

Design of Batik *Dhemar Kambhang* Information Media Based on Observational Documentary Film

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Abstract. Dhemar Kambhang Batik is a typical batik from Sumenep Regency, Madura, which has a unique motif and deep philosophy, namely as a "lit lantern" which means the light of life. However, the lack of media information about batik means that it is not widely known by the public. This research aims to design information media based on observational documentary films to introduce Dhemar Kambhang Batik to the public. The method used is the Multimedia Development Life Cycle with stages: concept, design, material collection, design, testing and distribution. This documentary film directly involves batik owners and cultural observers in Sumenep to provide complete and accurate information. Test results on 50 respondents showed that this documentary film was very informative with a respondent satisfaction level of 3.4 (category "satisfied" or "good") and a success rate of 94%. Positive assessments were also given by cultural experts and film experts, who stated that the storyline, shooting techniques and delivery of information were good and easy to understand. With an observational approach, this film succeeds in presenting information about the history, manufacturing process and development of Dhemar Kambhang Batik in an interesting and informative manner.

Keywords: dhemar kambhang; documentary film; information media; observation;

INTRODUCTION

Batik is a handicraft of high artistic value and represents Indonesia's cultural heritage. Batik is a traditional form of clothing commonly used by the community at formal events and other special occasions (Siregar & Josua, 2024; Widagdo et al., 2021). In various regions of Indonesia, there are many unique batik characteristics, each carrying meanings and philosophies that represent their region of origin (Fatih et al., 2022). Madura batik has distinctive characteristics compared to batik from other regions, such as those from Yogyakarta, Solo, Pekalongan, and Cirebon. Madura batik features motifs with striking colors, such as red, green, and yellow (R.A. Sekartaji & Suminto, 2015).

One of the MSMEs developing Madura's distinctive batik craftsmanship is DK Batik. DK Batik is a premium written batik MSME from Matanair Village, Rubaru District, Sumenep Regency, Madura. This center was founded by Moh. Thoha in 2020. This batik is unique in its motifs, specially designed by its owner, and carries the theme of Dhemar Kambhang (Triandika et al., 2023). In Madurese, Dhemar Kambhang means "a lit lantern," symbolizing the philosophy of illuminating and inspiring social life (Soelistyowati et al., 2023). The Dhemar Kambhang motif is derived from the tradition of the Madurese people in holding wedding celebrations (Triandika et al., 2023; Soelistyowati et al., 2023). Madurese batik motifs reflect coastal cultural acculturation and bold colour use (Triandika et al., 2023; Utami, 2024). Madurese batik SMEs face challenges but also opportunities in innovation and branding (Dityo, Kurniawati & Rumanti, 2023; Alwiyah et al., 2020). Dhemar Kambhang batik is considered particularly unique and worthy of exposure through documentary-based information media so that the people of Madura can better appreciate its distinctiveness (Triandika et al., 2023).

Documentary-based information media is an effective medium for conveying messages and communicating information to a wide audience. The message delivered depends on the visuals used, whether in entertainment, news, comedy, or education. The effectiveness of a documentary in delivering messages lies in its audio-visual elements, which combine sound and imagery to make the presentation vivid and engaging. Documentary films document reality based on facts and possess fundamental and existential values (Anugerah et al., 2023). Information media combine audio-visual elements from particular perspectives related to life—individuals, figures, events, and places that exist in reality—portraying them truthfully and without fabrication (Arie Atwa Magriyanti & Hendri Rasminto, 2020). However, in their presentation, documentary videos require a distinct directorial style so that real phenomena can be depicted objectively and received by audiences as accurate information—one such approach being the observational style (Hujairi et al., 2021).

This research is a continuation and methodological development of the author's previous study (Borish, 2021; Ellis, 2021). Referring to earlier research, the speaking style in documentary films commonly uses the expository style (Nichols, 2017; Yu, 2024). The difference between the expository and observational methods lies in the film's narrative approach (Nichols, 2017). The expository style conveys information through narration (voice-over commentary) combined with a set of images to provide detailed explanations and insights (Edholm, 2022; Hujairi et al., 2021).

The speaking style in this study's film uses the observational type, which involves in-depth observational research focusing on subject or resource person dialogues. This approach produces statements and arguments among sources, which the director later selects and arranges into the documentary film's storyline (Kadek Dwiyaning et al., 2022).

The research focuses on direct involvement with the Batik DK center and cultural experts in the Sumenep District to provide information and apply various visual imaging techniques. Through the medium of this documentary, it is expected to present accurate information about the history, production process, and development of Batik *Dhemar Kambhang*, packaged in an engaging storyline for audiences.

To ensure that the film's information is effectively conveyed, a media effectiveness test was conducted by distributing questionnaires to respondents, gathering feedback to measure levels of success and satisfaction. Expert reviews were also carried out to understand the perspectives of specialists in the field

MATERIALS AND METHOD

In multimedia development, Luther-Sutopo explains that the MDLC method involves 6 stages that, if described, form a cycle (Walid Hujairi et al., 2024).

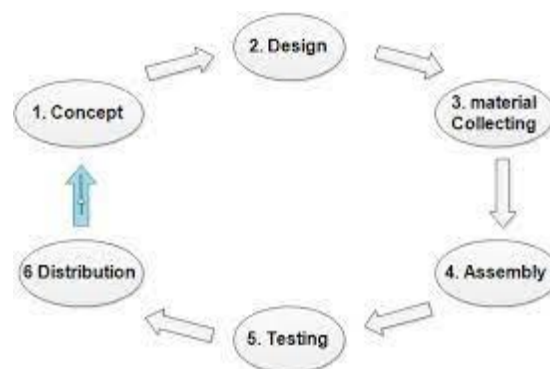


Figure 1. Design Method
(Walid Hujairi et al., 2024) (Walid Hujairi et al., 2024)

Concept. At this stage, data collection begins through observation, interviews and existing studies as a reference for content.

Design: At this stage, a mature concept will make it easier to plan the steps that need to be taken. Next, we can design the story script and storyboard.

Material Collecting. At this stage, relevant materials are collected according to needs, including images, photos, animations, videos, audio, along with text that can come from existing ones or that require adjustments according to existing needs.

Assembly: at this stage, the creation and arrangement of the overall arrangement of footage is carried out in accordance with the sequence of the storyline in the storyline.

Testing. There are two stages that are carried out for the testing process. First, by analyzing the level of suitability of the storyline with the 3-act structure theory. Second, media effectiveness testing was carried out. to find out the success rate of the information from this study. (Saputri et al., 2021)

RESULTS AND DISCUSSION

Concept

Data collection is in the form of interviews, journals, and related literature, in addition to that, the author also collects data through participatory observation, namely making close or direct observations by coming to meet Mr. Moh. Thoha, who lives in Matanair village, Rubaru district, Sumenep regency, to find data on what is done during batik production and listen to what is said about his activities. Existing Studies is used as a reference from various content sources that serve as a reference for documentary filmmaking.



Figure 2. Batik Dhemar Kambhang
Source: DK Batik Documents

Design

Creation of the plot structure of the story according to the order of the parts of the story to be created.







Scene	Shot	Visual	Caption
1	1.		Deskriptif : Infr. Sunrise Matahari, Masjid jamik, kota sumenep, Kegiatan Masyarakat dan Desa
	2.		pengrajin DK batik Teknik pengambilan : Extreme Long shot, Long shot, CU dan Hyperlapse
	3.		Camera : Drone dan Sony A6000 Camera movement : (zoom out) Point of interest shot, Backwards
	4.		Reveal shot, dan Panning Angle camera : Bird eye level dan eye level
	5.		Audio : Sfx (kicauan Burung pagi hari , suara jalanan dan backsound).
	6.		Transisi : film dissolve, cut to cut dan dip to black

Figure 3. Storyboard

Source: Author's Personal Documents

Material Collecting

The shooting process is carried out at this stage there are several special techniques used such as timelapse and hyperlapse, so that from the opening object to the initial round can look interesting. For the interview process, when taking videos, several shooting techniques are applied such as, medium shot, medium long shot, close up and others. Then here is an image while doing a video shoot. (Rudy W. et al., 2019).



Figure 4. Shooting Process

Source: Author's Personal Documents

After the shooting process is completed, relevant material is collected according to needs, material can come from existing ones or those that require adjustments according to existing needs.

Table 2. Material Collecting Author's Document

No.	Material	Information
1	Text	Storyline, Storyboard
2	Graphic	Design Product
3	Animation	Motion & Opening
4	Video	Footage Stock & Interview
5	Audio & Music	Music Scoring, SFX & SOT

Source: Author's Personal Documents

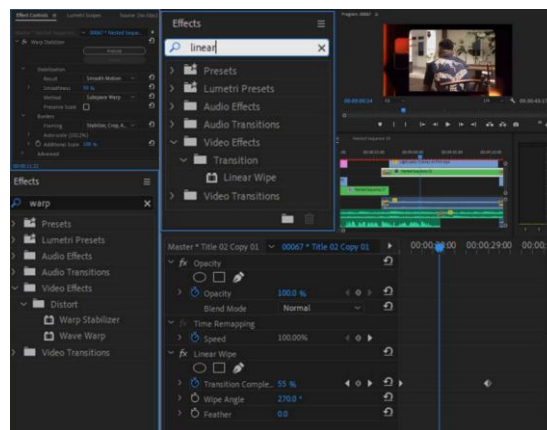
Assembly

To facilitate the preparation of the video, the editing stage is based on the existing shotlist and storyboard. The effects used in this documentary have several effects, the first is the warp stabilizer effect which is used to stabilize the video so that it is comfortable to watch, the second is the linear wipe effect used on the text to give an animation effect of text shifting in the video, and the last is the Kodak film roll effect which is used to give the feel of the past. The processes required at the assembly stage are as follows:

The color grading process is carried out to adjust the color results of each visual so that they are consistent. As for those regulated in the brightness, saturation, contrast and color tone sections in the Lumetri Color and Lumetri Scopes.

Speed duration is used to create hyperlapse videos from a series of photos, in addition to speed duration is used to speed up videos on timelapse and slow video techniques.

The text information used by the author is lowerthird which is created using the after effect, where this lower third will be used as an information board about the name of the source.



Gambar 5. Assembly

Source: Author's Personal Documents

Discussion

Testing

The 3-act structure is used by the author to get a solid and structured storyline. In the 3-part structure analysis, it consists of 3 parts, namely the first part contains the initial opening regarding the introduction of information, the middle part contains the problem and the stage of the object's struggle to face obstacles, and the final part contains resolutions and expectations. (Kadek Dwiyani et al., 2022)

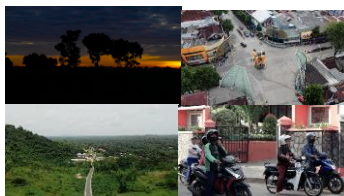
The results of the analysis of the 3-act structure used are appropriate, where the storyline used is the forward flow from the process of object recognition to the end or ending of the

documentary.

Table 3. 3-round structure

Author's document

Act 1



The opening, depicts the beauty of Sumenep City, complete with stunning sunrise views, the splendor of the Jamik Mosque, the busyness of community activities, and the atmosphere of the DK batik artisan village which is full of culture.

Act 2



Discussing various aspects related to DK Batik, including its history, characteristics of Sumenep batik, information about DK Batik, its advantages, and the process of making batik. In addition, the differences between Sumenep batik and batik from other regions were also highlighted. This information is presented by directly involving the owners, employees, and observers of Sumenep batik as resource persons. Not only in the form of text, this section also displays images of the stages of batik making and its distinctive motifs.

Act 3



This section is the conclusion of the documentary film that discusses solutions to the challenges in the process of developing DK Batik MSMEs, as well as future hopes. This segment features the direct involvement of the owner of DK Batik and closes with a warm smile from the owner as a symbol of optimism.

Source: Author's Personal Documents

Testing

In order for information in a film to be conveyed, a media effectiveness test was carried out by distributing questionnaires to respondents with feedback questions to find out the level of success and satisfaction of the respondents and also expert reviews were carried out to

understand the opinions of experts in the field

The research questionnaire has been distributed and filled out by 50 respondents, using convenience sampling. The first stage is that the respondents will first fill in their biodata, after which the second stage of the respondents will be shown the results of the documentary. Next, there will be evaluation questions to get a value of the success rate of information delivery and visuals. These respondents are vulnerable between 18 and 59 years old and reside in Sumenep as many as 64% or 32 respondents and outside Sumenep as much as 36%. or 18 respondents with vulnerable ages from 21 years to 53 years.

From the data of the distribution of the questionnaire, feedback was obtained:

Visual aspect. There were 46% (21 respondents) very good, 42% or (23 respondents) good, and 12% (6 respondents) adequate.

Audio aspect. There were 50% (25 respondents) very good, 46% (23 respondents) good and 4% or (2 respondents) adequate.

Aspects of Music Illustration. There were 38% (19 respondents) were very good, 48% or (25 respondents) were good, 8% or (4 respondents) were adequate, 4% (2 respondents) were poor.

An interesting aspect to watch. There were 42% (21 respondents) very good, 42% (21 respondents) good, 12% (6 respondents) sufficient, 4% (2 respondents) lacking,

The coloring aspect of 34% (17 respondents) is very good, 56% (28 respondents) are good, 10% (5 respondents) are sufficient.

The effects and transition aspects 38% (19 respondents) were very good, 48% (24 respondents) were good, 12% (6 respondents) were adequate, 2% (1 respondent) were less

The information aspect 46% (23 respondents) was very good, 46% (23 respondents) were good, 6% (3 respondents) were adequate, 2% (1 respondent) were poor.

To determine the level of satisfaction of respondents, the authors used a method by Kaplan and Norton.

$$RK = \frac{JSK}{JK \times JR}$$

Information

RK = Questionnaire Average

JSK = Total Questionnaire Score

JK = Number of Questionnaires

JR = Number of Respondents

The following is the process of calculating the data on respondent satisfaction results in each aspect as follows:

$$RK = \frac{(5 \times 145) + (4 \times 167) + (3 \times 32) + (2 \times 6)}{(7 \times 50)}$$

$$RK = \frac{725 + 668 + 96 + 12}{350}$$

$$RK = \frac{1.501}{350} = 4,3$$

Based on the data from the respondent satisfaction calculation process above, it can be concluded that the respondents' satisfaction with the results of the design of the *Dhemar Kambhang* batik information media based on observation documentary film is included in the category "Satisfied" or "Good".

(Halim, 2020) (Halim, 2020).

Table 4. Value Scale Recap

Code	Question	Very less (1)	Less (2)	Enough (3)	Good (4)	Excellent (5)
Q1	Is the visual of this documentary good?	6	23	21	0	1

Q2	Is the voice in this documentary heard clearly	2	23	25	0	1
Q3	Is the choice of background in accordance with this documentary?	2	4	25	18	19
Q4	Is this documentary interesting to watch?	0	5	21	25	19
Q5	Is the color grading in this documentary good to see?	5	23	21	1	0
Q6	Are the effects and transitions of the documentary appropriate?	2	4	25	18	19
Q7	Is the information from this documentary easy to understand about the good of Sumenep?	5	23	18	5	1

Source: Author's Personal Documents

$$\text{Success \%} = \frac{\sum s + 0,5 \times \sum p}{\sum \text{responden} \times \sum \text{pertanyaan}}$$

$$\text{Success \%} = \frac{145 + 167 + (0,5 \times 32)}{50 \times 7} \times 100\%$$

$$\text{Success \%} = \frac{145 + 167 + 16}{350} \times 100\%$$

$$\text{Success \%} = 93,7\% \text{ (94\%)}$$

From the results of the calculation data, success was obtained with a total percentage of 94% of respondents' satisfaction with the Observation Documentary Film as a typical Batik Information Media of Sumenep.

The next stage is testing expert reviews through an interview process with a face-to-face meeting.

Mardi Kusdani (batik culturer or observer in Sumenep)

Table 5. Results of the answer from the cultural expert Sumenep, Mr. Mardi Kusdani, Author's Document

No	Answer
1	The storyline conveyed is systematic and easy to understand
2	From the results of the documentary, the technique of taking it is good and in accordance with the theme
3	In my opinion, from the transition of one video to another, it is in accordance with the theme of the documentary. For the film effects support and match the visualization, especially in the film roll effects section
4	In my opinion, the traditional backsound accompaniment of gamelan is very suitable for documentary films because it is very thick with the local community
5	It has been conveyed very well because the information is easy to understand in terms of visuals and the delivery of the speakers
6	Worth it, because the presentation is very simple and straightforward
7	My suggestion is that in documentaries it is more systematic and shooting techniques are varied

Source: Author's Personal Documents

Bery Fauzi, founder of Redberry Pictures, film and videography expert

Table 6. Results of the answer of Bery Fauzi, film and videography expert Author's Document

No	Answer
1	In terms of storyline, it is quite good because the audience is not presented with the core of the discussion but is given an opening that has a nuance typical of the city of Sumenep. The plot is easy to understand through visuals so that audiences or audiences can easily understand because the plot uses a forward flow that tells the process from start to finish. The selection of resource persons is quite good from the owner, observer, and employees so that the story is structured.
2	For the technique of taking objects, the object is good and does not interfere with the extension of the delivery of the video.
3	The transitions and effects used are good, not strange because the effects and transitions used have become sweeteners in the documentary.
4	For the background, it is appropriate because the local and traditional nuances have entered, it would be better to give sumenep music if there is.
5	The information conveyed is easy to understand from the beginning to the end of the process.
6	It's worth it enough.
7	Suggestions for the future problems in color grading are more natural; the voice of the speaker and the background sound are leveled so that the sound does not clash.

Source: Author's Personal Documents

Distribution

The results of the design of the *Dhemar Kambhang* batik information media based on observation documentary film were submitted to Mr. Moh. Thoah as the owner of DK Batik MSMEs.



Figure 7 Documentary Film Results

Source: Author's Document

CONCLUSIONS

The design of the documentary information media on *Dhemar Kambhang* batik from Sumenep, Madura, successfully highlights the batik's distinctive motif and profound philosophy as a "lit lantern" symbolizing social enlightenment. Using the Multimedia Development Life Cycle method, the project proceeded through six stages—concept, design, material collection, testing, and distribution—to create an engaging and structured narrative that follows a three-act dramatic format. The documentary effectively presents the history, production process, and cultural significance of *Dhemar Kambhang* batik, achieving a 94% success rate and a 3.4 ("satisfied") respondent satisfaction score. Cultural and film experts

praised its coherent storyline, technical quality, and clarity of information. Future research could explore ways to expand the reach of such documentary media through digital platforms or interactive storytelling techniques to enhance audience engagement and cultural preservation.

REFERENCES

- Alwiyah, S., Steelyana, E., Sayyida, & Tahir, I. (2020). The survival of Batik Madura in the digital era: A case study of small medium enterprises (SME) at Batik Madura Center. *Pertanika Journal of Social Sciences & Humanities*, 28(S1), 43–57.
- Anugerah, A. D., Walid Hujairi, A., Arifin, S., Andiriyanto, A., Ghufrony, A., Rachmad, T. H., Universitas, W., Madura, W., Elektronika, P., Surabaya, N., & Mulia, U. B. (2023). Visualizing the Keris through a documentary video: An initiative to raise awareness among the youth of Aeng Tong-Tong Village about the Keris of Sumenep. *Jurnal Spektrum Komunikasi (JSK)*, 11.
- Arie Atwa Magriyanti, & Hendri Rasminto. (2020). Film dokumenter sebagai media informasi kompetensi keahlian SMK Negeri 11 Semarang. *Jurnal Ilmiah Komputer Grafis*, 13(2), 123–132. <https://doi.org/10.51903/pixel.v13i2.322>
- Borish, D. (2021). Advancing documentary film for qualitative research. *International Journal of Qualitative Methods*, 20, 1–14. <https://doi.org/10.1177/16094069211013646>
- Dityo, D. R., Kurniawati, A., & Rumanti, A. K. (2023). Organizational performance through organizational creativity and open innovation in small and medium enterprises (SMEs): A case of Batik Tulis Madura. *International Journal of Innovation, Management and Technology*, 14(4), 943–951.
- Edholm, R. (2022). On character voice-over as a rhetorical device. *SERIES – International Journal of TV Serial Narratives*, 8(1), 71–84. <https://doi.org/10.6092/issn.2421-454X/13657>
- Ellis, J. (2021). How documentaries mark themselves out from fiction. *Journal of Media Practice and Education*, 22(3), 197–209. <https://doi.org/10.1080/17503280.2021.1923144>
- Fatih, Y. N., Sudarmawan, A., Ngurah, G., Ardana, S., Seni, J., Program, D. D., Pendidikan, S., & Rupa, S. (2022). Kajian proses dan nilai estetik batik tulis di Rumah “Batik Rato WMS (Wirausahawan Muda Sumenep)” Kabupaten Sumenep. *Jurnal Pendidikan Seni Rupa Undiksha*, 12(3), 199–219.*
- Halim, A. (2020). Pengaruh pertumbuhan usaha mikro, kecil dan menengah terhadap pertumbuhan ekonomi Kabupaten Mamuju. *Growth: Jurnal Ilmiah Ekonomi Pembangunan*, 2(1).*
- Hujairi, A. W., Rahman, T., Agustien, L., & Putra, D. F. (2021). Perancangan film dokumenter expository untuk meningkatkan pemahaman masyarakat terhadap situs peninggalan bersejarah. *Jurnal Teknologi Informasi dan Terapan (J-TIT)*, 8(2), 2580–2291. <https://doi.org/10.25047/jtit.v8i2.236>
- Kadek Dwiyani, N., Kadek Puriartha, I., & Ayu Putu Leliana Sari, D. (2022). Korelasi pendekatan esai dan naratif dalam film dokumenter “Tata Rias Pengantin Gaya Denpasar: Perlambang dan makna.” *Seminar Nasional Republik Seni Nusantara*, 2, 30–40.
- Nichols, B. (2017). *Introduction to documentary* (3rd ed.). Indiana University Press.

- R. A. Sekartaji, & Suminto. (2015). Batik Madura: Menilik ciri khas dan makna filosofinya. *CORAK Jurnal Seni Kriya*, 4(1).*
- Rudy, W., Herlambang, D., Lukitasari, D., Tri Marutama, I. G. N., & Pranata, G. (2019). Eksotisme arsitektur bangunan Belanda dan arsitektur bangunan Jawa terhadap penerapan teknik timelapse video (Tinjauan bangunan cagar budaya Kota Surakarta). *Journal of Art, Design, Education and Culture Studies (JADECS)*, 4(2).* <https://doi.org/10.51903/pixel.v13i2.322>
- Saputri, L., Asriani, R. N., Syam, N., Saputra, R. A., Informatika, T., & Oleo, U. H. (2021). Pembuatan video profil Perum Bulog Kantor Wilayah Sulawesi Tenggara menggunakan metode multimedia development life cycle. *Jurnal Teknologi Informasi Komunikasi (e-Journal)*, 8(2).*
- Siregar, J. S., & Josua, D. P. (2024). Literature Review: Batik and Wedding Customs According to Javanese Tradition. *International Conference on Multidisciplinary Studies (ICoMSi 2023)*, 369–377.
- Soelistyowati, S., Mudra, I. W., Muka, I. K., & Ratna, Tjok I. I. (2023). Symbolic meaning of batik in Madura bridal kebaya clothes. *Journal of Social Science*, 4(1).*
- Triandika, L. S., Arifin, S., & Hidayatul Rachmad, T. (2023). The meaning of Madura batik patterns in a review of visual communication, culture, and religiosity elements. *Sosial Budaya*, 20(1), 37–49.*
- Utami, I. D. (2024). Factors influencing sustainability of Batik SMEs: A study of Batik Madura micro, small and medium enterprise entrepreneurs. *BIO Web of Conferences*, 65, 01011.
- Walid Hujairi, A., Fardiansyah Putra, D., Agustien, L., & Prasetyo, J. (2024). Perancangan audio tour guide Desa Wisata Keris Aeng Tong-Tong Sumenep berbasis QR code. *Jurnal Pengabdian Masyarakat J-Dinamika*, 9(3).* <https://doi.org/10.25047/j-dinamika.v9i3.5452>
- Yu, H. (2024). Legitimation in documentary: Modes of representation and legitimating strategies in *The Lockdown: One Month in Wuhan*. *Visual Communication*. <https://doi.org/10.1177/14703572211015809>
- Widagdo, J., Ismail, A. I., & binti Alwi, A. (2021). Study of the Function, Meaning, and Shape of Indonesian Batik From Time To Time. *ICON ARCCADE 2021: The 2nd International Conference on Art, Craft, Culture and Design (ICON-ARCCADE 2021)*, 1–7.



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