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Blockchain Technology-based Used in Carnival Creative Industry: An Empowerment Tool for Carnival Industry Players on the Internet of Value Era

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Abstract

The creative economy in Indonesia is increasingly boosting the national economy, as evidenced by the success of events like the Jember Fashion Carnaval (JFC) and Banyuwangi Ethno Carnival (BEC), but industry players still need to utilize blockchain technology in the Internet of Value era to create economic value. Annually held in Jember, East Java, the Jember Fashion Carnival showcases extravagant costumes and parade performances, while the BEC, an ethnic carnival in Banyuwangi, celebrates the cultural diversity of the region through traditional dances and costumes. The purpose of this research is to identify readiness for implementing blockchain technology, identify the strengths of EFAS in the blockchain technology-based carnival creative industry, explore the uniqueness of blockchain technology-based carnival innovative products, and formulate a blockchain technology-oriented strategic plan in the carnival creative industry. This research is exploratory in nature, utilizing analytical methods such as TRA and TAM. The research results indicate that blockchain technology can serve as a valuable alternative tool in the era of the internet, particularly for the carnival industry, which includes events such as BEC and JFC. The community's lack of understanding of blockchain technology and NFTs poses the biggest threat. The carnival industry requires risk mitigation and education to ensure successful implementation. We can carry out this effort by providing assistance to carnival industry players, enabling them to enhance their competitiveness and seize potential external opportunities. The research shows that JFC and BEC are not yet fully ready to adopt blockchain in organizing Carnival events, but there is a strong intention and positive attitude towards implementing blockchain. The successful implementation of blockchain requires technical assistance and the building of human resource capacity.

Keywords: Blockchain; Creative Economy; Internet of Value; Theory of Reasoned Action; Technology Acceptance Model

A. INTRODUCTION

Studying the number of creative economy sub-sectors in Indonesia that have the potential to significantly boost the national economy is an exciting topic. The creative economy is one of the most significant contributors to gross domestic product (GDP). The creative economy as a new alternative sector is growing rapidly, with a contribution of 7.29% to national income in 2019 and absorbing more than 18.9 million workers. However, in 2020, Indonesia experienced severe challenges with the COVID-19 pandemic, which impacted the growth rate of the creative economy sector (Purwadi et al., 2023). This phenomenon underscores the need to scrutinize the performing arts sub-sector for its business products' added value, thereby enhancing its potential as a sub-sector within the creative industry. The horseshoe area presents significant business potential within the performing arts sub-sector. The creative endeavors of the performing arts subsector that have a significant impact are the Banyuwangi Ethno Carnival (BEC) and the Jember Fashion Carnaval (JFC). The event was supported by the appearance of hundreds to thousands of talents that can take place successfully (Solichah, 2016; Hermawan, 2019).

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The talents demonstrate creativity in creating make-up models and costumes that are both eye-catching and comfortable to watch. These talents' creativity requires thorough documentation and copyright protection, just like the work of Indonesian children. Thus, creative work at every carnival event can provide direct economic value to the talents involved. In the era of the Internet of information, the use of the Internet often infringes on the copyright of creative works owned by creative industry players, leading to widespread piracy, which ultimately harms these players (Tapscott & Tapscott, 2016). Copyright infringement has caused the creative industry to stagnate, thereby reducing the interest of creative industry players in their work (Anjani, 2021). The development of the internet today has entered the era of the internet of value through the implementation of blockchain technology (Tapscott & Tapscott, 2016). Blockchain technology allows creative industry players to protect copyright while making it easier to manage their works (O'Dair, 2017). This opportunity makes blockchain attractive and has the chance to be applied in organizing creative events such as JFC and BEC. Given that the two events currently serve as a model for organizing similar events on a national and international scale, it is increasingly essential to carry out the implementation immediately (Solichah, 2016).

Blockchain is also expected to help creative industry players create digital identity and business credibility (Sutandi, 2018). The creative industry of the horseshoe performance sub-sector represented by JFC and BEC could be more optimal in utilizing Blockchain technology. Several researchers previously only focused on the creative industry in general, while the application of technology carried out by the creative sector was very minimally discussed about business management (Angelova, 2019; Malik et al., 2023; O'Dair, 2018). Interest in Blockchain technology is still low compared to Blockchain products (Bitcoin, Ethereum, Non-Fungibletoken, etc.) (see Figure 1).

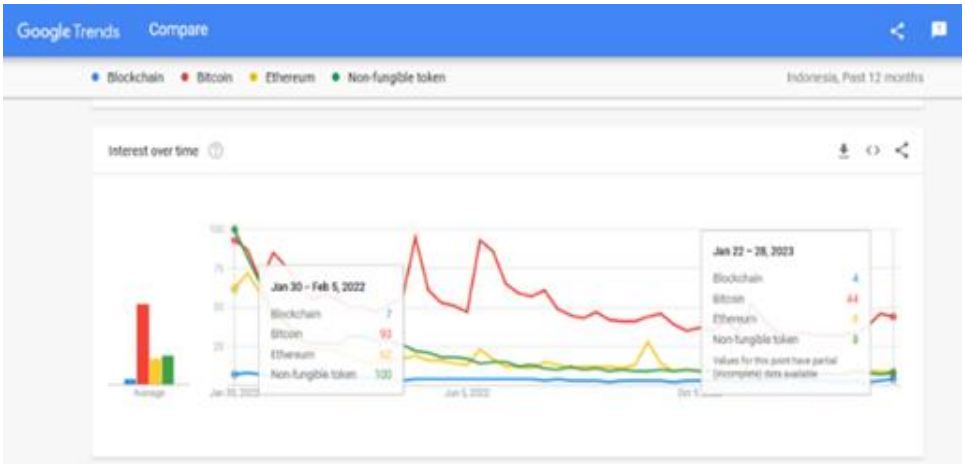

Figure 1. Keyword search results on Google Trends
Source: Google Trends, 2023

The creative industry of the horseshoe performance sub-sector represented by BEC and JFC still needs to utilize blockchain technology on the Internet of Value era for economic value creation. The research focuses on this issue. Similar studies solely concentrate on the creative sector as a whole, but a deeper discussion is necessary regarding the use of internet technology to generate economic value within this industry. In comparison to the financial industry, the creative sector still utilizes blockchain technology at a relatively low rate. Based on this phenomenon, this study aims to:

1. Determine the preparedness of players in the carnival creative industry to integrate blockchain technology.
2. Identify the strengths of the EFAS creative industries carnival based on blockchain technology.

B. LITERATURE REVIEW

The organization utilizes information systems and information technology as a means to effect change. The combination of information technology and human management is the key to the successful implementation of information systems. Systems can simplify work by replacing repetitive tasks. Information systems play a crucial role in enhancing the efficiency and effectiveness of organizational performance (Mukhsin, 2020). Carnival can support the realization of the creative economy. There are several studies conducted by which it is stated that tourism development opportunities through carnival activities can be carried out through UN language application activities, application of local wisdom values, and cultural revitalization, bringing out the uniqueness of tourism, branding in each city, and promotions that are characteristic of the local area (Akhmad et al., 2017; Ariani, 2018; Destari, 2017; Farida et al., 2017; Setiawan et al., 2017; Sumardi et al., 2018; and Umbaran, 2014). Anoegrajekti et al., (2015) also added that the metamorphosis of the performance industry has the potential to support tourism, namely as tourist destinations, souvenirs, entertainment, and story documents. Furthermore, Tallapessy, (2019) also mentioned that local transformation is also an essential note in cultural carnival activities. Cultural transformation policies that change the physical appearance of local culture with glamorous styles are increasingly in demand (Sariono & Anoegrajekti, 2015). As stated by Anoegrajekti et al. (2015), there are opportunities for the development of the carnival industry that can be done through transformation, diversification, and digitalization efforts. Digitalization refers to the process of transforming analog technology into digital technology. This transition process also facilitates everything users and products need. Thanks to this process, we anticipate an increase in user loyalty and a significant increase in the value of transactions. Therefore, the production process or output of the carnival industry can shift to digital technology.

According to Tjokrosetio (2022), blockchain is a peer-to-peer network-related technology of a group of computers and servers that form an integrated shared database. The development of blockchain technology drives the era of the Internet of Value, enabling the creation of a transparent, decentralized, and third-party-free financial system (Tapscott & Tapscott, 2016). The use of blockchain is extensive and covers various sectors, such as finance, art, education, health, social, and so on. In the field of art, blockchain is the basis of non-fungible token (NFT) technology as a new way to transact digital assets, such as paintings, songs, digital art, games, show tickets, membership passes, and various forms of digital objects (phygital) to be collected (Thomas, 2023).

C. RESEARCH METHOD

This study employs an exploratory qualitative approach. The purpose of this study is to describe and explore the application of blockchain technology to the carnival industry. This research focuses on carnival events in Banyuwangi, specifically the Banyuwangi Ethno Carnival (BEC), and Jember, specifically the Jember Fashion Carnaval (JFC). The research objects are: BEC event organizers (EO), namely the Banyuwangi Regency Tourism Office, and EO JFC, namely the JFC Foundation, BEC and JFC end-users (spectators), and BEC and JFC talents. We collected data using interview techniques with informants and observations to explore the concerns and confidence of the research object. We found that the audience either preferred the on-site show (Threat Aspect) or chose to enjoy digital carnivals in the Internet era (Opportunity Aspect).

The data analysis used is to identify the readiness of carnival industry players to implement blockchain technology with the Theory of Reasoned Action (TRA) analysis tool. The Theory of Reasoned Action (TRA) analyzes the factors influencing an individual's or group's intention to act, providing an explanation and prediction of human behavior in the context of carnival industry players (Ajzen & Schmidt,

2020; Shen, 2014). We further identify the strengths and weaknesses of carnival industry players in the penetration of blockchain technology through their behavior analysis. Next, place the EFAS strengths of the carnival industry based on blockchain technology with the Technology Acceptance Model (TAM) analysis tool. We use TAM to identify factors, such as consumer benefits, ease of access, and technology suitability, that influence the acceptance of blockchain technology in the carnival industry's external environment. Opportunities and threats to the carnival industry in penetrating the use of blockchain technology come from the external environment, which includes consumers (spectators) as parties who consume service products from the carnival industry and other ecosystem members, such as the government.

D. RESULTS AND DISCUSSIONS

Banyuwangi Etno Carnival (BEC)

Banyuwangi is known as the City of Festivals. One of its featured festivals is the ethnic costume festival known as the Banyuwangi Ethno Carnival (BEC). Regent Abdullah Azwar Anas led the first organization of BEC on October 22, 2011. At that time, the BEC costume festival first carried the theme *Gandrung, Damarwulan, and Kundaran*. These three arts represent regional cultures that emerged among the people of Bumi Blambangan. Regional art costumes were transformed into carnival costumes with a modern twist. No wonder; his appearance is so stunning to anyone who sees it. The first BEC event was a success, marked by enormous appreciation and enthusiasm from the community. This inaugural event also triggered the emergence of contemporary fashion designers in Banyuwangi. Ainur Rofiq, Head of Marketing of the Banyuwangi Culture and Tourism Office (DISBUDPAR), revealed that BEC, with its ethnic elements, focuses more on local culture. On October 22, 2011, BEC came into existence. This event was held to bridge the modernization of local cultural arts that have been growing and developing in the lives of the people of Banyuwangi.

Jember Fashion Carnival (JFC)

Dynand Fariz, the founder of JFC Center, initiated this carnival. JFC began on January 1, 2003, and occurs every year between July and August. Thousands of tourists and hundreds of local and international media attend JFC, which has become an international spotlight event (Azizah et al., 2020). Often, national artists, Indonesian princesses, and some famous people participate in the event. Over 2,000 participants carnivaled in 4 days of events, including Kids Carnival, Artwear Carnival, Waci, and Grand Carnival, on the main road of Jember city (3.6 km from Alun-Alun to GOR Kaliwates), witnessed by hundreds of thousands of spectators on the right and left of the road. The talents are divided into ten categories, each reflecting the fashion trends of the year concerned (Denissa et al., 2016). In its journey, JFC has now become the third-largest carnival in the world after winning at the International Carnival de Victoria, Seychelles, Africa. JFC has also presented various world achievements, including Best National Costume, in international competitions that attract 40 to 80 countries worldwide. JFC's success in both national and international arenas can serve as a catalyst for the development of other sectors in Jember. The themes of BEC and JFC activities from year to year processed from various sources can be seen in Table 1.

IT Implementation in the Carnival Industry

Internet technology has transformed the carnival industry in a variety of ways, from the planning and booking of carnival tickets to the promotion and enjoyment of carnivals. Traditionally, people would look for festivals in guidebooks or newspapers. However, with the growing popularity of the internet, one can now easily find festivals worldwide online. This has made it easier for people to find a carnival that suits their interests and budget. In addition, internet technology has allowed carnivals to promote

themselves in a more effective way than ever before. Festivals can use websites, social media, and email to share information about their events with a broader audience. This has helped the carnival attract more visitors. Internet technology has also changed the way people enjoy carnivals. People can now easily use the internet to learn more about festivals, watch carnival videos, and even buy carnival tickets. This makes the carnival experience easier for those who can't attend. Overall, internet technology has had a very positive impact on the carnival industry. Internet technology has made it easier for people to find carnivals, promote them, and enjoy festivals. This has contributed to the success and excitement of the festival, drawing in more spectators.

Table 1. Carnival Industry Activities Theme

Year	BEC		JFC	
	Theme	Number of Talents (participants)	Theme	Number of Talents (participants)
2003	-	-	JFC 1 Cowboy, punk, and gypsy fashion	-
2004	-	-	JFC 2 Arab, Indian, Moroccan, Chinese and Japanese fashion Busana Mali, Athena-Yunani, Brasil, India, Futuristic dan Vintage	300 participants
2005	-	-	The Spirit of Indonesia	500 participants
2006	-	-	Anxiety and Spirit of the World	1,000 participants
2007	-	-	Save Our World	1,500 participants
2008	-	-	World Evolution	2,000 participants
2009	-	-	World Unity	2,500 participants
2010	-	-	World Treasure	3,000 participants
2011	Gandrung, Damarwulan, dan Kundaran	60 participants	Eyes of Triumph	5,000 participants
2012	Re-Barong Osing	165 participants	Extremagination	5,000 participants 600 talents
2013	The Legend of Kebo-keboan	150 participants	Artechsion	3,000 participants
2014	The Mystic Dance of Seblang	200 participants	Dynamic in Harmony	3,000 participants 800 talents
2015	The Osingnese Royal Wedding	Hundreds of participants	Triangle Dynamic In Harmony	4,000 participants 900 talents
2016	The Legend of Sritanjung-Sidopekso	160 participants	Out Frame	5,000 participants 1,000 participants
2017	The Majestic of Ijen	160 participants	Revival	5,000 participants 1.100 talent
2018	Puter Kayun	120 fashions	Victory	4,000 participants 750 talents
2019	The Kingdom of Blambangan	120 participants	Asia Light	5,000 Indonesian participants 15 other countries 800 talents
2020	Vacuum due to the Covid-19 pandemic	-	Tribal Grandeur	500 talents
2021	Vacuum due to the Covid-19 pandemic	-	Virtue Fantasy	1,800 participants 800 talents

2022	Diversity of Banyuwangi Culture	75 participants	The Legacy	5,000 participants 800 talents
2023	The Majestic of Ijen Geopark	75 participants	Timelapse	-

Sources: DISBUDPAR Banyuwangi and JFC Foundation, 2023

Technology Implementation in the Carnival Industry

JFC and BEC organizers also utilize Internet technology. The identification made of the use of internet technology at JFC and BEC events is shown in Table 2.

Table 2. Utilization of Internet technology at BEC events

No	Media	Website Address	
		BEC	JFC
1	Website	https://banyuwangitourism.com/ https://banyuwangikab.go.id/	www.jemberfashioncarnaval.com/
2	Email	-	jfcforindonesia@gmail.com
3	Youtube	https://www.youtube.com/@pemerintahkabupatenbanyuwangi	www.youtube.com/@jemberfashioncarnaval4589
4	Facebook	-	www.facebook.com/jemberfashioncarnaval/
5	Instagram	https://www.instagram.com/banyuwangiethnocarnival.id/	www.instagram.com/jemberfashioncarnaval
6	Twitter	-	www.twitter.com/jfcinfo
7	Tiktok	-	www.tiktok.com/@jfcofficial_
8	Linkedin	-	www.linkedin.com/company/jemberfashioncarnaval
9	Ticket	-	https://ticket.jfcglobalindonesia.id/
10	Google Forms	https://docs.google.com/forms/wartiketonline	https://docs.google.com/forms/pendaftaranpeserta
		https://docs.google.com/forms/ethnoweardewasa	-
		https://docs.google.com/forms/ethnowearcilik	-
		https://docs.google.com/forms/daftarulangpesertabec	-
11	GDrive	https://drive.google.com/file/pesertalolos	-
12	S.id	https://s.id/pesertalolosbec2023	-
13	Linktree	https://linktr.ee/ethnowear	www.linktr.ee/jemberfashioncarnaval
14	WhatsApp	-	https://wa.me/foundationsecretary
15	BitLy	-	http://bit.ly/PESERTAJFC

Source: Data processing, 2023

Blockchain Technology Implementation Opportunities in Creative Industries

The development of Internet technology has a close relationship with the concept of the Internet of Information. Web 1.0 was originally the first generation of web technologies that emerged in the 1990s. Web 1.0 is a static web that allows users to read news but cannot interact with that information. Web 2.0 is the second generation of web technology that emerged in the early 2000s. Web 2.0 is an interactive web that allows users to interact with information. Users can leave comments, leave ratings, and share information with others. In the Web 2.0 era, users can use computer networks to share and access information in real time, further solidifying the concept of the internet of data. With the internet, users can access information from all over the world easily and quickly. This information can be text, images, video, and audio. Users can also share information with others easily and quickly. So far, the implementation of

internet technology carried out by the carnival industry has only used the concept of the internet of information.

Following the Covid-19 pandemic, the rapid development of digital technology is currently underway, offering numerous opportunities for the carnival industry to host even better carnivals in the future. These various technological developments provide opportunities for the carnival industry to become more exciting and interactive. These are included: Web 3.0 is a third-generation Internet that promotes data decentralization and artificial intelligence. This technology allows visitors to explore the carnival virtually using augmented reality (AR) and virtual reality (VR). They can explore a virtual stage to get an immersive experience. Blockchain as a distributed database allows secure transactions without intermediaries. Carnival can use it to transact tickets, merchandise, and food online. The blockchain securely stores visitor data to prevent data theft. NFTs (non-fungible tokens) are unique blockchain-based digital assets that are currently popular. The carnival industry can leverage NFTs to create and sell unique digital artwork, such as paintings, music, and videos. Blockchain allows the purchase of NFT artwork with cryptocurrency. The concept behind all this is the internet of value. If the first-generation internet rests on information and the second-generation internet on social interaction, then the internet of the future will focus on the exchange of value, not just data or knowledge alone. Carnivals can become more efficient and a forum for seamless interactive appreciation of digital culture by combining the various opportunities presented by these technologies. So the festival has the potential to become part of the internet of value in the future.

The Readiness of Carnival Creative Industry Players to Implement Blockchain Technology

The data analysis used is to identify the readiness of carnival industry players to implement blockchain technology with the Theory of Reasoned Action (TRA) analysis tool. The Theory of Reasoned Action (TRA) analyzes the factors that influence an individual's or group's intention to perform an action, providing an explanation and prediction of human behavior in the context of carnival industry players.To achieve this goal, this study conducted an interview with the steering committee on the use of blockchain technology in carnival activities. Table 3 displays the results of the interview. The readiness of the carnival industry regarding the implementation of blockchain technology can be observed from the results of interviews with informants based on TRA analysis. We use this tool to analyze the factors that influence the BEC steering committee's intention to take action, explaining and predicting their behavior. We further identified the carnival's steering committee's strengths and weaknesses in utilizing blockchain technology.

In connection with the use of technology, behavioral intention is defined as the desire or intention of users to use blockchain technology continuously with the assumption that they have access to information. A person will be interested in using a new information technology if the user believes he can improve his performance. The user can swiftly utilize information technology, gaining insight from the surrounding environment. The penetration of blockchain technology further identifies the strengths and weaknesses of carnival industry players through their behavior. The interview results presented in Table 3 showed that the organizers of the Carnival Industry are not yet fully ready to adopt blockchain in organizing Carnival events, but there is a strong intention and positive attitude towards implementing blockchain. Technical assistance and human resource capacity building are needed for blockchain implementation to be successful.

Table 3. Carnival industry informant interview results

No	Interview Questions	Answers	Conclusion
1	Do you agree that using blockchain technology can	If indeed the use of IT, such as managing YouTube, can cover the cost of event	Carnival industry organizers are optimistic and support the use of blockchain technology. This

	increase efficiency in the carnival industry?	production, it is very extraordinary, and we need it.	can be seen in the statement that the use of IT, such as managing YouTube, can cover the cost of producing events, and they need assistance implementing blockchain technology.
2	Do you agree that the use of blockchain technology can increase transparency in the conduct of the carnival industry?	From the event implementation, it is different from JFC if JFC is the implementer and the government is the event support. Still, this BEC is financed by the regional government at a minimal cost but produces as much as possible.	
3	To what extent do you feel supported by relevant stakeholders to use blockchain technology in the carnival industry?	If UNEJ friends can assist in communicating with song owners and collaborate with friends who arrange songs, the impact on them will be enhanced. In 2023, we will make a video with the official song. We are limited in time and energy due to the large number of sub-events, potentially reaching hundreds. This year alone there are 150 events. If there is assistance from UNEJ friends, we are very grateful because those who participate will be greatly appreciated.	There is no explicit statement regarding subjective norms. However, it can be concluded that carnival industry organizers feel supported by relevant stakeholders to use blockchain technology, especially by UNEJ academics who offer assistance in blockchain implementation.
4	To what extent do you intend to apply blockchain technology in the implementation of the carnival industry in the future?	Regarding the sale of carnival products such as costumes, there is a problem, namely whether anyone buys the product if it is traded digitally. As an organizer, I am ready to only need assistance because this is still new, and the costumes that have talent are not us.	Creative industry organizers stated that they are ready to implement blockchain with the assistance of academics. This indicates a strong intention to adopt blockchain in the creative industries
5	According to you, how far along is the steering committee currently in terms of technical, human resources, budget, and policy readiness to adopt blockchain technology in the carnival industry?	If the local budget and revenue (APBD) does not exist, the continuation of BEC depends on political will, so suppose the regent changes, and according to the regent, no development will be dismissed related to the BEC event..	Technically, carnival industry organizers still need assistance for blockchain implementation. In terms of HR, there has been no explicit explanation regarding HR competence. In terms of budget, organizers stated that blockchain can reduce the cost of event production. Policy-wise, the implementation of the carnival industry is highly dependent on stakeholder support.

Source: Data processing, 2023

The next analysis is the Internal Strategic Factors Analysis Summary (IFAS). This study used IFAS to analyze internal factors that influence the readiness of carnival industry players to adopt blockchain technology. Based on the results of literature studies, observations, and interviews, several factors need to be taken into account when conducting IFAS in the context of the readiness of carnival industry players to adopt blockchain technology. blockchain technology. So, IFAS can help identify internal areas that need strengthening for a successful bloc. Table 4 displays the results of the IFAS analysis. The analysis of interview results reveals that the internal factors of the carnival industry's players in blockchain penetration strike a balance between strengths and weaknesses. The main strength is the enthusiasm and benefits of blockchain for the carnival industry. The main weakness is the lack of technical understanding, and there has been no genuine initiative from the government.

Table 4. IFAS Analysis in the Carnival Industry

Strengths	Weight
1. High enthusiasm from carnival industry organizers to implement blockchain.	0.15
2. Blockchain can increase the efficiency and transparency of the carnival industry	0.15
3. Support from relevant stakeholders such as local governments and artist communities.	0.15
4. The carnival industry is a leading tourism asset in each region.	0.10
Weaknesses	
1. Lack of understanding and technical expertise of blockchain.	0.15
2. There has been no clear initiative from the local government.	0.15
3. Limited time and human resources of carnival industry organizers	0.10
4. Third-party assistance is still needed for blockchain implementation.	0.10
Total Strength score	0.55
Total Weakness score	0.50

Source: Interview Results, 2023

The Strengths of EFAS Creative Industries Carnival Based on Blockchain Technology

Next, identify the EFAS strengths of the carnival industry based on blockchain technology with the Technology Acceptance Model (TAM) analysis tool. We use TAM to identify factors, such as consumer benefits, ease of access, and technology suitability, that influence the level of acceptance of blockchain technology in the carnival industry's external environment. The external environment, which includes consumers (spectators) as parties who consume service products from the carnival industry and other ecosystem members like the government, presents both opportunities and threats to the carnival industry's penetration of blockchain technology. This study used the Technology Acceptance Model (TAM) to assess how participants and spectators in the carnival industry would react to the planned use of blockchain technology and non-fungible tokens (NFT) in carnival events. In this study, we used the following operational variables. Table 5 displays the results of interviews with carnival costume designers, talents, and spectators. The interview results show that the implementation of blockchain and NFT in the carnival industry has the potential to provide benefits and convenience for organizing events. However, we must overcome challenges related to abuse risk and user readiness to ensure the optimal acceptance and utilization of this technology.

Table 5. Interview Results of Costume Designers, Talents, and Carnival Audiences

No	Interview Questions	Answer Reports	Conclusion
1	Can blockchain and NFT technology improve the performance or effectiveness of organizing the carnival industry?	Costume designer: Digital products make it easy to promote designs and find new customers. But it is prone to plagiarism. Talent: Expand carnival promotions. But prone to copyright abuse. Audience: Increase carnival industry exposure and easier access to information.	In general, blockchain technology and NFT are considered to provide benefits for the carnival industry in terms of increasing exposure and reach of events, copyright protection, and ease of digital ticket and merchandise transactions. However, there are still concerns about the risk of copyright infringement if not managed properly.
2	Is Blockchain and NFT technology easy to use?	Costume designer: I still find blockchain and NFT technology difficult to use now. However, costume designers are optimistic that by learning and trying to use this technology gradually, they will	While acknowledging the challenges associated with education and adapting to the use of blockchain and NFT, viewers generally view this technology as facilitating digital access to information

		be able to understand and use it well to protect their design rights. Talent: Understanding blockchain and NFT technology is still a challenging task. However, by learning and being open to trying, we can use this technology effectively in the future to protect the rights to its appearance. Audience: easier access to tickets and information via mobile.	and transactions. To make it easy to use, we need education and mentoring.
3	Are you interested in using blockchain technology and NFTs in organizing (watching) events?	The costume designer is willing to work as long as there are permission and copyright arrangements in place. Talent: I am willing to participate, provided that permission and copyright arrangements are established. Audience: Interested in buying digital products is beneficial. It needs certainty of security and authenticity.	Costume designers, talents, and spectators in the carnival industry are generally interested in using blockchain and NFT, provided that their implementation is secure and legal. We still need socialization and education to boost interest in their use.

Source: Interview Results, 2023

Table 6. EFAS Analysis of the Carnival Industry

Opportunities	**Weight**
1. Expanding the promotional and branding reach of the carnival industry globally.	0.20
2. Increase investor interest and become a new source of income through NFTs.	0.15
3. Enable digital sale of merchandise and design licenses.	0.15
4. Encourage innovation and collaboration with the blockchain community.	0.10
Threats	
1. People's lack of understanding of blockchain and NFTs	0.15
2. Unclear government regulations related to blockchain and NFT	0.10
3. Risk of misuse of carnival industry digital assets by irresponsible parties	0.10
4. Potential drop in viewer interest to live events if there is too much digital content	0.05
Total Opportunity score	0.60
Total Threat score	0.40

Source: Results of Interviews with Designers, Talent, and Audience, 2023

The next analysis is the External Strategic Factors Analysis Summary (EFAS). This study employs EFAS to scrutinize external factors influencing the preparedness of carnival creative industry participants (designers, talents, and audiences) to embrace blockchain technology and NFTs. Based on the results of literature studies, observations, and interviews, several things need to be considered in conducting EFAS in the context of the opportunities and threats of the carnival industry in adopting blockchain technology and NFTs. By considering these external factors, EFAS analysis can provide a comprehensive understanding for the carnival industry in applying new technologies to suit the conditions of its strategic environment. The results of the EFAS analysis in Table 6 showed that the main opportunity is to expand the promotional and branding reach of the

carnival industry and earn new revenue through NFTs. From the results of the matrix values above, the matrix quadrant value is found with the following assumptions: for the X value, which is the difference in total strength minus total weakness = S - W = X, and for the Y value, which is the difference in total probability minus total threat = O - T = Y. Then the result of the matrix x value and y value is as follows:

X = 0,55 - 0,50 = 0,05
Y = 0,60 - 0,40 = 0,20

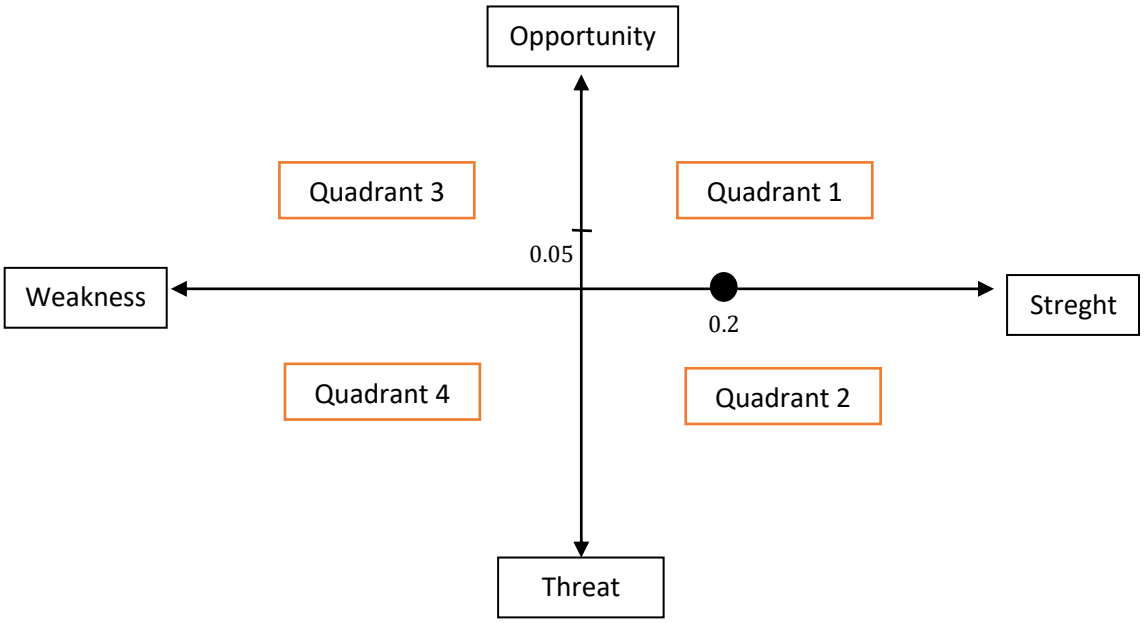

Figure 2. Quadrant matrix, EFAS, and IFAS analysis

Based on Figure 2, it is shown that the carnival industry in implementing blockchain is in quadrant I (positive). This indicates that the carnival industry in Indonesia is in a strong condition and has the opportunity to implement blockchain. The strategy recommendation given is progressive, meaning that the carnival industry is in top shape and good. Therefore, it is possible to continue expanding the use of blockchain to advance carnival activities on a continuous basis. The community's lack of understanding of blockchain technology and NFTs poses the biggest threat. The carnival industry must effectively manage risks and provide education to ensure successful implementation. The results show that blockchain technology presents significant opportunities for the carnival creative industry in Indonesia to create more value and empower industry players in the era of the internet of value. The internal analysis reveals that while carnival organizers like BEC and JFC have high enthusiasm for adopting blockchain, there is currently a lack of technical expertise and understanding about how to properly implement and leverage blockchain solutions. Human resource capacity building through training and knowledge transfer will be crucial for successful blockchain adoption. Additionally, clear initiatives and supportive policies from local governments are still lacking, which could hinder widespread adoption.

Externally, blockchain offers compelling opportunities to expand the promotional reach and branding of carnival events globally through digital channels and NFTs. It allows for secure digital sales of merchandise, collectibles, and licensing of creative works. This can open up new revenue streams and investment interest in the carnival industry. However, threats such as a lack of

blockchain literacy among the public and unclear regulations create uncertainties that require education and collaboration with authorities to address. Interviews with costume designers, talents, and spectators reveal a generally positive reception for blockchain and NFTs in the carnival context, as long as they properly manage issues related to security, copyright protection, and ease of use. People view blockchain as advantageous as it enhances visibility, protects creative works, and streamlines digital ticketing and merchandise sales. However, concerns remain about potential misuse of digital assets without proper controls.

The EFAS analysis shows that the benefits of global marketing, making money through NFTs, and digital innovation are greater than the threats from outside sources if everyone works together to teach others about blockchain and interact with regulatory bodies. Combined with building internal capabilities, the carnival creative industry is well-positioned to be an early mover in harnessing blockchain as an empowerment tool. Blockchain presents a transformative opportunity, but it requires a holistic strategy focused on human resource development, stakeholder engagement, robust security practices, and advocacy for supportive policies. With concerted efforts in these areas, the Indonesian carnival industry can blaze a pioneering trail in the Internet of Value era.

E. CONCLUSION

Blockchain technology can be an alternative enabler tool on the internet of the value era for the carnival industry. Mentoring carnival industry players can enhance their competitive strength and enable them to seize potential external opportunities. Orienting mentoring materials towards achieving economic value for carnival industry players is crucial. Events such as the Banyuwangi Ethno Carnival (BEC) and Jember Fashion Carnaval (JFC) represent the creative economy, which significantly drives economic growth in Indonesia. However, to unlock its full potential in the era of the internet of value, this industry needs to strategically adopt emerging technologies like blockchain.

This research explored the readiness, strengths, opportunities, and strategic approach required for successful blockchain implementation in the Indonesian carnival creative industry. The results demonstrate that while internal readiness is currently moderate due to a lack of expertise, there is strong enthusiasm and intention from industry players to leverage blockchain solutions. Externally, blockchain presents major opportunities for global marketing, monetization through NFTs, secure digital commerce, and fostering innovation. We recommend a multipronged strategy that focuses on human resource development, stakeholder collaboration, robust security practices, and supportive regulations to capitalize on these prospects. Building internal blockchain capabilities through training programs and knowledge transfer from academics will be vital. Moreover, engaging with local governments and regulatory bodies can help create a conducive policy environment.

Effective implementation of blockchain can empower creative professionals by providing copyright protection, new revenue streams, global market access, and digital traceability for their works. For spectators, it elevates the carnival experience through seamless ticketing, digital collectibles, and immersive virtual extensions. Collectively, these can inject dynamism into Indonesia's creative economy. In essence, blockchain is an enabler that perfectly complements the innovative spirit of Indonesia's carnival industry. By proactively navigating the challenges and opportunities identified in this study, the Carnival Creative Economy can be a pioneering force that harnesses blockchain to thrive in the Internet of Value paradigm. This bold step has the potential to inspire other creative subsectors within the country and beyond.

This research provides valuable insights into the opportunities and strategic considerations for blockchain adoption in Indonesia's carnival creative industry. However, we should acknowledge and

address certain limitations through further research. First, the study focused specifically on two major carnival events (BEC and JFC) in the horseshoe region of Indonesia. While these are highly prominent and influential events, the creative economy landscape comprises numerous other subsectors and regional variations. Future studies should expand the scope to other creative domains like music, film, arts, etc. and gather perspectives from broader geographic areas. This will allow for a more comprehensive understanding of blockchain adoption factors across Indonesia's diverse creative industries.

Second, the data collected through interviews was primarily qualitative in nature. While this enabled rich insights into attitudes, intentions, and perceptions, further quantitative studies are recommended. Surveys with larger sample sizes can provide statistical validations and more precise measurements of variables like technology acceptance among creative professionals, investors, audiences, and other stakeholders. Quantitative modeling can shed light on the relative importance of different factors influencing blockchain embrace.

Third, we limited the analysis of the external environment to the general opportunities and threats. However, the creative industries exist within a complex ecosystem involving multiple stakeholders like investors, intermediaries, regulators, tech providers, and more. Focused research examining the roles, motivations, and value propositions for each of these ecosystem members could yield deeper strategic insights (Osterwalder et al., 2015).

Fourth, this study provides the current state assessment and strategic recommendations but does not delve into the operational aspects of blockchain implementation roadmaps and use cases. Subsequent research efforts should pilot actual blockchain applications tailored for the carnival industry's unique needs. Potential use cases could include tokenized ticketing, NFT marketplaces, creator economies, digital archives, and more. Learning from such pilots can refine the implementation approach.

Fifth, blockchain is a rapidly evolving domain, with new innovations emerging frequently. In the future, researchers should keep an eye on changes happening in areas such as decentralized finance (DeFi), decentralised sutonomous organisation (DAO) governance models, metaverse integrations, Layer 2 scalability solutions, and more to see if they are still relevant for regularly empowering creative industries. By addressing these limitations and expanding research horizons in the proposed dimensions, Indonesia can continue solidifying its position at the forefront of blockchain-powered creative economies. Collaborative efforts between industry, academia, and policymakers will be crucial for realizing this transformative potential.

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