VISITOR SATISFACTION WITH MUSEUM MANAGEMENT DURING THE COVID-19 PANDEMIC: A CASE STUDY OF THE NATIONAL MUSEUM OF MALAYSIA

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Abstract

During the 2019 global pandemic, widespread museum closures ensued, exacerbated by Malaysia's heightened distancing measures in response to emerging Covid Omicron variants. This research addresses the scarcity of studies on visitor perception during COVID-19, explicitly focusing on evaluating satisfaction by scrutinising visitation patterns, visitor satisfaction, and initiatives by the National Museum Malaysia. Employing mixed methods, a quantitative survey involving 260 museum visitors was conducted using convenient sampling and analysed using SPSS. The study also incorporated qualitative interviews with two museum personnel to complement the quantitative aspect, and these were thematically analysed. The findings reveal a decline in physical visits, and noteworthy efforts by management in online engagement and collaborations with broadcasters were observed. While overall satisfaction prevails, there is room for improvement in communicating online activities. The data indicates a readiness for a virtual museum in the future.

Keywords: COVID-19, Cultural heritage, Museum Management, National Museum Malaysia, Visitor Satisfaction

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INTRODUCTION

COVID-19 has profoundly impacted social, economic, and political aspects, inducing fear, lockdowns, income loss, and challenging decisions for leaders (Manderson & Levine, 2020). Teh et al. (2022) notes significant correlations between the pandemic and various factors in Malaysia. The tourism industry, particularly airlines and hotels, faced challenges, leading the government to implement economic stimulus measures (Foo et al., 2021). In addition, the global cultural heritage sector, including museums, encountered significant hurdles due to closures, impacting visitor engagement and satisfaction. Cobley et al. (2020) stresses the importance of cultural resilience, urging institutions to adapt and reinvent services amid uncertainty and prepare for future challenges. Despite the museum's innovative trend to sustain competitiveness during the pandemic, (Agostino et al., 2020; Antara & Sen, 2020), there is scarce effort to evaluate visitor satisfaction towards these paradigm shifts globally. Therefore, this study focuses on assessing visitor satisfaction with museum management during the COVID-19 pandemic, specifically at the National Museum of Malaysia. Objectives include investigating visitation patterns, determining visitor satisfaction levels, and exploring initiatives the museum management takes. The study aims to identify visitor satisfaction with museum management during COVID-19 at The National Museum of Malaysia.

LITERATURE REVIEW

Museology and museums have developed dramatically since the 15th century. In the 17th century, museums answered inquisitive minds, starting with Ole Worm's collections in Copenhagen, Denmark. The Worm Collection became the first collection of artefacts by the National Museum of Denmark, prompting its establishment. The Ashmolean Museum opened in 1683 in Oxford, England, and is considered the first public museum (Jalal et al., 2019). Meanwhile, Museology in Malaysia began with the Taiping Museum in 1883, founded by Hugh Low, a British Resident in Perak. The Sarawak Museum (1888) and Selangor Museum (1899) followed suit. In the early 20th century, museums were called 'pictorial schools' in British Malaya. Museology has since developed significantly in Malaysia, with various types of museums emerging, including statutory, federal, private, and state museums (Jalal et al., 2019; Tugang, 2020). More importantly, museums also have a significant role in informal education. For effective informal education in museums, language in exhibitions should be suitable for visitors of all ages, categories, and backgrounds, as appropriate language can influence understanding and satisfaction, especially among visitors of diverse races and religious beliefs (Kechot et al., 2012; Kechot, 2010).

To ensure heritage sustainability and fulfil educational roles, museums must embrace digital advancements. Bandelli (1999) emphasises the importance of digital museums, aligning with the technological paradigm, suggesting virtual museums can overcome geographical limitations. This argument aligns with the new museum concept proposed by Jalal et al. (2019) in Malaysia, highlighting positive developments through historical analysis and efforts to enhance historical education. In addition, King et al. (2021) analyse the impact of COVID-19 on UK museums' temporary exhibitions, questioning the conceptualisation and value of digital content. Ryder et al. (2021) explore the implementation of digital content by US cultural institutions during closures, revealing its role in fostering communities, enhancing transparency, increasing accessibility, and achieving higher social media engagement.

While advancing digital initiatives, museums prioritise engaging visitors to educate and connect them with their cultural heritage (Sukri et al., 2021). Agostino et al. (2020) and Giannini and Bowen (2021) stress the importance of creative efforts in museums during health crises, advocating for inclusive systems and exploring new conceptual models for structural change. Choi and Kim (2021) highlight sustainable competitiveness in adapting to the post-pandemic environment, emphasising the need for museums to change business models and prioritise user participation.

Zamri et al. (2022) examines museum management in Malaysia, focusing on the Penang House of Music and exploring visitor behaviour and interactive museum models. The study reveals the impact of digital tourism as museums adapt to social distancing rules, showcasing their creativity, diversity, and community online (Burke et al., 2020). Rahman and Velayuthan (2020) demonstrate that diversifying museum functions enhances creativity and addresses future needs, emphasising consumer-oriented approaches and leveraging digital initiatives for effective public engagement.

RESEARCH METHODOLOGY

This study adopts a mixed-method approach, integrating both quantitative and qualitative methodologies. For the quantitative component, an online survey was distributed employing a 5-point Likert scale to assess respondent visitation patterns and satisfaction levels. The data collection utilized convenient sampling, selecting a sample of 260 participants based on Krejcie and Morgan's (1970) population estimates. Subsequently, the data were analysed using the Statistical Package for Social Science (SPSS) software. Additionally, qualitative data were obtained through interviews with two personnel from the museum management to explore their initiatives in museum management during the Covid-19 pandemic. Purposive sampling was utilized for participant selection, and the data were analysed using thematic analysis following Braun and Clarke's (2006)

guidelines. The integration of both quantitative and qualitative data will be triangulated to address the research objectives of this study. The analysis aims to reveal visitation patterns, visitor satisfaction, and museum personnel initiatives during the COVID-19 pandemic, with data triangulation for comprehensive understanding.

Hypotheses include decreased visitation to the museum during the COVID-19 pandemic due to movement and social distancing restrictions (H1), higher visitor satisfaction level during the pandemic owing to the museum's initiatives to engage visitors (H2) and finally higher visitor interest and satisfaction due to management's initiative due to engagement initiatives (H3). Figure 1 depicts a conceptual framework with a mediating variable—availability of virtual resources—establishing a correlation between the COVID-19 Movement Control Order (MCO) and dependent variables.
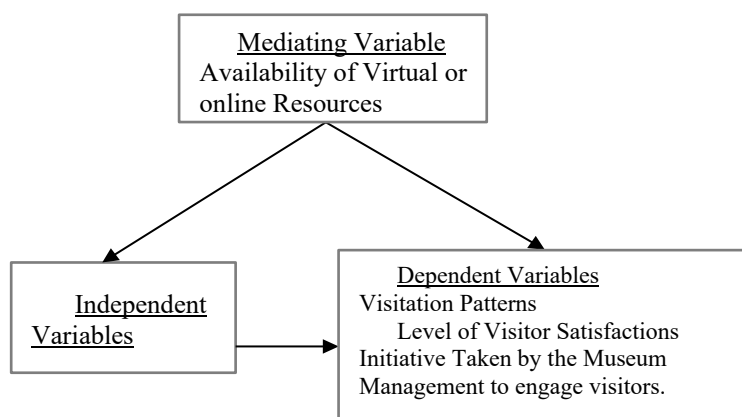

Figure 1: Conceptual Framework

DATA ANALYSIS
Visitation Patterns at The National Museum Malaysia During the COVID-19 Pandemic.

In this research, the visitation patterns are tagged 1-5, as presented below:

> Visitation Pattern 1: "I have participated in activities organised by the museum during the pandemic".
> Visitation Pattern 2: "Virtual exhibitions allow visitors outside Kuala Lumpur to visit the museum virtually".

Visitation Pattern 3: "I am delighted with the programs organised by the National Museum of Malaysia".
Visitation Pattern 4: "Virtual visits can attract the public's interest to visit the National Museum of Malaysia".
Visitation Pattern 5: "I have visited exhibitions organised by the museum before".

Table 1 shows visitation patterns to The National Museum of Malaysia during the COVID-19 outbreak, varying for each category.

Table 1: Mean Visitation Patterns

	Visitation Pattern_ 1	Visitation Pattern_ 2	Visitation Pattern_ 3	Visitation Pattern_ 4	Visitation Pattern_ 5
Mean	2.9423	4.2577	4.1192	4.3385	3.9615
N	260	260	260	260	260
Std. Dev.	**1.29766**	**.87817**	**.85040**	**.80590**	**1.11780**

The highest and lowest mean values were found for Visitation Pattern 4 (4.3385) and Visitation Pattern 1 (2.9423), respectively. The sample size (N) is 260; meanwhile, the standard deviation (Std. Deviation) for each visitation pattern varies, with the lowest and highest values corresponding to Visitation Pattern 4 (0.80590) and Visitation Pattern 1 (1.29766), respectively. Hence, the overall visitation patterns have a moderate to high value, with a mean of 3.9238 and a standard deviation of 0.75340. A comparison was made between male and female visitors based on Mean and Standard Deviation.

Table 2 presents statistics on gender-based groups for different variables (Visitation Patterns 1-5). Regarding Visitation Pattern 1, there are differences in mean scores and standard deviations between males and females. Males have a higher mean score (3.1364) than females (2.8000), indicating more significant visitation patterns for males. For Visitation Pattern 2, males have a higher average score (4.4273) with a lower standard deviation (0.78354) compared to females (4.1333, Std. Deviation = 0.92444). However, the difference may not be significant due to the relatively low standard deviation. In Visitation Pattern 3, males have a higher average score (4.4545, Std. Deviation = 0.68585) than females (3.8733, Std. Deviation = 0.87697). Both genders exhibit relatively high mean scores. In Visitation Pattern 4, males have a higher average score (4.4909, Std. Deviation = 0.73877) than females (4.2267, Std. Deviation = 0.83663). Both genders exhibit relatively high mean scores. In Visitation Pattern 5, males have a higher average score (4.3091, Std. Deviation = 0.91617) than

females (3.7067, Std. Deviation = 1.18461). Both genders exhibit relatively high mean scores.

Table 2: Comparison of Male and Female Visitation Patterns

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Visitation Pattern 1	Male	110	3.1364	1.21517	.11586
	Female	150	2.8000	1.34114	.10950
Visitation Pattern 2	Male	110	4.4273	.78354	.07471
	Female	150	4.1333	.92444	.07548
Visitation Pattern 3	Male	110	4.4545	.68585	.06539
	Female	150	3.8733	.87697	.07160
Visitation Pattern 4	Male	110	4.4909	.73877	.07044
	Female	150	4.2267	.83663	.06831
Visitation Pattern 5	Male	110	4.3091	.91617	.08735
	Female	150	3.7067	1.18461	.09672

Visitor Satisfaction with Museum Management During the COVID-19 Pandemic.

The level of satisfaction is characterised by satisfaction levels 1-6, as described below:

Satisfaction 1: "I have visited the National Museum of Malaysia during the pandemic."
Satisfaction 2: "The National Museum has the best management system throughout my visits to museums during the pandemic."
Satisfaction 3: "Information about the National Museum is easily accessible."
Satisfaction 4: "The museum staff are friendly towards visitors and possess good manners."
Satisfaction 5: "The ticket prices offered are affordable."
Satisfaction 6: "The Museum's management system is appealing through their handling of engaging activities."

The survey employs a 5-point Likert scale, encompassing the following options: Strongly Disagree (1), Disagree (2), Neither Agree nor Disagree (3), Agree (4), and Strongly Agree (5). These options are assigned to questions

regarding satisfaction (1 – 6), as illustrated in Table 3. Gender significantly impacts satisfaction levels in each category. Males generally exhibit higher satisfaction levels than females, with variations observed between the two groups. Females tend to have higher variability in satisfaction levels, as indicated by higher standard deviation. In conclusion, the statistical analysis confirms gender differences in satisfaction levels and data precision variations across the examined categories.

Table 3: Comparison of Mean for Male and Female Visitor
Satisfaction Levels

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Satisfaction 1	Male	110	4.2364	1.06596	.10164
	Female	150	2.9533	1.45324	.11866
Satisfaction 2	Male	110	4.4000	.78050	.07442
	Female	150	3.6867	.92058	.07517
Satisfaction 3	Male	110	4.4273	.74758	.07128
	Female	150	3.9333	.79989	.06531
Satisfaction 4	Male	110	4.4727	.70005	.06675
	Female	150	3.9933	.80682	.06588
Satisfaction 5	Male	110	4.4273	.70981	.06768
	Female	150	4.0200	.82307	.06720
Satisfaction 6	Male	110	4.4455	.69844	.06659
	Female	150	3.8400	.89052	.07271

Furthermore, Table 4 presents Levene's Test and T-Test for Equality of Means results. Levene's Test indicates no significant difference in variances between the two independent samples (F = 7.333, p = 0.739). Assuming equal variances, the T-Test shows a significant mean difference (t = 7.384, df = 258, p = 0.000). If the assumption of equal variances is not made, the results remain the same (t = 7.384, df = 240.745, p = 0.000). The p-value is below 0.05 in both cases, signifying a significant mean difference between the samples.

The mean difference between the samples is 0.66374, with a standard error of 0.09052. The 95% confidence interval ranges from 0.48549 to 0.84198 (assuming equal variances) or from 0.48667 to 0.84080 (not assuming equal variances). It indicates a significant mean difference between the samples, with the actual difference falling within the respective confidence intervals. In summary, the statistical analysis confirms a significant difference in means between the two independent samples, regardless of equal variances assumptions.

Table 4: Independent Samples T-Test of Satisfaction and Gender

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	**Sig .**	**t**	**df**	**Sig. (2-tailed)**	**Mean Diff.**	**Std. Error Diff.**	**95% Confidence Interval of the Difference**	
									Lower	**Upper**
Satisfaction	Equal variances assumed	.111	.739	7.333	258	.000	.66374	.09052	.48549	.84198
	Equal variances are not assumed.			7.384	240.745	.000	.66374	.08989	.48667	.84080

Museum's Initiatives to Engage Visitors During the COVID-19 Pandemic

The analysis shows a significant positive correlation between two variable pairs in the same sample, as shown in Table 5. For Pair 1 (visitation pattern and management initiative), a correlation of 0.439 (p = 0.000) was observed. For Pair 2 (satisfaction and management initiative), a correlation of 0.536 (p = 0.000) was found. These results indicate a significant relationship between these variable pairs in the sample, with both pairs showing positive correlations.

The significant positive correlations between visitation pattern and management initiative and satisfaction and management initiative indicate a strong relationship between these variables. It means that as visitation patterns or satisfaction values increase, management initiative values also tend to increase, and vice versa. These correlations are statistically significant, as indicated by the very low p-values (0.000), suggesting that the relationships are not coincidental. In conclusion, the analysed data indicates a significant relationship between visitation patterns and management initiative, as well as between satisfaction and management initiative.

Table 5: Correlation between Visitation Pattern, Satisfaction and Management Initiative

Paired Differences		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Visitation Pattern Management Initiative	-.28055	.77923	.04833	-.37571	-.18539	-5.805	259	.000
Pair 2	Satisfaction Management Initiative	-.18581	.72883	.04520	-.27481	-.09680	-4.111	259	.000

Table 6 shows that H1, stating a decrease in visitation patterns during the pandemic, is rejected. Meanwhile, H2, which states high visitor satisfaction due to museum management initiatives, is accepted. Additionally, H3, stating the success of management initiatives in maintaining visitor interest, is also accepted.

Table 6: Overview of Hypotheses Testing

No	Hypothesis	Result
1	Hypothesis 1: The visitation patterns of visitors to the National Museum Malaysia during the COVID-19 pandemic have decreased due to restrictions on movement and social distancing measures.	Rejected
2	Hypothesis 2: The level of visitor satisfaction with the museum management system during the COVID-19 pandemic is high due to the initiatives the museum management took to engage visitors despite the challenges posed by the pandemic.	Accepted
3	Hypothesis 3: The initiatives taken by the museum management to engage visitors during the COVID-19 pandemic, such as online talks, competitions, and exhibitions, have successfully maintained visitor interest and satisfaction.	Accepted

DISCUSSION AND CONCLUSION
Visitation Patterns of the National Museum of Malaysia During the COVID-19 Pandemic

Virtual visits, specifically Visitation Pattern 4 with a mean score of 4.3385, effectively generate public interest in The National Museum of Malaysia,

demonstrating the 21st-century suitability of digital technology, as noted by King et al. (2021), Ryder et al. (2021), Agostino et al. (2020), and Giannini & Bowen (2021). The museum's online programs, especially those involving children, have surpassed the engagement of previous physical events despite pandemic-related restrictions, as indicated by informant 1:

> We have organised many programs and received positive responses from online visitors, primarily when the activities are focused on children. (Informant 1, 2 December 2021, Online Interview)

In addition, according to the interview data, museum visits declined due to restrictions on movement, resulting in the presence of only local visitors. One informant commented:

> Currently, only local visitors come to the museum. So that is why it indicates a downward trend throughout this pandemic. (Informant 1, 2 December 2021, Online Interview).

Visitor Satisfaction with Museum Management During the COVID-19 Pandemic

Table 6 shows gender-based differences in visitor satisfaction mean (Satisfaction 1 to 6) during the COVID-19 pandemic. Males, on average, express higher satisfaction with museum management than females in each category, but notable variations exist. Higher standard deviations for females indicate more significant variability in satisfaction levels, suggesting diverse experiences and expectations. These findings align with the theory of gender differences in preferences and experiences (Smith et al., 2018), indicating that variations may stem from differing expectations, interests, or experiences related to museum management during the pandemic.

Observing gender differences in visitor satisfaction suggests the need for tailored strategies by museum management to address diverse needs. This could involve customising exhibits, services, or communications based on gender-specific interests. Gathering qualitative feedback through research or surveys can provide insights into the factors driving these differences while considering other demographic factors such as age and cultural background can offer a more comprehensive understanding. Recognising gender's influence on satisfaction levels, especially during the COVID-19 pandemic, allows for targeted strategies that enhance visitor experiences. Further research is recommended to uncover the underlying reasons behind gender differences and develop effective strategies for meeting diverse visitor needs.

Museum's Initiatives to Engage Visitors During the COVID-19 Pandemic
The museum's response to COVID-19 reveals a positive correlation among visitation patterns, satisfaction, and management initiative. As one of these factors increases, the others also show an upward trend. This conclusion is reinforced by interview data illustrating proactive adaptations by museum personnel in implementing effective communication methods during the pandemic: "At the National Museum, we have organised numerous online programs. For example, if you visit our Facebook page, you will find the "Ceria Muzium Negara" program…." (Informant 1, 2 December 2021, Online Interview). The findings support previous research highlighting the necessity of digital initiatives in museum management during the COVID-19 pandemic (Bandelli, 1999; King et al., 2021).

Informant two further details the creative strategies employed in online programs, including DIY activities like crafts and batik-making. "We have conducted many online programs, such as Ceria di Muzium Negara' (Cheerful at the National Museum). These programs are like do-it-yourself (DIY) activities where participants can engage in crafts, batik-making, etc." (Informant 2, 3 December 2021, Online Interview). This discovery aligns with Ryder et al.'s (2021) recommendation for museum administrations to employ digital content to engage audiences on social media during global closures due to pandemics. The museum actively pursued initiatives to promote and mobilise its management, as outlined in the following interview excerpt:

> "We were actively engaged in promotions…We often focused on promoting through RTM … We also produced documentary programs ... We also collaborated with Nasional FM and RTM …. We utilised print media for announcements…. We had press conferences … We invited The Star to cover our exhibitions. In terms of advertising, we had banners… We distributed pamphlets and printed materials…." (Informant 1, 2 December 2021, Online Interview)

The findings confirm the need for heritage institutions to be resilient and adaptable post-COVID, facing the challenge of sustaining competitiveness by diversifying functions and adapting business models in a competitive environment (Choi & Kim, 2021; Rahman & Velayuthan, 2020). In summary, H3 indicates successful maintenance of visitor interest and satisfaction through museum management's initiatives during the COVID-19 pandemic.

CONCLUSIONS
This research provides valuable insights into museum management in Malaysia during the COVID-19 pandemic, focusing on visitation patterns, visitor

satisfaction, and engagement initiatives. The findings enhance understanding of museums' adaptive strategies and shed light on maintaining interest and satisfaction. This research lays a foundation for improving museum management practices, informing decision-making, and guiding administrations in developing innovative strategies for potential pandemics. Understanding visitation patterns and satisfaction factors allows museums to tailor experiences for diverse audiences. The research emphasises the importance of adaptability and digital transformation in engaging visitors during crises, paving the way for continual improvement and innovation in Malaysian museum management practices.

REFERENCES

Abd Jalal, A. F., Yusuf, A., Abd Hamid, A. F., & Abd Rahim, R. A. (2019). Kesedaran muzium baru di Malaysia. *Jurnal Melayu Sedunia*, *2*(1), 93-111.

Agostino, D., Arnaboldi, M., & Lampis, A. (2020). Italian state museums during the COVID-19 crisis: from onsite closure to online openness. *Museum Management and Curatorship*, *35*(4), 362-372.

Antara, N., & Shuvro, S. E. N. (2020). The impact of COVID-19 on museum and the way forward to be resilience. *Uluslararası Müze Eğitimi Dergisi*, *2*(1), 54-61.

Bandelli, A. (1999). Virtual spaces and museums. *Journal of Museum Education*, *24*(1–2), 20–22. https://doi.org/10.1080/10598650.1999.11510397.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Burke, V., Jørgensen, D., & Jørgensen, F. A. (2020). Museums at home: Digital initiatives in response to COVID-19. *Norsk Museumstidsskrift*, *6*(2), 117–123. https://doi.org/10.18261/issn.2464-2525-2020-02-05

Choi, B., & Kim, J. (2021). Changes and challenges in museum management after the COVID-19 pandemic. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(2). https://doi.org/10.3390/joitmc7020148

Cobley, J., Gaimster, D., So, S., Gorbey, K., Arnold, K., Poulot, D., ... & Jiang, M. (2020). Museums in the pandemic: A survey of responses on the current crisis. *Museum Worlds*, *8*(1), 111-134.

Foo, L. P., Chin, M. Y., Tan, K. L., & Phuah, K. T. (2021). The impact of COVID-19 on tourism industry in Malaysia. *Current Issues in Tourism, 24*(19), 2735–2739. https://doi.org/10.1080/13683500.2020.1777951

Giannini, T., & Bowen, J. P. (2021). Museums at the crossroads: Between digitality, reality, and Covid-19. *SocArXiv*. https://doi.org/10.31235/osf.io/2g567

Giannini, T., & Bowen, J. P. (2022). Museums and digital culture: From reality to digitality in the age of COVID-19. *Heritage*, *5*(1), 192–214. https://doi.org/10.3390/heritage5010011

Kechot, A. B. S., Hassan, Z., & Yunos, Y. (2010). Proses pendidikan muzium: satu kajian awal. *Jurnal Melayu*, *5*(December 2009), 285–293. Retrieved from http://ejournal.ukm.my/jmelayu/article/view/4960.

Kechot, A. B. S., S. A. H., Aman, R., Hassan, Z., & Jamal, D. H. D. (2012). Pendidikan warisan di muzium: Kajian berkaitan penggunaan laras bahasanya. *Malaysia Journal of Society and Space*: *GEOGRAFIA Online*, *8*(8), 35-46.

King, E., Smith, M. P., Wilson, P. F., & Williams, M. A. (2021). Digital responses of UK museum exhibitions to the COVID-19 crisis, March–June 2020. *Curator: The Museum Journal*, *64*(3), 487-504.

Kiyai, G., & Tugang, N. (2020). Jabatan Muzium Sarawak: Perkembangan sebelum dan selepas merdeka. *Jurnal Arkeologi Malaysia*, *33*(1).

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*(3), 607-610.

Manderson, L., & Levine, S. (2020). COVID-19, risk, fear, and fall-out. *Medical Anthropology: Cross Cultural Studies In Health And Illness*, *39*(5), 367–370. https://doi.org/10.1080/01459740.2020.1746301

Rahman, S., & Velayuthan, S. K. (2020). Evolution and diversification of museum functions: A reflection of market demand in Penang, Malaysia. *Planning Malaysia*, *18*(3), 154–166. https://doi.org/10.21837/PM.V18I13.782

Ryder, B., Zhang, T., & Hua, N. (2021). The social media "magic": Virtually engaging visitors during covid-19 temporary closures. *Administrative Sciences*, *11*(2). https://doi.org/10.3390/ADMSCI11020053

Smith, J., Johnson, A., & Williams, R. (2018). Gender differences in preferences and experiences: A study in cultural institutions. *Journal of Cultural Studies*, *15*(3), 123-145.

Sukri, S., J., N. A., Apandi, S. N., George, A. N. E., Sim, M., Nagalingam, M., & Rahni, M. A. (2021). Visitors' perception on the facilities management: A preliminary survey at Handicraft Museum Kota Bharu, Kelantan. *AIP Conference Proceedings*, *2347*(July). https://doi.org/10.1063/5.0052146

Teh, B. T., Ling, G. H. T., Lim, N. H. H., & Leng, P. C. (2022). Factors determining covid-19 severity in Malaysia: From social, economic and environmental perspectives. *Planning Malaysia*, *20*(4), 328–339. https://doi.org/10.21837/pm.v20i24.1209

Zamri, K., Radzi, R., Art, F., Mara, U. T., & Alam, C. S. (2022). Exploring the Interactive model of Malaysian Museums in the context of the COVID-19 Pandemic. *Art and Education*, *2*(2), 8–16.