



ANALYSIS OF MUSEUM WEBSITE REQUIREMENTS BASED ON AISAS MODEL

ANALISIS KEBUTUHAN WEBSITE MUSEUM BERDASARKAN MODEL AISAS

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ABSTRACT

Regarding promotional activities, almost all museums in Bandung use social media as a means of promoting the existence and activities of their museums. The results of the analysis of website ownership show that five of the eleven museums in the city of Bandung do not or do not have a website. Museum as an open institution frees the public to access information owned by the museum and as a source of information, museums need to think about how the information they have can be accessed and utilized by the public. To determine the types of information needs about a promotion that is needed by the community, an analysis is needed related to the elements that must be owned in promotional activities, namely attention, interest, search, action, and share which are then shortened to AISAS. This study uses descriptive analysis with data collection using questionnaires and interviews. The research participants consisted of the general public and the head of the museum. The results showed that the most sought-after information was promotional information related to elements (1) search, (2) attention, (3) interest, (4) action, and (5) share, with the type of promotional information related to location, museums, museum opening hours, interesting promotional content, and also the presence of multimedia content. The analysis process involving the head of the museum also provides additional information in the form of the availability of supporting technology and the availability of human resources which adds to the fact that content in promotional activity is not everything.

Keyword: AISAS; Museums; Needs Analysis; Promotions; Websites

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ABSTRAK

Mengenai kegiatan promosi, hampir semua museum di Bandung menggunakan media sosial sebagai sarana untuk mempromosikan keberadaan dan aktivitas museumnya. Hasil analisis kepemilikan website menunjukkan bahwa lima dari sebelas museum yang ada di Kota Bandung tidak atau tidak memiliki website. Museum sebagai lembaga terbuka membebaskan masyarakat untuk mengakses informasi yang dimiliki museum dan sebagai sumber informasi, museum perlu memikirkan bagaimana informasi yang dimilikinya dapat diakses dan dimanfaatkan oleh masyarakat. Untuk menentukan jenis kebutuhan informasi tentang suatu promosi yang dibutuhkan oleh masyarakat maka diperlukan suatu analisis terkait dengan unsur-unsur yang harus dimiliki dalam kegiatan promosi yaitu perhatian, minat, pencarian, tindakan, dan berbagi yang kemudian disingkat menjadi AISAS. Penelitian ini menggunakan analisis deskriptif dengan pengumpulan data menggunakan angket dan wawancara. Partisipan penelitian terdiri dari masyarakat umum dan pimpinan museum. Hasil penelitian menunjukkan bahwa informasi yang paling banyak dicari adalah informasi promosi yang berkaitan dengan unsur (1) pencarian, (2) perhatian, (3) minat, (4) tindakan, dan (5) berbagi, dengan jenis informasi promosi yang berkaitan dengan lokasi, museum, jam buka museum, konten

promosi yang menarik, dan juga keberadaan konten multimedia. Proses analisis yang melibatkan kepala museum juga memberikan informasi tambahan berupa ketersediaan teknologi pendukung dan ketersediaan sumber daya manusia yang menambah fakta bahwa konten dalam kegiatan promosi bukanlah segalanya.

Kata Kunci : AISAS, Museum, Analisis Kebutuhan, Promosi, Website

A. INTRODUCTION

The existence of museums in Bandung City as one of the educational tourism destinations for both domestic and foreign tourists is an indisputable fact. These museums are spread across the city of Bandung and have their own characteristics. These characteristics are based on the type of museum collection displayed. To attract visitors to come to the museum, museum managers need to pay attention to promotional strategies that are in line with their targets.

Regarding promotion, almost all museums in Bandung use social media as a means of promoting the existence and activi-

ties of their museums. Museum activities published through Instagram are more effective than through printed media, this is due to the current pattern of people who use the Internet or social media more in their daily activities, as well as social media, which is faster and cheaper (Mayasari & Indraswari, 2018). Some museums that are in a much more "prosperous" condition have their own websites for promotion. And also contains things that are related to the museum in more detail. Following are the results of an analysis of website ownership in museums in Bandung:

Table 1
The Availability of Museum Website in Bandung City

No	Nama Museum	Ketersediaan Website
1	Museum Pendidikan Nasional UPI	Available. http://museumpendidikannasional.upi.edu
2	Museum Konferensi Asia Afrika	Available. http://asianafrikanmuseum.org
3	Museum Geologi	Available. http://museum.geology.esdm.go.id
4	Museum Gedung Sate	Available. http://museumgedungsate.org
5	NuArt Sculpture Park	Available. http://nuartsculpturepark.com
6	Museum Sri Baduga	Not Available.
7	Museum Pos Indonesia	Not Available.
8	Museum Barli	Not Available.
9	Museum Wangsit Mandala Siliwangi	Not Available.
10	Museum Sejarah Kota Bandung	Not Available.
11	Museum Monumen Perjuangan Jawa Barat	Not Available.

Source: Nugraha (2020)

The table above shows clearly that five of the eleven museums in Bandung do not have a website. Even though the website can be used as a medium for museum promotion activities in more detail than other social media, which has limited features and character. The website owned by the museum can be a credible source of information because

information is obtained directly from the museum concerned. The website is more easily accessible to people in various regions by simply using the Internet. One of them is in terms of product marketing. A website can be a means of promoting, marketing and conveying information effectively and efficiently to the public (Hasugian, 2018).

Several experts explained that the museum was an open institution, not for profit, and is a source of information for the public. This statement was affirmed by the International Council of Museums or ICOM that museums as institutions that are open, non-profit, and provide services to the community, connect, and exhibit collectibles as evidence of human existence and relationship with their environment for the purposes of study, education and entertainment (Vibariani & Aje, 2007). Furthermore, museums can be a means of educational tourism (Edu-tourism) that can be used by all people (Fauzi et al., 2017).

As it has been explained by ICOM, museums as open institutions free the public to access information held by the museum. Freedom to obtain information, which states that the museum must be able to ensure and guarantee the accessibility of the public when access the information and protect the freedom of the public to obtain information in accordance with national laws and international treaties (Hadiapurwa et al., 2019). The statement emphasized that as a source of information, museums need to think about how the information they have can be accessed and utilized by the public without contradicting the applicable laws.

In this era, promotion is important to market and introduce a particular product or activity to the public. Šola stated that museum promotion activities can be carried out in various ways which can be adapted to the circumstances and also according to the promotion target of the museum itself (Buljubašić et al., 2016). In addition, the existence of various platforms can be used for promotional purposes using the website can be an alternative solution that can assist museum promotion activities, especially for museums that do not have a website for promotional activities. Some of the research

results related to the website as a means of promotion include those conducted by Akbar, stating that the website makes it easy for the general public and school members to access information about schools, and can also be used as a more effective and efficient medium for delivering information that can be accessed where anytime and anywhere online both for the school and the community (Akbar & Tjendrowaseno, 2013). The same thing can also be applied to museums, with the promotion using the website. It is hoped that it can provide access to information for the public.

A promotional activity requires content that will fill the activity. To find out the types of information needs about promotion that are needed by the community, it is necessary to carry out an analysis related to the elements that must be owned in promotional activities. Related to the elements in promotion, which consists of five elements namely attention, interest, search, action, and share which are then shortened to AISAS (Sugiyama & Andree, 2010).

Seeing these developments, and referring to the studies that have been carried out and described, the researchers conducted a website needs analysis to see the types of information needed by the community in museum promotion activities, especially for museums of the city of Bandung.

B. LITERATURE REVIEW

The use of a website as an alternative to promote facilities and introduce museums in Indonesia is a form of museum adaptation to the development of technology and information that is currently happening. Use of this museum website has grown in the 1900s with at least providing information about the museum and cataloging objects online through virtual exhibitions. (Wilson, 2011). For example, one of the museums in Paris,

the Lourve Museum, which started using a website for visitors in 1995, is considered an innovative step to present the museum's artwork.

Museum exhibitions displayed in the form of this website can be used as a source of culture and education, presenting works of art, making it easier for users to access information and facilitating them to be able to visit the museum without directly coming to the museum. (Evrard & Krebs, 2018). The use of website 2.0 in this museum is also one of the uses of digital media that can at least provide evaluation material for museums, especially with regard to visitors. Through this museum website, it is hoped that the museum can build closer relationships with visitors, including visitors who can also benefit more and become one of the museum's ways of promotion. (Pulh & Mencarelli, 2017).

The benefits of having a museum website can also be seen from how much interaction occurs between visitors who visit the museum virtually. However, it is not only the number of visitors that the museum needs to pay attention to in using its museum website, but the assessment of the usability of the website, including the use of various existing features, needs to be considered with the aim of developing an evaluation framework and museum design. (Lopatovska, 2015).

One of the analytical techniques that can be applied in the use of this museum website is the AISAS analysis technique. AISAS consists of five aspects, namely, Attention, Interest, Search Action, and Share. The AISAS model was developed to examine tourist behavior based on the understanding that the internet is becoming big, and that

tourists today have access to the environment in which they obtain and transmit information. (Amalia et al., 2017).

C. METHOD

This research uses descriptive analysis (Sukardi, 2005) by collecting data using questionnaires and interviews. Participants are the general public and the head of the museum as experts. Making instruments are done by adopting the AISAS model (Sugiyama & Andree, 2010) regarding elements in promotional activities.

D. RESULT AND DISCUSSION

The researcher conducted a website needs analysis to obtain data related to the types of promotional information needed by the community. In the early stages, the researcher found that five of the eleven museums in Bandung did not have a website for promoting their museums. After that, an analysis of the elements that must be in the museum website is carried out for the needs of promotional activities. This website needs analysis process is carried out based on the AISAS model. Another analysis was carried out on the aspects of the availability of supporting technology and also the availability of human resources to manage the museum website, and this information became additional data for research results.

Attention

The element of attention is related to the attention that the product creates for its users. In this element, the researcher provides three statements that describe the elements of attention in a promotional activity. Further explanation can be seen in the following table:

Table 2
Percentage of Respondents' Answers to Attention Aspect Statements

No	Indicator	Assessment				Score Total	Score Ideal	Percentage
		TD	D	A	SA			
1	Information about the museum to be visited is found on the Internet	1	1	30	18	213	250	85%
2	The location of the museum is listed on the museum website	0	0	28	22	222	250	89%
3	The museum website shows the excellence of the museum	1	0	30	19	216	250	86%
Average								87%

Source: Nugraha (2020)

From this percentage, it can be seen from the indicators related to the presence of information about museums on the Internet, the existence of the location, and information about the superiority of the museum, all of which are things that attract visitors to visit the museum website. This is in line with the statement that attention is a series of entities. This suggests that the development of attention and engagement is a series of connected entities based on a series of different phenomena. Learning is only possible if attention

develops from direct capture and engagement (Bitgood, 2010)

Interest

Interest or interest is an element that is reviewed based on the reasons created by the emergence of interest in the product. This element is derived into three indicators, which are made in the form of three statements. Detailed answers can be seen in the following table:

Table 3
Percentage of Respondents' Answers to the Aspects of Interest Statement

No	Indicator	Assessment				Score Total	Score Ideal	Percentage
		TD	D	A	SA			
1	Promotional content through the museum's website creates interest in visiting the museum	1	2	35	12	205	250	82%
2	Multimedia content that is promoted through the museum website creates interest in visiting the museum	1	4	35	10	199	250	80%
3	The museum website display is interesting to visit	1	6	29	14	199	250	80%
Average								80%

Source: Nugraha (2020)

Based on the table above, these results illustrate that through the indicators of promotional content, multimedia content and

website appearance help the visitor to know about the museum information based on their website and it increase their interest to

visit the museum. So, based on the three of them generate the interest for website visitors to visit the museum directly. This is in line with the statement that the museum will not attract visitors to know and understand if it is presented in a static and conventional form (Sularsa et al., 2015).

Search

The search element is related to the emergence of the desire to find information about the product being offered. The researcher then reduced this search element into five indicators, which can be seen in the following table:

Table 4
Percentage of Respondents' Answers to the Search Aspect Statement

No	Indicator	Assessment				Score Total	Score Ideal	Percentage
		TD	D	A	SA			
1	Information about the museum can be searched on the Internet	1	1	27	21	216	250	86%
2	Information about the museum is further explored on the museum website	0	5	30	15	205	250	82%
3	The museum website can inform you about the location of the museum	1	1	24	24	219	250	88%
4	Information about the museum's opening hours can be found on the museum's website	0	0	24	26	226	250	90%
5	The museum website lists the price of admission to the museum	0	6	25	19	207	250	83%
Average								86%

Source: Nugraha (2020)

These results explain that in building a website, when viewed from the search aspect, the five indicators mentioned above need to be considered because they have high essentiality even though when building a website, the percentage results can be prioritized for essentiality based on the percentage obtained by each indicator. The museum takes time to gain experience with new media and basically design their website based on their own understanding of what a

museum is and how information related to museums can be communicated, especially on the website (Hertzum, 1998).

Action

Action is an element in terms of decisions to be taken based on information obtained from the product being offered. In this element, the researcher reduces it to three indicators. Details of the answers from respondents can be seen in the following table:

Table 5
Percentage of Respondents' Answers to the Aspects of Action Statement

No	Indicator	Assessment				Score Total	Score Ideal	Percentage
		TD	D	A	SA			
1	The information obtained through the museum's website made me decide to visit the museum	0	7	32	11	197	250	79%
2	The multimedia content obtained through the museum website is taken into consideration in making decisions to visit the museum	0	2	33	15	211	250	84%
3	The content displayed on the museum website decided me to follow other social media owned by the museum	0	19	22	9	171	250	68%
Average								77%

Source: Nugraha (2020)

These results illustrate that the existence of multimedia content and other information in general has contributed to the visitor's decision to visit the museum based on the percentage obtained, so that the existence of multimedia content and other information needs to be considered in building a website because it has high essentiality to influence visitors when making decisions to visit the museum. Learning about museum content is considered not only as an understanding of cognitive characteristics, but as suggested there are several perspectives, namely as affective characteristics, taking

into account interests, attitudes, and emotions; furthermore, as a social practice that lies in a cultural context (Hohenstein & Moussouri, 2017).

Share

The fifth element is sharing related to the desire to share experiences after trying the products offered. Researchers reduce the share element into three indicators that describe the share aspects in promotional activities. Further explanation can be seen in the following table:

Table 6
Percentage of Respondents' Answers to the Share Aspect Statement

No	Indicator	Assessment				Score Total	Score Ideal	Percentage
		TD	D	A	SA			
1	I shared the museum website link with friends / family	0	19	22	9	171	250	68%
2	The information contained on the museum website was shared with my friends / family	0	12	27	11	187	250	75%
3	I share the multimedia content on the museum website again with friends / family	0	18	24	8	172	250	69%
Average								71%

Sources: Nugraha (2020)

This explains that in general more information is shared again by website visitors seen from the percentage obtained, so that informative content becomes important on a website (Nugraha, 2020). Based on the example of a website with the low-cost What You See Is What You Get (WYSIWYG)

principle, it can be used as a method of storing and disseminating information in a museum context (Hawthorne, 2019).

Furthermore, an overall analysis of the five elements of promotion is carried out, the following results can be seen:

Table 7
Average Percentage of Respondents' Answers Based on the AISAS Model

No	Indicator	Percentage
1	Attention	87%
2	Interest	80%
3	Search	86%
4	Action	77%
5	Share	71%
Overall Average		80%

In general, the results above are the types of information needed by the community when accessing a promotional website. The results obtained illustrate that according to the perspective of museum visitors, at least a promotional website, especially a museum promotion website, must meet the elements based on the most important order, namely search, attention, interest, action, and share according to the results obtained from data processing.

In addition to the aforementioned aspects, visitors also provide input to researchers about content that is deemed necessary on a museum promotion website. These contents in the form of the latest information, interactive content, and interesting visuals are the most widely provided input. Meanwhile, to facilitate the process of disseminating information on the website, it must also be accompanied by promotions on other social media so that more people can access the information on the promotional website. There are four main characteristics that can be identified from visitors, related to online museum information search behavior, namely: (a) search behavior has a strong

visual aspect, (b) topic searches are dominated by exploration, (c) user's search for known items, broadly, and (d) making meaning is the core of the information seeking process (Skov & Ingwersen, 2014).

At this stage of the website needs analysis, the researcher also tries to examine it from the perspective of the head of the museum. Head of the UPI National Education Museum, Dr. Erlina Wiyanarti, M.Pd., believes that in carrying out promotional activities, the museum has thought of various effective steps, including preparing a website for promotional purposes. However, when in the field the condition of human resources who are not yet competent and are not ready to make various leaps by utilizing technology, some museums cannot do promotional activities using the website. It takes human resources that are capable and ready to make innovations using technology so that the museum can create good communication with museum visitors through the website. For example, he highlighted the website of the Gedung Sate Museum and the Museum of the Asian-African Conference which is

considered good in managing websites both in terms of content and visuals because of the presence of human resources who are ready and have sufficient backgrounds to manage the website more intensively.

A similar sentiment was also conveyed by the Head of the Section for Conservation and Public Diplomacy of the Museum of the Asian-African Conference, Teguh Adhi Primasanto. The existence of the Asian-African Conference Museum website is a medium to provide information to the public regarding information related to promotional activities at the museum. All indicators relating to promotional elements are approved except for the entry price for the museum entry. After confirmation, the Museum of the Asian-African Conference felt that they did not need this because the museum's service activities did not charge a fee for admission. However, because the results of data processing show that the price of admission to museums is one of the most sought-after things, then information regarding this matter for both paid and unpaid museums is still given admission ticket information.

Apart from human resources, the condition of the supporting facilities is also a determinant. Due to limited funds, sometimes in some cases, promotional activities are neglected because the funds are absorbed for collection and site maintenance activities. This limitation makes promotional not a priority even though, in reality, branding and promotion are important things.

REFERENCES

- Akbar, G., & Tjendrowaseno, T. I. (2013). Website Profil Sekolah Sebagai Media Informasi dan Promosi. *IJNS-Indonesian Journal on Networking and Security*, 4(ue 1)). <https://doi.org/10.1123/IJNS.V4I1.1316>
- Amalia, G., Darmawan, F., & M. Marjuka, Y. (2017). Analisis Aisas (Attention, Interest, Search, Action, Share) Pada Pengunjung the Lodge Maribaya Lembang. *Journal of Tourism Destination and Attraction*, 5(2), 1–12. <https://doi.org/10.35814/tourism.v5i2.774>

E. CONCLUSION

Based on the results of research and discussion, this analysis process is the initial stage of designing a museum promotion information system product. From the results of this analysis, it is known that the type of promotional information needed by the community is to pay attention to the elements in promotional activities with the AISAS model, namely Attention, Interest, Search, Action, and Share. Based on the research results, it is found that the most sought-after information is promotional information related to the elements (1) search, (2) attention, (3) interest, (4) action, and (5) share. Based on this analysis process, information is also obtained from the public as information seekers and users. The results obtained then explain the type of promotional information desired by the public, namely relating to the location of the museum, museum opening hours, interesting promotional content, and also the presence of multimedia content, this is based on after processing of the data that has been obtained. In addition, the analysis process involving the head of the museum also provides additional information in the form of the availability of supporting technology and the availability of human resources. This is in addition to facts as reinforcing content from the promotion section.

- Bitgood, S. (2010). *An Attention-Value Model of Museum Visitors*. [https://airandspace.si.edu/rfp/exhibitions/files/j1-exhibition-guidelines/3/An Attention-Value Model of Museum Visitors.pdf](https://airandspace.si.edu/rfp/exhibitions/files/j1-exhibition-guidelines/3/An%20Attention-Value%20Model%20of%20Museum%20Visitors.pdf)
- Buljubašić, I., Tolić, I. H., & Marta Borić, M. (2016). The Impact of Promotion in Creative Industries – The Case of Museum Attendance. *Ekonomski Vjesnik / Econviews: Review of Contemporary Entrepreneurship, Business, and Economic Issues*, 29(1), 109–124. <https://doi.org/https://search.proquest.com/docview/1802590364/fulltext/447A00AF13C5414CPQ/1>
- Evrard, Y., & Krebs, A. (2018). The authenticity of the museum experience in the digital age: the case of the Louvre. *Journal of Cultural Economics*, 42(3), 353–363. <https://doi.org/10.1007/s10824-017-9309-x>
- Fauzi, L., Dewi, L., & Hadiapurwa, A. (2017). Implementation of Edu-Tourism Program in Museum Asia Afrika Library. *EduLib*, 6(1), 105–112. <https://doi.org/10.17509/edulib.v6i1.5006>
- Hadiapurwa, A., Nugraha, H., & Syafitri, N. K. (2019). Museum 5.0 Rancangan Museum Digital untuk Optimasi Peran Museum Dalam Mencapai Target SDGs. In D. Wahyudin, A. Djohar, A. H. Hernawan, R. R. Susilana, & R. D. Rusman (Eds.), *Re-Thinking of the Current Education and Disruptive Curriculum in the Era 5.0* (pp. 443–458). http://icerd.event.upi.edu/2019/info/4th_ICERD_Proceeding
- Hasugian, P. S. (2018). Perancangan Website Sebagai Media Promosi dan Informasi. *Journal Of Informatic Pelita Nusantara*, 3(ue 1)). <https://doi.org/http://ejournal.pelitanusantara.ac.id/index.php/JIPN/article/view/306>
- Hawthorne, L. (2019). MoKnow Your Museum: Using Simple Websites for Internal Resource-Sharing. *Art Libraries Journal*, 44(3), 151–158. <https://doi.org/10.1017/alj.2019.21>
- Hertzum, M. (1998). A Review of Museum Web Sites: In Search of User-Centred Design. *Archives and Museum Informatics*, 12(2). <https://doi.org/10.1023/A:1009009104685>
- Hohenstein, J., & Moussouri, T. (2017). *Museum Learning: Theory and Research as Tools for Enhancing Practice*. Routledge. https://books.google.co.id/books?hl=en&lr=&id=DyE6DwAAQBAJ&oi=fnd&pg=PT10&dq=action+interest+of+museum&ots=ZRDBvgyQSo&sig=Kl4wwBDB5YDGwI7QmLFP_Cu589E&redir_esc=y#v=onepage&q=action&f=false
- Lopatovska, I. (2015). Museum website features, aesthetics, and visitors' impressions: a case study of four museums. *Museum Management and Curatorship*, 30(3), 191–207. <https://doi.org/10.1080/09647775.2015.1042511>
- Mayasari, S., & Indraswari, C. (2018). Efektivitas Media Sosial Instagram Dalam Publikasi HUT Museum Nasional Indonesia (MNI) Kepada Masyarakat. *Jurnal Komunikasi*, 9(2), 190–196. <https://doi.org/https://ejournal.bsi.ac.id/ejournal/index.php/jkom/article/view/4326>
- Nugraha, H. (2020). *PERANCANGAN SISTEM INFORMASI PROMOSI MUSEUM BERBASIS WEBSITE: design and development sistem informasi promosi museum di Kota Bandung*. Universitas Pendidikan Indonesia.
- Pulh, M., & Mencarelli, R. (2017). *Web 2.0: Is the museum-visitor relationship being redefined? To cite this version: HAL Id: halshs-01498653*.
- Skov, M., & Ingwersen, P. (2014). Museum Web Search Behavior of Special Interest Visitors. *Library and Information Science Research*, 36(2), 91–98. <https://doi.org/10.1016/j.lisr.2013.11.004>

- Sugiyama, K., & Andree, T. (2010). *The Dentsu Way: Secrets of Cross Switch Marketing from the World's Most Innovative Advertising Agency*. McGraw Hill Professional. https://books.google.co.id/books/about/The_Dentsu_Way_Secrets_of_Cross_Switch_M.html?id=QPmnbBCDsRkC&redir_esc=y
- Sukardi. (2005). *Metodologi Penelitian Pendidikan: Kompetensi dan Praktiknya*. Bumi Aksara. <https://opac.perpusnas.go.id/DetailOpac.aspx?id=675076>
- Sularsa, A., Prihatmanto, A. S., & Nugroho, E. (2015). Evaluasi User Experiences Produk iDigital Museum dengan Menggunakan UEQ. *Jurnal Teknologi Informasi*, 2(2), 56–62. <https://doi.org/https://journals.telkomuniversity.ac.id/jti/article/view/505>
- Vibariani, V., & Ajie, M. D. (2007). *Mengenal Museum* (1st ed.). Widya Duta Grafika. <http://layanan.dispusip.bandung.go.id/opac/detail-opac?id=18094>
- Wilson, R. J. (2011). Behind the scenes of the museum website. *Museum Management and Curatorship*, 26(4), 373–389. <https://doi.org/10.1080/09647775.2011.603934>