

## **A Descriptive Study on the Role of Cinematographic Technology in the Effectiveness and Quality of Program Production at Bina Darma TV (BTV UBD)**

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| <b>Keywords</b>                                                                                             | <b>Abstract</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <i>Cinematographic technology, Production effectiveness, Broadcast quality, Campus media, Bina Darma TV</i> | The development of cinematographic technology in the modern media industry has transformed the paradigm of content production, including within academic environments. This study aims to analyze the role of cinematographic technology in enhancing the effectiveness and quality of program production at Bina Darma TV (BTV UBD), a digital campus-based media platform. Using a descriptive qualitative method, data were collected through in-depth interviews, direct observation, and documentation involving production crew members consisting of managers, producers, camera operators, and editors. The analysis was conducted based on the Miles and Huberman model and Mascelli's 5C Theory, which includes <i>Camera Angles, Continuity, Cutting, Close-Ups, and Composition</i> . The results indicate that the application of modern technologies — such as 4K cameras, gimbals, drones, professional lighting systems, and artificial intelligence (AI)-based software — enhances work effectiveness and production time efficiency, and yields broadcasts of higher visual, narrative, and audio quality. Nevertheless, challenges remain in terms of limited equipment, high maintenance costs, and uneven competence among student crews. In conclusion, cinematographic technology plays a vital role in strengthening professionalism and the university's branding, while also serving as a practical learning laboratory for students in the era of digital broadcasting. |



### **Introduction**

The development of communication technology and digital media over the past decade has brought major transformations to the modern broadcasting industry. Innovations in audiovisual production now function not merely as technical tools but as creative media that determine the appeal and credibility of a broadcast. The presence of cinematographic production equipment such as high-resolution cameras, gimbal stabilizers, drones, professional lighting systems, and artificial intelligence (AI)-based editing software has enabled the creation of visuals and audio that are richer, more immersive, and distinctive. In the context of mass communication, visual and audio quality are crucial aspects that shape audience perception and reception of media content. The Media Richness Theory (Daft & Lengel, 1986) asserts that the richer the communication medium—namely, one capable of conveying messages through multiple visual, verbal, and emotional cues—the more effectively the message can be understood and received by the audience. Consequently, the integration of cinematographic technology becomes an essential prerequisite for building media credibility and professionalism in the digital era (Berger, 2014; Bogdan & Biklen, 2017).

Universitas Bina Darma (UBD) in Palembang, as one of the higher education institutions committed to developing students' digital competence, established Bina Darma TV (BTV

UBD) in 2019. BTV was founded not merely as a publication platform for the academic community but also as a practical learning laboratory that provides opportunities for students—particularly those in the Communication Studies program—to apply theoretical knowledge in real media production. The programs broadcast by BTV—ranging from campus news and academic event coverage to creative entertainment content—demand high technical and aesthetic standards in order to compete with professional digital media in today's open-information era. The establishment of BTV UBD reflects a paradigm shift in campus media, transforming it from a mere internal information channel into a creative learning hub that fosters media literacy, production skills, and cross-student collaboration.

Preliminary interviews with the management indicate that the use of cinematographic technology at BTV UBD has significantly improved production quality. DU, the BTV Manager, emphasized that "devices such as high-resolution cameras, gimbals, drones, and even external microphones are no longer just technical accessories. They have now become the main instruments that truly determine our production quality." This statement signifies a paradigm shift in campus media production from a simple documentation-based approach to a professional cinematography-based approach. The use of modern equipment not only enhances technical and visual efficiency but also strengthens BTV's professional image in the eyes of both internal and external audiences. Technological aspects, in turn, shape public perception that campus media can indeed compete with professional broadcasting institutions.

However, the utilization of modern technology also brings several challenges. IR, the Head of Production at BTV, highlighted the limited competence of student crews, most of whom are beginners. He noted, "Many of our crew members are still first-year students, so they're not yet accustomed to operating gimbals or setting up lighting. Sometimes the framing is disproportionate, or the lighting is uneven. This requires continuous training and practice." This illustrates that the successful application of cinematographic technology depends not only on the availability of equipment but also on the readiness of human resources to master complex production techniques. Meanwhile, MF, the Post-Production Editor, added that the editing process often faces technical difficulties, especially during outdoor productions, such as managing natural lighting and environmental noise. These conditions require additional post-production intervention to maintain consistent audiovisual quality. This phenomenon reflects two sides of cinematographic technology use: on one hand, technology improves production effectiveness and broadcast quality; on the other, it demands technical, managerial, and continuous skill enhancement from student crews.

These initial findings align with (Putra, 2021), who found that digital campus-based media often face limitations in equipment and crew technical competence. However, that study focused primarily on technical aspects and did not explore how technology use influences team effectiveness and inter-departmental synergy in production. (Handayani, 2020) also emphasized that integrating audiovisual technology significantly affects the attractiveness and credibility of educational broadcasts but did not deeply examine the managerial and practical learning dimensions behind the process. Therefore, there remains a research gap in understanding the relationship between cinematographic technology, production team effectiveness, and overall broadcast quality in campus media environments.

To date, studies examining the role of cinematographic technology in digital campus television in South Sumatra, particularly at BTV UBD, remain scarce. Yet, BTV UBD's

strategic position as both a learning laboratory and an internal communication medium makes it a significant object of study. Through the use of cinematographic technology, BTV serves not only as a platform for developing students' technical production skills but also as a medium for fostering creativity, collaborative work, and professional identity in digital broadcasting. This research gap serves as the foundation for the present study titled "A Descriptive Study on the Role of Cinematographic Technology in the Effectiveness and Quality of Program Production at Bina Darma TV (BTV UBD)," which aims to provide a comprehensive understanding of how cinematographic technology contributes to improving production quality and team effectiveness in campus media.

Academically, this study is expected to make a significant contribution to the field of communication studies, particularly in the context of practice-based media learning. By linking technology, work effectiveness, and production quality, this research enriches the body of literature on campus media management in the era of digital broadcasting. Practically, the findings are expected to serve as a strategic reference for BTV UBD management in developing technical and managerial policies—especially in technology investment, student crew capacity building, and broadcast quality assurance. In the long term, optimizing the use of cinematographic technology will strengthen BTV UBD's position as a model of digital campus media capable of adapting to and competing within the increasingly technology-driven and competitive broadcasting industry.

This research makes a new contribution by bridging the gap in the literature on campus media production, with a special focus on Bina Darma TV (BTV UBD). This study comprehensively examines how various modern cinematographic tools, such as 4K cameras, drones, gimbals, lighting systems, and AI-based editing software, play a role in improving the quality of technical production and team effectiveness in the context of digital campus media. In contrast to previous studies that focused more on technical or narrative aspects, this study views technology as an element that integrates the entire production process at BTV UBD, an educational media platform that serves as a practical means for students to learn.

The study also introduces a learning laboratory perspective by evaluating how students, through the use of advanced cinematographic technology, not only improve their technical skills in media production but also develop the competencies needed in the context of professional production. This perspective further connects the impact of technology use to student learning outcomes and how it enriches the educational process based on real-world practice.

The purpose of this study is to analyze the role of cinematographic technology in improving the effectiveness and quality of program production at Bina Darma TV (BTV UBD). This study aims to explore how the use of modern cinematographic equipment—such as 4K cameras, gimbals, drones, professional lighting systems, and artificial intelligence (AI)-based editing software—can improve visual, narrative, and audio quality in broadcast production. Additionally, this research aims to evaluate how this technology contributes to increasing the effectiveness of production teams in the campus media environment, as well as to identify the challenges and obstacles faced by student crews in utilizing the technology. Thus, this research is expected to provide insight into the importance of integrating cinematographic technology in improving professionalism, broadcast quality, and student skill development in the context of educational broadcasting.

## Method

This study employed a descriptive qualitative method aimed at gaining an in-depth understanding of how cinematographic technology was applied in the program production process at Bina Darma TV (BTV UBD). This approach was chosen because it allowed the researcher to describe social and technical phenomena holistically within a natural context without manipulating variables. Through this approach, the research focused on the dynamics of implementing cinematographic tools—such as 4K cameras, drones, gimbals, lighting systems, and artificial intelligence (AI)-based software—in improving visual quality, narrative coherence, and audience experience of campus media broadcasts.

The subjects of this study consisted of BTV UBD's production crew, including directors, cameramen, editors, and producers who were directly involved in both creative and technical processes. The selection of subjects was carried out using purposive sampling, based on relevance, experience, and involvement in the use of cinematographic technology (Sugiyono, 2019). The criteria for informants included active participation in production activities, proficiency in operating modern cinematographic equipment, and willingness to provide reflective insights into their professional experiences. Meanwhile, the object of the research focused on the application of cinematographic technology at BTV UBD—from pre-production to post-production stages—examining the use of high-resolution cameras, professional lighting systems, stabilizers (gimbals and tripods), and AI-based editing software in contributing to improved visual quality, audio clarity, and message delivery effectiveness.

The data sources in this study consisted of primary and secondary data. Primary data were obtained through in-depth interviews and direct observations in the BTV studio. Semi-structured interviews were designed to allow flexible yet focused exploration of information (Esterberg, 2002), gathering insights from production crew members regarding their experiences and technical challenges, such as operating 4K cameras, managing lighting setups, and performing color grading during editing. Observations were conducted directly during production activities to obtain factual insights into the application of technology in the field. Secondary data were collected from literature studies, internal BTV archives, and academic journals related to cinematographic technology—such as findings by (Handayani, 2020) and (Aditia & Yudhistira, 2023) to strengthen the interpretation of empirical data (Creswell, 2016).

Data collection was carried out using four main techniques—observation, in-depth interviews, documentation, and literature review—to ensure the depth and validity of findings (Moleong, 2017). Observations were directed at technical aspects such as framing, camera movement, lighting, and editing software usage. Documentation included photos, videos, and internal BTV reports supporting production process analysis (Arikunto, 2019). The literature review complemented the analysis by providing theoretical foundations on cinematographic practices and audiovisual production quality (Creswell, 2016).

Data analysis was conducted inductively following the Miles and Huberman model (2023), which comprised three stages: data reduction, data display, and conclusion drawing. Data reduction involved selecting and focusing on relevant information regarding the use of cinematographic technology (Miles & Huberman, 2019). Data display was presented in descriptive narratives and visualizations to illustrate patterns and relationships among variables, while conclusions were drawn through interpretation of interview, observation, and

documentation findings to explain how cinematographic technology contributed to crew work effectiveness and broadcast quality. The validity of data was reinforced through source and method triangulation (Denzin, 2018), by comparing interview results, observations, and literature.

This research was conducted at the Bina Darma TV Studio, located at Jalan Jenderal Ahmad Yani No. 3, Palembang, South Sumatra, from May to July 2025. The preparation and instrument development phase took place in May, field data collection through interviews and observations was carried out in June, and data analysis and report writing were completed in July. The location was selected because it served as the central hub of campus audiovisual production utilizing modern cinematographic technology, allowing the researcher to directly observe the entire production process—from pre-production and production to post-production.

## **Result and Discussion**

### **1. Description of Bina Darma TV (BTV UBD)**

Bina Darma TV (BTV UBD) was established in 2019 as a digital campus media platform that embodies Universitas Bina Darma's commitment to strengthening institutional communication through information technology and modern media. Its presence addresses the university's need for an integrated and professional internal medium to disseminate information about academic activities, research, community service, and the achievements of the academic community.

From its inception, BTV UBD has adopted a digital broadcasting concept, offering live streaming and video-on-demand (VOD) services. This marks a significant transformation of campus media into a professional broadcasting platform that adapts to the digital era. Its flagship programs include talk shows, campus news, documentaries, podcasts, and educational entertainment content packaged creatively.

Beyond its function as a public communication medium, BTV plays a strategic role as a practical learning laboratory for students of the Communication Studies program. Through a project-based learning approach, students are directly involved in all stages of production from scriptwriting, filming, and lighting design to visual editing and digital content distribution. The collaboration between lecturers, staff, and students positions BTV as a creative experimental space that fosters mastery of cinematographic technology and mass communication skills.

Institutionally, the university's support for BTV is demonstrated through the provision of production facilities, human resource development, and funding for technological advancement. Observations indicate that BTV's role extends beyond information dissemination; it also strengthens the university's public image, serves as an academic promotion channel, and functions as a bridge between higher education and the digital creative industry.

### **2. Research Informant Profile**

The research informants consisted of six individuals representing various positions and interests within the BTV UBD environment. Three key informants came from internal management and the production team: the BTV Manager (DU), the Head of Production (IR), and the Post-Production Editor (MF). All three were directly involved in the planning, filming,

and final editing processes, allowing them to provide detailed insights into institutional policies, production workflows, and the technical as well as creative utilization of cinematographic equipment. Their perspectives illustrate how decisions regarding equipment selection, production scheduling, and strategies for improving broadcast quality were formulated and implemented at BTV UBD.

In addition to managerial and technical representatives, the study also included informants from the academic and student communities. A lecturer from the Communication Studies program, specializing in broadcasting and cinematography, acted as a bridge between academic standards and production practices at BTV. This informant's perspective helped assess the extent to which the cinematographic technologies used aligned with learning outcomes and curriculum objectives. Meanwhile, a student representative actively involved as a BTV crew member provided a concrete depiction of the learning experience, adaptation process to modern equipment, and the challenges faced when operating 4K cameras, gimbals, lighting sets, and audio devices.

The final informant represented the general public and served as an external audience member of BTV UBD. This informant evaluated the quality of BTV's programs firsthand considering factors such as visual appeal, audio clarity, and content relevance to public needs for information, entertainment, and education. This perspective reinforces that BTV functions not only as an internal campus medium but also as a communication channel shaping Universitas Bina Darma's public image. The external informant also provided a critical assessment of how effectively cinematographic technology enhanced the professionalism and competitiveness of BTV's broadcasts in the digital media era.

### **3. Institutional Policy**

Interviews with the BTV Manager revealed a strong institutional commitment to integrating modern cinematographic technology into the program production process. BTV UBD has established a policy that the adopted equipment must meet three main criteria: visual quality, production efficiency, and educational value for students. This policy did not emerge spontaneously but is part of an institutional strategy to ensure that BTV can adapt to the rapid development of digital media technology while simultaneously functioning as a learning laboratory.

In practice, this policy aims to raise production standards to approach those of the professional industry. Cinematographic technology is not treated merely as a technical tool but as a learning instrument that trains students to understand professional work patterns. However, challenges arise at the policy level when the commitment to quality improvement intersects with financial constraints and the high maintenance costs of equipment. Management must carefully determine procurement priorities, schedule equipment usage to ensure limited devices can serve multiple programs, and design a regular maintenance system to prevent early damage to the technology that has already been adopted.

**Table 1. Description of Interview Results on Institutional Policy**

| Main Theme                   | Informant DU (BTV Manager)                                                                                                            | Informant IR (Head of Production)                                                                                            | Informant MF (Post-Production Editor)                                                                                    |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Institutional Policy</b>  | “The decision to adopt modern cinematographic technology is a form of institutional adaptation to keep BTV relevant and competitive.” | Stated that the integration of technology is part of a strategy for production efficiency and student learning.              | Did not directly discuss policy, focusing instead on technical aspects of editing.                                       |
| <b>Use of Technology</b>     | Mentioned that equipment selection is based on visual quality, efficiency, and educational value.                                     | “4K cameras, gimbals, lighting sets, and external microphones are the main tools to ensure better visual and audio results.” | “The 4K camera and gimbal make the footage more stable and sharp, allowing for easier and higher-quality editing.”       |
| <b>Production Efficiency</b> | Emphasized technology integration as part of a long-term strategy.                                                                    | “Automated editing features and stable footage make the production process more efficient.”                                  | “Editing becomes faster since there are fewer technical corrections, allowing production to focus more on storytelling.” |
| <b>Challenges</b>            | Recognized the need for long-term strategies that also strengthen human resources (HR) competence.                                    | “Not all students can immediately operate the equipment; intensive training is required.”                                    | Experienced issues when footage consistency varied, even though technology helped improve the workflow.                  |
| <b>Production Impact</b>     | “Visual quality is sharper, more stable, and more professional, strengthening the university’s image.”                                | Asserted that broadcasts have become more professional and efficient, supporting students’ practical learning.               | “Editing quality is neater and better supports storytelling according to the program’s production deadlines.”            |

Source: Research Data, 2025

#### 4. Use of Cinematographic Equipment

The interview findings reveal that modern cinematographic equipment has become a core component supporting production activities at BTV UBD. The BTV Manager emphasized that the selection of 4K cameras, lighting systems, gimbals, and audio devices was not merely intended to enhance visual aesthetics, but rather to familiarize students with professional production standards in the media industry. The Head of Production explained that the main equipment used includes digital 4K cameras, gimbal stabilizers, lighting sets, and external microphones each serving a specific function: the camera provides sharp visual detail, the gimbal ensures movement stability, the lighting set maintains consistent visual tone, and the external microphone ensures clear sound quality. The Post-Production Editor experienced firsthand the advantages of the high-quality footage produced by this equipment. Sharp and stable recordings made the editing process more efficient, as editors spent less time correcting technical issues and could instead focus on strengthening the narrative flow and visual

aesthetics. However, behind these benefits, some challenges persist. A number of student crew members have not yet fully mastered the use of gimbals or lighting setups, resulting in occasional issues such as improper framing or uneven lighting during production. This situation underscores the need for intensive training and continuous mentoring so that the full potential of the available technology can be utilized to its maximum capacity.

**Table 2. Interview Results on the Use of Cinematographic Equipment**

| Aspect                          | Shared Views (DU, IR, MF)                                                                             | Differences in Perspectives                                                                                                                                                                                                        |
|---------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Policy &amp; Orientation</b> | All agreed that cinematographic equipment is essential to improve the production quality of BTV UBD.  | DU (BTV Manager): emphasized the strategic and educational aspects, stating that the equipment was selected to help students become familiar with industry standards.                                                              |
| <b>Equipment Used</b>           | Agreed upon the main devices: 4K cameras, gimbals, lighting sets, and external microphones.           | IR (Head of Production): explained the specific technical functions of each device (camera for detail, gimbal for stability, lighting for tone, and microphone for audio).                                                         |
| <b>Production Impact</b>        | All three agreed that the equipment made the broadcasts sharper, more stable, and more professional.  | MF (Post-Production Editor): emphasized the efficiency of editing with more stable footage, allowing greater focus on storytelling.                                                                                                |
| <b>Technological Function</b>   | All viewed the equipment as supporting professionalism and the overall quality of BTV UBD broadcasts. | <ul style="list-style-type: none"> <li>▪ DU: focused on policy orientation and student learning.</li> <li>▪ IR: focused on technical field operations.</li> <li>▪ MF: focused on post-production (editing) orientation.</li> </ul> |

Source: Research Data, 2025

## 5. Production Effectiveness and Efficiency

The implementation of cinematographic technology has proven to have a significant impact on the effectiveness and efficiency of program production at BTV UBD. All informants agreed that the introduction of 4K cameras, gimbals, lighting sets, external microphones, and drones transformed production workflows that were previously hindered by technical limitations into processes that are now faster, more organized, and well-structured. The BTV Manager explained that prior to the adoption of modern equipment, the crew often had to redo filming sessions due to inconsistent visual quality, shaky footage, or noisy audio. After integrating the new technology, the production process became more controlled, schedules could be arranged more tightly, and the need for retakes decreased significantly. The Head of Production reinforced this by stating that the use of gimbals and lighting sets reduced the need for repeated corrections during filming, as their stability and consistent lighting enabled faster completion of production. The Post-Production Editor added that clean and sharp footage reduced the need for technical corrections, allowing more time to focus on strengthening storytelling and visual aesthetics during the editing phase. Despite these improvements in work effectiveness, several challenges remain. The limited number of devices forces crews to share equipment, occasionally causing tight production schedules and potential overlaps. Moreover, when crew members' skill levels are uneven, the very technology intended to accelerate the process can instead cause delays due to operational errors that require correction during post-production.

**Table 3. Interview Results on Production Effectiveness and Efficiency**

| Aspect                                      | Shared Views (DU, IR, MF)                                                                                                                                                                                 | Differences in Perspectives                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technical (Equipment and Production)</b> | All three informants agreed that technical challenges still frequently occur in the use of cinematographic technology, which affects production quality.                                                  | <ul style="list-style-type: none"> <li>▪ DU (BTV Manager): highlighted the limited number of devices (4K cameras, gimbals) and maintenance issues.</li> <li>▪ IR (Head of Production): emphasized students' weaknesses in operating equipment such as gimbals and lighting.</li> <li>▪ MF (Post-Production Editor): pointed out challenges during outdoor production, especially natural lighting and audio noise.</li> </ul> |
| <b>Managerial</b>                           | All informants acknowledged the importance of managerial strategies in allocating equipment and ensuring smooth production processes.                                                                     | <ul style="list-style-type: none"> <li>▪ DU: emphasized the need for a dedicated maintenance system and special budget allocation.</li> <li>▪ IR &amp; MF: focused more on field-related technical aspects rather than managerial issues.</li> </ul>                                                                                                                                                                          |
| <b>Human Resources (HR)</b>                 | All three agreed that students' technical skills still need improvement through continuous training.                                                                                                      | <ul style="list-style-type: none"> <li>▪ R: noted that many student crew members are still beginners in operating equipment.</li> <li>▪ MF: stated that limited crew skills often lead to additional corrections during the editing stage.</li> </ul>                                                                                                                                                                         |
| <b>Implications</b>                         | In general, all informants agreed that technical, managerial, and human resource challenges must be addressed so that cinematographic technology can be optimally utilized to support production quality. | <ul style="list-style-type: none"> <li>▪ DU: focused on optimizing equipment through effective maintenance management.</li> <li>▪ IR: focused on improving crew competence through regular practice and familiarization.</li> <li>▪ MF: focused on creative editing solutions to overcome limitations encountered during field production.</li> </ul>                                                                         |

Source: Research Data, 2025

## 6. Challenges and Constraints

The interview findings reveal that the utilization of cinematographic technology at BTV UBD faces multidimensional challenges, encompassing technical, managerial, and human resource aspects. The BTV Manager highlighted the limited number of devices, such as 4K cameras and gimbals, which must be shared among multiple crews, as well as the need for technical maintenance that requires specialized technicians and a dedicated budget. If

maintenance management and equipment allocation are not well planned, the existing technology will not function optimally to support improvements in production quality.

The Head of Production emphasized challenges on the human resource side, noting that many crew members are new students who are still unfamiliar with operating modern equipment. As a result, framing and lighting often do not meet professional standards, visual continuity is sometimes disrupted, and editors must perform additional corrections to ensure the final product remains broadcast-worthy. The Post-Production Editor added specific challenges encountered during outdoor productions, such as uncontrollable natural lighting and environmental noise easily captured by microphones. The combination of limited equipment, uneven technical competence among crew members, and dynamic field conditions constitutes the main obstacles in production. Nevertheless, these challenges also serve as valuable practical learning opportunities for students to develop technical proficiency, production management skills, teamwork, and problem solving abilities aligning with the notion that real-world difficulties are an essential part of building professional competence in media production.

**Table 4. Challenges and Obstacles in the Use of Cinematographic Technology**

| Aspect                                      | Shared Views (DU, IR, MF)                                                                                                                                                     | Differences in Perspectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technical (Equipment and Production)</b> | All informants agreed that technical aspects remain the main challenge in production, as equipment limitations and field conditions affect the quality of the final output.   | <ul style="list-style-type: none"> <li>▪ DU (BTV Manager): emphasized the limited number of devices (4K cameras, gimbals) and the difficulty of technical maintenance.</li> <li>▪ IR (Head of Production): highlighted that new student crew members still struggle to operate equipment such as gimbals and lighting.</li> <li>▪ MF (Post-Production Editor): pointed out challenges during outdoor production, such as natural lighting that is hard to control and background noise interference.</li> </ul> |
| <b>Managerial</b>                           | All three informants recognized the importance of managerial strategies in organizing resources and ensuring smooth production processes.                                     | <ul style="list-style-type: none"> <li>▪ DU: emphasized the need for an equipment allocation system and a dedicated maintenance budget.</li> <li>▪ IR &amp; MF: paid less attention to equipment management, focusing more on technical field issues.</li> </ul>                                                                                                                                                                                                                                                |
| <b>Human Resources (HR)</b>                 | All informants agreed that the skills of student crew members still need to be improved through regular training to become familiar with cinematographic technical standards. | <ul style="list-style-type: none"> <li>▪ IR: noted that many crew members are new students, resulting in suboptimal framing and lighting quality.</li> <li>▪ MF: stated that limited technical skills increase the editing workload because additional visual and audio corrections are required.</li> </ul>                                                                                                                                                                                                    |
| <b>Implications</b>                         | All informants believed that technical, managerial, and HR challenges must be addressed so that cinematographic                                                               | <ul style="list-style-type: none"> <li>▪ DU: focused on equipment maintenance and budgeting management aspects.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                      |

|                                                      |                                                                                                                                                                                                                                          |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| technology can optimally support production quality. | <ul style="list-style-type: none"> <li>IR: focused on improving student crew competence through continuous field practice.</li> <li>MF: focused on post-production efficiency by maximizing stable and sharp footage results.</li> </ul> |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Source: Research Data, 2025

## 7. Impact on the Quality of Cinematographic Technology Utilization

The interview results indicate that the use of cinematographic technology at Bina Darma TV (BTV UBD) has had a significant impact on improving the quality of program production, both in visual, narrative, and audio aspects. All informants agreed that modern production equipment such as high-resolution cameras, gimbals, drones, lighting sets, and external microphones has become the primary instrument determining the quality of broadcasts. This technology is no longer viewed merely as a technical aid but as a fundamental element shaping the professionalism of campus-based media production. The BTV Manager explained that the use of high-resolution cameras and gimbals produces visuals that are more stable, sharp, and possess a stronger cinematic value. He noted that every visual detail can now be captured clearly, while the gimbal maintains camera stability, resulting in a professional appearance comparable to commercial digital media. The Post-Production Editor added that the use of external microphones and digital editing techniques has significantly improved sound quality, making it clearer and minimizing noise interference. According to him, clear audio is just as important as visuals, as it directly affects the program's credibility and audience trust. Beyond enhancing technical quality, cinematographic technology also enriches visual storytelling. The use of drones provides new perspectives in narration, creating a more dynamic and immersive viewing experience. Meanwhile, color grading techniques ensure that the visuals remain consistent with the program's theme, maintaining color continuity and atmosphere while reinforcing the intended message. The combination of high-quality visuals, narrative, and audio ultimately results in broadcasts that are not only informative but also aesthetically engaging and professionally executed.

**Table 5. Impact on Production Quality**

| Aspect                                       | Shared Views (DU, IR, MF)                                                                                                                                   | Differences in Perspectives                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Visual (Camera &amp; Gimbal)</b>          | All informants agreed that high-resolution cameras and gimbals play an important role in producing stable, sharp, and professional broadcasts.              | <ul style="list-style-type: none"> <li>DU: emphasized cameras and gimbals as key instruments for maintaining broadcast quality standards.</li> <li>IR: noted that student crews still find it difficult to operate gimbals and lighting equipment.</li> <li>MF: pointed out that changes in natural outdoor lighting often reduce visual consistency.</li> </ul> |
| <b>Narrative (Drone &amp; Color Grading)</b> | All three agreed that technology supports variations in camera angles and visual narrative consistency, making broadcasts more dynamic and less monotonous. | <ul style="list-style-type: none"> <li>DU: viewed drones as a distinguishing element that elevates BTV's production quality to a "higher level."</li> <li>IR: emphasized the need for crew training to master lighting techniques for optimal color grading.</li> </ul>                                                                                          |

|                                            |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                            |                                                                                                                                                                   | <ul style="list-style-type: none"> <li>▪ MF: focused on additional editing to maintain consistent visual tone.</li> </ul>                                                                                                                                                                                                                                                     |
| <b>Audio (Microphone &amp; Editing)</b>    | All agreed that clear audio is as important as visuals and significantly influences the program's credibility, especially in news content.                        | <ul style="list-style-type: none"> <li>▪ DU: emphasized that modern audio equipment is part of professional production standards.</li> <li>▪ IR: highlighted the lack of crew experience in managing audio equipment on set.</li> <li>▪ MF: noted that outdoor noise interference remains the main challenge during editing.</li> </ul>                                       |
| <b>Implications for Production Quality</b> | All informants agreed that the use of cinematographic technology makes BTV UBD programs more competitive, professional, and credible in the eyes of the audience. | <ul style="list-style-type: none"> <li>▪ DU: stated that technology elevates BTV UBD's production quality to be on par with other digital media.</li> <li>▪ IR: stressed the importance of student skill development as production human resources.</li> <li>▪ MF: viewed technology as an opportunity to enhance editing quality according to industry standards.</li> </ul> |

Source: Research Data, 2025

## 8. Research Findings

The research findings were obtained through in-depth interviews, direct observations, and documentation of the production process at Bina Darma TV (BTV UBD). The results were systematically organized to answer the research questions, focusing on the implementation of cinematographic technology in improving production effectiveness and program quality. Thematic analysis revealed the experiences of production crews including directors, cameramen, editors, and producers who utilized modern production tools such as 4K cameras, drones, gimbals, professional lighting systems, and AI-based editing software. The findings also highlight the dynamics and challenges technical, narrative, and managerial—that arose during production. Selected interview excerpts were included to provide contextual interpretation and strengthen data validity.

This study employed Mascelli's (2009) 5C Theory as an analytical framework to assess the application of cinematographic technology at BTV UBD, which includes Camera Angle, Continuity, Composition, Close-Up, and Camera Editing.

In terms of Camera Angle, the production crew effectively applied creative shot variations. Eye-level shots were used to create a neutral impression in news reports, low-angle shots emphasized the authority of talk show speakers, while high-angle shots were applied in outdoor coverage to capture the overall atmosphere. As DU, the BTV Manager, stated, "With high-resolution cameras, every visual detail appears clear and sharp, while the gimbal ensures camera movements remain stable, making the results look professional." (Interview, DU, July 1, 2025). This supports Mascelli's (2009) assertion that camera angle selection has not only a technical impact but also a strategic influence on shaping audience perception of visual messages.

In the Continuity aspect, visual consistency was evident in the program Bina Darma Terkini, which maintained direction, composition, and transitions between shots. However, challenges persisted due to new student crew members who were not yet accustomed to controlling lighting or framing. IR, the Head of Production, admitted, "Many of our crew members are new students, so they're still learning to manage lighting and framing. Sometimes the results aren't consistent, so we need continuous practice." (Interview, IR, July 3, 2025).

The use of lighting kits and color grading helped improve visual continuity, aligning with Gede et al. (n.d.), who emphasized that maintaining visual continuity is essential to ensure viewing comfort and narrative flow.

Regarding Composition, the crew applied the rule of thirds principle and used variable lenses to create balanced visuals while maintaining focus on the main subject. This approach aligns with Mascelli's (2009) emphasis on composition as a means to direct audience attention. The finding supports Aditia and Yudhistira's (2023) study, which found that visual composition enhances narrative realism in the film *Mencuri Raden Saleh*. The Close-Up technique was effectively used to highlight emotional expressions and build audience intimacy with the subject. MF, the post-production editor, noted, "When shooting outdoors, background noise often interferes, so I use close-ups to capture the subject's expressions while minimizing visual distractions." (Interview, MF, July 13, 2025). This finding aligns with Ari Susanti's (2021) research showing that close-ups reinforce emotional and moral messages in religious films.

Lastly, in the Camera Editing aspect, the use of AI-based software such as CapCut AI, Adobe Premiere, and Photoshop streamlined the editing process and maintained visual consistency. Features like color grading, auto-captioning, and audio correction produced smoother and more professional content aligned with program themes. Consistent with Mascelli's (2009) theory, editing serves as a crucial element to sustain visual continuity and refine narrative flow. Handayani (2020) also emphasized that precise editing enhances the appeal of campus media content. Overall, the application of Mascelli's 5C framework at BTV UBD demonstrates a harmonious integration of technological innovation, visual creativity, and academic principles, establishing BTV as a professional, educational, and relevant campus media platform in the evolving digital broadcasting industry.

The findings of this study confirm that the implementation of cinematographic technology at Bina Darma TV (BTV UBD) has made a tangible contribution to improving the quality of program production technically, aesthetically, and narratively. Based on Joseph V. Mascelli's (2009) 5C Theory, which includes Camera Angle, Continuity, Composition, Close-Up, and Camera Editing, it can be concluded that BTV UBD has effectively utilized cinematographic technology in every aspect of its production process. The use of modern tools such as 4K cameras, drones, gimbals, lighting kits, and AI-based editing software has become the primary foundation supporting both the professionalism of broadcasts and the efficiency of the production crew's workflow.

In terms of Camera Angle, the BTV crew successfully implemented varied shooting angles according to the program's context. Eye-level shots were used in news coverage to create a neutral impression, low-angle shots emphasized the authority of talk show speakers, and high-angle shots provided a comprehensive view of outdoor scenes. These variations enhanced the professional image and increased the visual appeal of the broadcast. As Mascelli (2009) asserted, camera angles play a strategic role in shaping the audience's perception of the subject and message. This finding aligns with Gede et al. (n.d.), who demonstrated that diverse camera angles improve aesthetics and visual engagement in video productions.

Regarding Continuity, BTV made strong efforts to maintain visual consistency between shots to ensure smooth narrative flow. Although novice student crews still faced difficulties in managing lighting and framing, the application of lighting kits and color grading helped reduce

inconsistencies. This supports Mascelli's (2009) and Gede et al.'s (n.d.) views that visual continuity is essential for creating a dynamic and easily comprehensible viewing experience. The Composition aspect also played an important role. The crew applied the rule of thirds principle and used variable lenses to maintain visual balance and direct the audience's focus toward the main message. This finding is supported by Aditia and Yudhistira (2023), who found that visual composition effectively constructs narrative realism in the film *Mencuri Raden Saleh*.

Meanwhile, Close-Up techniques were consistently used to emphasize emotional expressions and enhance audience intimacy with the subject. MF, the post-production editor, explained that close-ups helped minimize background distractions while emphasizing the main message. This aligns with Ari Susanti's (2021) research, which confirmed that close-up techniques effectively reinforce emotional and moral expressions in religious films.

Finally, in the Camera Editing aspect, BTV utilized AI-based software such as CapCut, Adobe Premiere, and Photoshop to accelerate processes like color grading, auto-captioning, and audio correction. These editing techniques produced smoother, more consistent, and professional results corroborating Mascelli's (2009) theory and Handayani's (2020) research, both of which highlight that precise editing is vital for enhancing the attractiveness and credibility of campus media content. Overall, the integration of these five elements of Mascelli's 5C Theory demonstrates that BTV UBD's implementation of cinematographic technology successfully merges technological innovation, academic creativity, and production professionalism, positioning it as a leading example of digital campus media excellence in the modern broadcasting landscape.

## Conclusion

The findings of this study demonstrate that cinematographic technology plays a strategic role in supporting program production at Bina Darma TV (BTV UBD), with the use of modern equipment such as 4K cameras, gimbals, drones, professional lighting systems, and AI-based editing software proven to enhance production effectiveness, accelerate workflow, and produce more structured, credible, and aesthetically compelling broadcasts across visual, narrative, and audio dimensions. Despite these advancements, BTV UBD continues to face challenges related to limited equipment availability, relatively high maintenance costs, and uneven technical skill levels among student crew members—particularly in areas such as framing, lighting, and outdoor production—though these challenges simultaneously serve as meaningful practical learning opportunities that cultivate professional competencies in digital broadcasting. Overall, the integration of cinematographic technology has reinforced BTV UBD's position as an innovative and competitive campus media platform while strengthening Universitas Bina Darma's broader digital branding. For future research, it is recommended that subsequent studies adopt a quantitative or mixed-methods approach to measure more precisely the impact of specific cinematographic tools on audience engagement metrics and student learning outcomes, as well as to examine how structured training programs for student crews may address skill gaps and further elevate production quality in campus media environments.

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