvisor.co.id">https://www.tripadvisor.co.id</a>
3	<a href="https://www.tripadvisor.com.sg">https://www.tripadvisor.com.sg</a>
4	<a href="https://www.klook.com/en-SG/">https://www.klook.com/en-SG/</a>
5	<a href="https://www.klook.com/id/">https://www.klook.com/id/</a>
6	<a href="https://www.klook.com/zh-CN/">https://www.klook.com/zh-CN/</a>
7	<a href="https://www.traveloka.com/id-id/">https://www.traveloka.com/id-id/</a>
8	Google Map Reviews

**LACK OF TRAVEL REVIEWS**

1	<a href="https://www.lonelyplanet.com">https://www.lonelyplanet.com</a>
2	<a href="https://www.kayak.co.id">https://www.kayak.co.id</a>
3	<a href="https://www.expedia.co.id">https://www.expedia.co.id</a>
4	<a href="https://www.booking.com">https://www.booking.com</a>
5	<a href="https://www.trivago.sg">https://www.trivago.sg</a>
6	<a href="https://www.agoda.com/id-id">https://www.agoda.com/id-id</a>
7	<a href="https://www.tiket.com">https://www.tiket.com</a>
8	<a href="https://www.changirecommends.com">https://www.changirecommends.com</a>
9	<a href="https://id.trip.com/">https://id.trip.com/</a>
10	<a href="https://www.viator.com/en-SG/">https://www.viator.com/en-SG/</a>

	TRIPADVISOR		KLOOK		TRAVELOKA	
TICKETED ATTRACTIONS	Total Reviews	Indon	Total	Indon	Total	Indon
Universal Studios Singapore	19,998	644	85,502	170	10,114	780
S.E.A. Aquarium	6,744	143	30,398	140	2,182	323
Skyline Luge Sentosa	3,236	43	28,201	103	673	110
Adventure Cove Waterpark	2,480	15	6,562	24	151	20
Madame Tussauds Singapore	2,103	110	6,791	80	1,202	175
Sentosa Cable Car	2,186	27	19,050	96	520	83
Trick Eye Museum Singapore	1,122	30	0	0	0	0
Mega Adventure Park	1381	4	0	0	13	0
iFly Singapore	677	2	1,135	1	29	0
Sentosa 4D AdventureLand	478	1	1,614	8	4	0
SkyPark Sentosa by AJ Hackett	214	1	705	1	0	0
Hydrodash Waterpark	18	0	1,520	0	0	0
<b>TOTAL</b>	<b>40,637</b>	<b>1,020</b>	<b>181,478</b>	<b>623</b>	<b>14,888</b>	<b>1,491</b>

TOTAL INDONESIAN REVIEWS (TripAdvisor, Klook, Traveloka) = **3000****Information on Websites' Incentive Programmes**<https://www.traveloka.com/en-sg/loyalty-points><https://www.tripadvisor.com.sg/TripCollectiveBadges><https://www.klook.com/en-SG/credits/landing/>

FREE ATTRACTIONS	TRIPADVISOR	
	Total Reviews	Indon
Sentosa Boardwalk	1,337	75
Palawan Beach	1,022	26
Siloso Beach	1,306	54
Fort Siloso	698	10
Tanjong Beach	307	6
Sentosa Nature Discovery	163	5
Tanjong Beach	307	5
<b>TOTAL</b>	<b>5,140</b>	<b>181</b>

## GOOGLE REVIEWS

- An extra source of reviews. Not possible to indicate total possible number.
- Website is not static with sequential webpage numbers.
- Dynamic website with pop out window that scrolls to more reviews.

### Sentosa Luge

1 Imbiah Rd

Tulis ulasan

4,6 ★★★★★ 5.724 ulasan

Topik yang sering dibicarakan orang

Semua

helm 45

kelajuan 28

balap 28

lift kursi 23

katrol 18

boarding 11

Urutkan menurut

Paling relevan

Terbaru

Tertinggi

Terendah



**Joan Setiadi**



Local Guide · 269 ulasan · 7.637 foto

★★★★★ 3 tahun lalu

Tempat yg asik buat bermain seluncur dan kereta gantung terbuka. Berada di dalam kawasan sentosa island. Tempat ini sangat ramai dikunjungi karna merupakan salah satu icon bermain di singapura. Memiliki area yang sangat luas sehingga kita ... Lengkapnya



4

[Lihat foto](#)
[Lihat ke luar](#)

## Sentosa 4D AdventureLand

[Situs web](#)
[Rute](#)
[Simpan](#)


4,1 ★★★★★ 1.119 ulasan Google

Taman hiburan di Singapura

Tempat wisata unik yang menawarkan film petualangan 4D dengan unsur interaktif.

**Iklan · 4D Adventureland Tickets**

Access to Southeast Asia's First 4D Theater Experience.  
Book Now - singapore-tickets.com



**Berlokasi di:** Butterfly Park & Insect Kingdom

**Alamat:** 51B Imbiah Rd, Singapura 099708

**Jam:** Tutup · Buka Jum pukul 15.00 ▼

Diperbarui oleh pengguna lain 8 minggu yang lalu

**Telepon:** +65 6274 5355

[Sarankan edit · Pemilik bisnis ini?](#)

## Sentosa 4D AdventureLand

51B Imbiah Rd, Singapura

4,1 ★★★★★ 1.119 ulasan

**Naveen Manirajah**  
Local Guide · 48 ulasan · 5 foto

★★★★★ sebulan lalu

(Diterjemahkan oleh Google) Film 1 cukup baik, tidak ada plot (beberapa petualangan dengan Rock dan Vanessa Hudgens)  
Film 2 sebenarnya seru dan menyenangkan (naik tambang batu bara)  
Film 3 tampak seperti demo untuk teater yang dibuat oleh produsen peralatan, sangat membosankan (log ride)  
Film 4 tidak menarik meskipun memiliki senjata untuk menembak (bertema koboi)

Saya akan menilai wahana 3 bintang secara total, sedikit staf yang ramah menjadikannya 4.

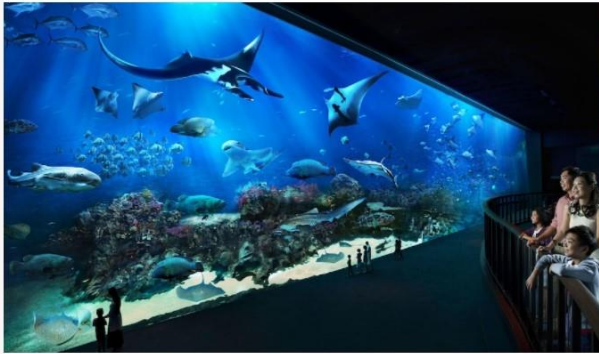




(Asli)  
Film 1 was quite alright, no plot though (some adventure with the Rock and Vanessa Hudgens)  
Film 2 was actually fun and enjoyable (coal mine ride)  
Film 3 looked like a demo for the theatre made by the manufacturers of the equipment, very dull (log ride)  
Film 4 was just not engaging despite having guns to shoot (cowboy themed)

I would rate the rides 3 stars in total, bit the friendly staff makes it a 4.

Suka

## EXPEDIA (Indonesia) – No Reviews

[www.expedia.co.id/things-to-do/tiket-1-hari-ke-s-e-a-aquariumtm-dengan-penjemputan-di-hotel.a234445.aktivitas-detail](https://www.expedia.co.id/things-to-do/tiket-1-hari-ke-s-e-a-aquariumtm-dengan-penjemputan-di-hotel.a234445.aktivitas-detail)

[Ringkasan](#)
[Periksa Ketersediaan](#)
[Tentang aktivitas ini](#)
[Kebersihan & Keselamatan](#)
[Lokasi](#)
[Ulasan](#)

### Tiket 1 Hari ke S.E.A. Aquarium™ dengan Penjemputan di Hotel

Oleh Tour East Singapore

4,0/5 35 ulasan terverifikasi

[Lihat semua ulasan](#)

**Rp645.734**  
per adult

[Lihat tiket](#)

**Fasilitas**

- ✓ Tersedia pembatalan gratis
- ⚡ Konfirmasi instan
- ✳️ Kebersihan dan keselamatan

**Cleaning and safety practices**

- 🧴 Masks required
- 📄 Contactless tickets
- 🚗 Vehicles and venues disinfected

**Ringkasan**

- Tiket 1 hari Akses ke S.E.A. Aquarium™ yang mengagumkan
- Penjemputan nyaman di hotel dengan coach mewah untuk perjalanan tanpa kekhawatiran
- Salah satu akuarium bawah air terbesar di dunia—dengan lebih dari 800 spesies

📱 Voucher mobile

🚗 Layanan penjemputan dari hotel tertentu

🐾 Menampilkan hewan

## **Social Media - Platforms (Presented by Kelvin Thor)**

Platform	Data scrape	Work status	Issues
Twitter	Yes	Complete	None. Has advance query options and able to filter with various options e.g. Date range, hashtags, language etc
Instagram	Yes	Complete	No filtering options for desktop app. Very limited filtering options mobile app. Refer to screenshot.
Tik Tok	Yes	Complete	Very limited filtering options on both desktop and mobile app. Refer to screenshot.

### **RECOMMENDATION:**

- To source tweets from Twitter to obtain data from the social media category on Sentosa. Twitter is more accessible to scrape raw data.
- To keep in view (KIV) Instagram and Tik Tok as a source of data from the social media category. Instagram and Tik Tok are not accessible to scrape raw data.

### **Facebook Summary: (Presented by Luqman Hakim)**

- Attempted scraping FB posts using Sentosa related hashtags. Able to search multiple hashtags.
- Able to filter Facebook posts out using SpaCy language detector but there are challenges.
- Not able estimate the number of posts in Bahasa Indonesia.
- The quality of data is questionable.

### **More targeted hashtags**

- #sentosasingapore - 3k
  - #sentosa - 20k
  - #sentosaisland - 4.2k
- **A total 27,200 posts, however we cannot verify if they are related to Sentosa Island, Singapore.**

## A Summary of the Challenges when Sourcing Raw Data from Facebook

- Lack of existing code to scrape based on hashtags
- Lack of option to filter by language on Facebook search options
- Huge amount of data (Estimate 3 hrs to scrape 27.2k datapoints)
- Multiple hashtag queries filled with ads and promotion
- Overlap of posts if searching using different combination of hashtags
- No estimate number of posts if combining broad hashtags and Sentosa related hashtags.
- Can be too large with many irrelevant posts.

## Sourcing Raw Data from Sentosa Facebook website: *(Presented by Odelia Tan)*



### Posts on Sentosa Facebook Page

#### Snapshot after Relaxation of Covid Restrictions

Date	# of likes	# of shares	Number of comments	Number of Indonesian comments
Mar-22	152	54	1	0
Mar-22	2100	4	4	0
Mar-22	376	97	30	1
Mar-22	42	17	0	0
Mar-22	48	5	2	0
Mar-22	134	11	3	0
Mar-22	220	17	5	0
Mar-22	106	10	0	0
Mar-22	34	0	0	0
Mar-22	245	37	1	0
Mar-22	222	38	5	0
Mar-22	439	98	43	0
Mar-22	276	47	15	0
Mar-22	46	21	1	0
Mar-22	138	12	2	0
Mar-22	377	17	2	0



Mar-22	114	57	4	0
Mar-22	79	2	0	0
Mar-22	21	5	3	0
Mar-22	2100	42	21	0
Mar-22	48	6	11	0
Mar-22	88	5	1	0
<b>Total</b>	<b>7405</b>	<b>602</b>	<b>154</b>	<b>1</b>

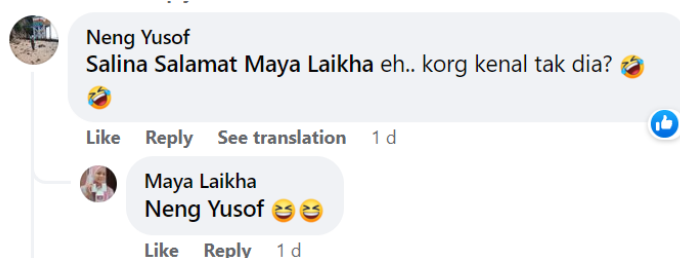
**\*\*Data accurate as of 3 Apr 2022**

## Snapshot before Covid Restrictions and Lockdown

Date	# of likes	# of shares	# of comments	# of Indonesia comments
Dec-19	1000	319	203	2
Dec-19	42	7	2	0
Dec-19	77	4	6	0
Dec-19	32	4	0	0
Dec-19	61	13	0	0
Dec-19	56	6	0	0
Dec-19	39	7	0	0
Dec-19	37	2	1	0
Dec-19	84	7	1	0
Dec-19	115	10	12	0
Dec-19	241	75	11	0
Dec-19	144	69	12	0
Dec-19	3100	153	73	0
Dec-19	63	14	5	0
Dec-19	704	84	34	1
Dec-19	71	22	20	0
Dec-19	161	91	50	0
Dec-19	179	112	0	0
Dec-19	160	77	30	0
Dec-19	115	13	0	0
Dec-19	18	2	2	0
<b>Total</b>	<b>6499</b>	<b>1091</b>	<b>462</b>	<b>3</b>

**\*\*Data accurate as of 3 Apr 2022**

## Sample Comments



Source: <https://fb.watch/c96YcqKn-0/>





## Indonesians speaking Javanese

 **Juliet Rahayu**  
Umi Salamah kpn ? Ayo ngowo 🐱🐱  
Like Reply 2 y

 **Umi Salamah**  
Juliet Juliet moh males ...  
Like Reply 2 y Edited

 **Juliet Rahayu**  
Mel Lynda Key wes rene rung ?  
Like Reply 2 y  
^ Hide 12 replies

 **Mel Lynda Key**  
Juliet Juliet haha mburi umahku bosen  
Like Reply See translation 2 y

 **Juliet Rahayu**  
Mel Lynda Key walah baru ngerti aku ...ra ngomong hah  
Like Reply See translation 2 y 🤔

 **Mel Lynda Key**  
Juliet Juliet pindah haluan 😊😊 wes ra rono neh  
Like Reply 2 y 🤔

 **Juliet Rahayu**  
Mel Lynda Key enjoy city then Haha  
Like Reply 2 y

 **Mel Lynda Key**  
Juliet Juliet yews..in the nighth also can aut no carefue 🤔 merdeka... Lah.. Peli selim Juliet Mumet  
Juliet Mume :keok

 **Mel Lynda Key**  
Self-employed and works for Meta  
Studied at Universitas Negeri Jakarta  
Message ...

Source: <https://fb.watch/c9amAh9Vua/>

JAVANESE - DETECTED ENGLISH SPANISH FRENCH


ayo ngowo

let's bring it

9 / 5,000

## Bahasa Indonesian

## English

 **Mamahna Yogi Yogi**  
Alamatnya dimana saya mau  
Like Reply 2 y

INDONESIAN - DETECTED ENGLISH SPANISH FRENCH

Alamatnya dimana saya mau

Where is the address I want

25 / 5,000


Source: <https://fb.watch/c9aqiZeKxW/>

## Facebook Groups



Facebook Group	# of members	Posts on Singapore	Posts on Sentosa	Comments on Sentosa	Indonesians Comments on Sentosa
Travel is Life	492.1K	79	2	2	0
Group Trips for Solo Travellers	17K	2	0	0	0
Best Destinations To Travel	1.0M	80	4	362	0




**\*\*Data accurate as of 3 Apr 2022**





## Sample Comments



**Mun Keeva**  
 26 November 2021 · 🌐




I'm looking to go to Singapore. Does anyone have any recommendations on hotels, activities or I airline should take?



 5
 26 comments




 Like
  Comment
  Share


Write an answer...
 








**Cassy Dominick**  
 Has anyone ever flown Singapore airlines? I see a few flights leaving from La to Singapore, pretty low fares.




 7 w





**Michelle Biszantz Soito**  
 I swear the entire underground is a mall. Lol!! It's awesome. [Sentosa Island is a must!](#)



 18 w



**Mun Keeva**  
 Thank you everyone 😊. Definitely made it easier for me to plan my trip.

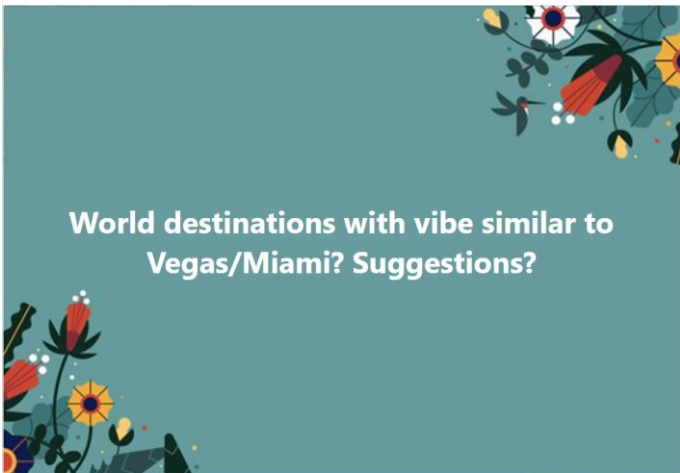


 18 w



**Lynn Bruce**  
 Night safari was a favorite of mine but I loved Singapore and would happily go back tomorrow



 18 w
 2

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**Jewel Diane Jacobs**  
 10 October 2021 · 🌐



 9
 35 comments

## YOUTUBE (Presented by Gina Ng)

Indonesian Top Influencers <https://starngage.com/app/id/influencer/ranking/indonesia/travel>

ID	Followers	Male / Female	Posts / Likes	Categories	Sentosa / Singapore
79] <a href="#">raffinagita1717</a>	60.6M	36% / 64%	16K / 40K	1] Beauty / Fashion 57% 3] Photography 48% 4] Travel / Tourism 46% 5] Entertainment 42%	<a href="#">0</a> / 4
100] <a href="#">princessyahrini</a> (Celebrity / Singer 2008-now)	37.4M	48% / 52%	4K / 30K	1] Beauty / Fashion 59% 2] Travel / Tourism 53%	<a href="#">1</a> / <a href="#">7</a>
110] <a href="#">laudyacynthiabella</a> (Celebrity / Actress 1994-now)	35.9M	39% / 61%	355 / 10K	1] Beauty / Fashion 67% 4] Travel / Tourism 42%	<a href="#">0</a> / <a href="#">6</a>
153] <a href="#">Jokowi</a> (Politics / President 2014-now)	45.9M	57% / 43%	3K / 218K	1] Photography 50% 2] Travel / Tourism 48%	<a href="#">1</a> / <a href="#">1</a>
197] <a href="#">natashawilona12</a> (Celebrity / Model 2008-now)	35.7M	46% / 54%	1K / 722K	1] Beauty / Fashion 69% 5] Travel / Tourism 42%	<a href="#">1</a> / <a href="#">9</a>
502] <a href="#">cita citata</a> (Celebrity / R&B Singer 2014-now)	14.5M	56% / 54%	3K / 7K	1] Beauty / Fashion 63% 3] Travel / Tourism 44%	<a href="#">0</a> / <a href="#">0</a>
620] <a href="#">ayutingting92</a> (Celebrity / Singer 2006-now)	44.9M	38% / 62%	9K / 103K	2] Travel / Tourism 57%	<a href="#">1</a> / <a href="#">9</a>
712] <a href="#">titi kamall</a> (Celebrity / Actress 1996-now)	12.6M	36% / 64%	5K / 16K	1] Beauty / Fashion 60% 3] Travel / Tourism 48%	<a href="#">1</a> / <a href="#">29</a>
808] <a href="#">jscmila</a> (Celebrity / Actress 2002-now)	18.8M	60% / 40%	1K / 126K	1] Beauty / Fashion 66% 2] Travel / Tourism 56%	<a href="#">0</a> / <a href="#">4</a>
1544] <a href="#">rantymaria</a> (Celebrity / Actress 2006-now)	8M	49% / 51%	544 / 116K	1] Travel / Tourism 53%	<a href="#">0</a> / <a href="#">2</a>
<a href="#">Kasih Anggara channel</a>	1,080		155	"Singapore holiday activities for Indonesian"	<a href="#">18</a> / 130