Developing Intermediary Talent with the Cultural Technology Content Ecosystem – A Case Study on the Cultural Capital of Taiwan, the City of Tainan

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Brief Biography of the Author

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■ General track: Creative Industries

ABSTRACT

This paper is based on a government-funded (Ministry of Science and Technology) research project which investigates the needed digital transformation with Taiwan's Cultural Creative Sector (CCS). Recent Taiwanese authorities' policy discourse emphasizes developing intermediary talent to foster cross-sectoral collaborations in nurturing the Cultural-Tech Content Ecosystem (CTCE). This paper explores the involved interplay by identifying challenges and gaps in understanding the culture-tech-content transforming process and the roles of intermediary talent.

The primary objective of this study is to establish an empirical foundation for a robust ecosystem. The research focuses on the following inquiries: 1) *Understanding the Components and Values*: Investigating the perceived meanings and values among the cultural-technology-content stakeholders, identifying commonalities, tensions, and conflicts; 2) *Evolution and Intermediary Mechanisms*: Analyzing the trajectory of intermediary pathways, 3) Conditions *and Models in Taiwan*: Evaluating the inherent conditions or models in Taiwan's emerging cultural technology content ecosystem.

Methodologically, the case study adopts a mixed-method approach that integrates various data collection method, including literature review, questionnaire survey, in-depth interviews with stakeholders, focus group, and expert interviews. Conducted within the context of the oldest city and the cultural capital of Taiwan, Tainan, and its 'Tainan City 400 Years' commemoration in 2024, this empirical research highlights Tainan's transformation into a smart city. Leveraging technological advancements, the city promotes the integration of software culture technology, emphasizing 5G, AI, and AVR content applications across its CCS developments.

The research reveals the critical need for intermediary talents to bridge gaps in culture-tech-content translation and transformation. These talents require cross-industry interactions, digital skillsets, cultural competence, and self-learning approaches. Establishing mechanisms to convert implicit talent experiences into explicit knowledge is essential for fostering mutual learning and adaptation. Taiwan's ecosystem development demands reinforced transformative pathways and resource allocation, emphasizing talent-based ecological conditions.

Key words: cultural creative sector, cultural intermediary, cultural technology, cultural content, creative ecologies, digital transformation

Introduction:

Fueled by rapid technological developments, culture has become an increasingly more important national interest and tool of soft power. As a consequence, there are both new challenges and opportunities in nurturing a content ecosystem that accommodates cultural values and emerging technologies. While former cultural technology material was limited to traditional media and tools, the advent of digital applications has greatly expanded its scope and impact, in this process, the roles of intermediary talent, especially in culturally significant contexts, have to be reevaluated.

In the efforts to encourage the digital transformation of the CCS, Taiwan authorities currently propose five strategies in developing the CTCE, including recognizing public infrastructure as the foundation for cultural technology and communication; institutionalizing cultural technology and digital governance; bridging cultural art and cultural technology through intermediaries; cultivating and developing interdisciplinary cultural and scientific talents; and advancing public services and citizen engagement.[1] Several programs and initiatives are leading these efforts. Examples include the Taiwan Cultural Memory Bank and Digital Value-Added Application Program, Forward-Looking Program to Upgrade UHDTV Content, and Program for New Media Cross-Platform Content Production.[2]

In examining the overall conditions for the creative ecosystem development, John Howkins' theory of 'creative ecologies' incorporating the four major elements: diversity, learning, adaptation and change (Hokwins, 2010) are widely accepted. In addition to overall ecological conditions, while the CTCE emphasizes and requires the individuals, platforms, networks, and their systemic and cyclical development, Harrington's (2011) 'co-creation' framework of creative ecology helps us to understand how people collaborate on experiments, and grow as teams. This system is defined as a ''*complete system on which creative activities depend*,'' including talent adaptability, openness, network connectivity, and the provision of environments conducive to the flow and sharing of creativity and information. The three key co-creation elements are: individuals, platforms, and networks, involving creators, project teams, creative environments, and the interactions and functional relationships during the process.

This paper therefore presents one of the key collaborative projects in cultural technology content production as case study, to unravel its co-creation paths and patterns, and the existing and emerging intermediary talent within. The university-government collaboration project recreates the 17th century Dutch-built fortress and the surrounding inland sea using AR, and three AR tours across the city allowing the public to experience the perspective of 17th century people's lives via a mobile phone or tablet device. Situating within the historical significance of Tainan City's quadricentenary, this case study highlights the importance of comprehending and leveraging original cultural elements interwoven with technological applications in content creation.

[1] See https://taiwaninsight.org/2023/11/06/cultural-technology-and-cultural-communication-sustainability-what-is-the-next-step-for-the-cultural-technology-agenda/ (Accessed 08122023)

[2] See https://www.moc.gov.tw/en/cp.aspx?n=460 (Accessed 08122023)

Literature Review

Cultural Technology Content Ecosystem: Process and Platform

In todays interconnected world of CCS, culture plays a vital role as a national asset, a source of influence and a key component of global identity and urban competitiveness. While these sectors contribute significantly to the economy there are still gaps in understanding the relationship between culture and technological progress (UNESCO, 2020), especially while technology has broadened the horizons of expressions, the process of merging of culture with technology remains a complex endeavor. Traditionally cultural technology content was limited to mediums; however recent advancements have enabled immersive experiences that encourage collaborations across different industries thereby enhancing content creation and distribution (Poell et al., 2021).

This transformation instigated by innovations and market dynamics poses challenges in governance, policy formulation and managing stakeholders. Various stakeholders from non-profit organizations and commercial entities play pivotal roles in shaping content creation through collaborative processes that influence cultural policies development and financial allocations (Bilton, 2020). Major players in the industry have transitioned from content production to providing funding support while creative studios are adopting structures which indicates a shift in stakeholder roles within the content ecosystems (Martel, 2021; García et al., 2021).Such changing landscape of content sector emphasizes the importance of exploring the shifting roles and interactions in more depth.

Additionally, the increasing dominance of platforms known as platformization brings about power imbalances that affect access, fair compensation and cultural diversity (Nieborg & Poell 2018). As a result, research has been focusing on how digital platforms play a role in cocreating cultural value prompting cultural organizations to enhance their digital capabilities, these platforms facilitate collaborative value creation in the realm by emphasizing iterative and data driven content production (Ciasullo et al., 2018). However, while the technological advancing , it's becoming increasingly essential to look beyond advancements and delve into the human aspects of these transformations, understanding the relationships within the culture tech content ecosystem is vital, for navigating these changes effectively (Moencks, 2022; Longo et al 2020) .

Cultural Intermediary: Significance, Evolving Roles, and Talent Needs

Studies on cultural intermediaries have evolved significantly since Bourdieu's seminal work in 1984. Historically, intermediaries included marketers, salespeople, art gallery curators, and media critics who facilitated relationships between creators and consumers. The internet and digital media have expanded these roles, introducing new skills in creation, visibility, and distribution (Hutchinson, 2017). Intermediaries now secure funding, oversee contractual negotiations, and facilitate direct communication among producers and consumers through digital platforms, enabling consumers to influence product outcomes as co-creators (Zhang & Negus, 2024; Nieborg & Poell, 2018). They value and link disparate components within the cultural ecosystem, requiring a comprehensive understanding of collaborative perspectives.

In the era of content, cultural intermediaries are translating and transferring meanings and logic, from creation to dissemination (Kivimaa et al., 2020; Lobato, 2016; Maguire & Matthews, 2012). As cultural and digital landscapes evolve, so do the skills required for effective intermediation. Digital platforms, crucial for distribution, enhance interactions among users, regulations, and commerce, driving value creation and influencing sales dynamics (Ciasullo et

al., 2018), which resulting in digital intermediation involving integrating cultural aspects of technologies, institutions, and automation into content processes (Hutchinson, 2023). This broadening scope requires contemporary digital and communication competencies.
While the literature acknowledges the expanded roles of cultural intermediaries, gaps persist in defining the specific skills needed to navigate this evolving landscape. There is a lack of research on the intersection of cultural intermediation with emerging technologies and its implications for content ecosystems. More scholarly investigations are needed to explore how intermediary talents can effectively collaborate across industries, fostering synergies and innovation, or acting increasingly more as platform adaptors (Zhang & Negus, 2024; Havens et al., 2009).

Cultural intermediaries, as cultural labor, play a crucial role in the evolving landscape of cultural production. Their work in navigating the complexities of digital and traditional media, securing funding, and facilitating collaboration is essential for the sustainability of the cultural ecosystem. The expanding scope of their roles and the increasing demands placed on them by digital transformation and applications highlight the need for a deeper understanding of their professional requirements and the challenges they face.

Cultural Heritage and Smart Cities: Dynamics and Tensions

The importance of heritage in influencing global impact, societal interactions and economic advancement has long been recognized, especially through the concept of soft power (Nye, 2004). However technological prgress are changing how cultural heritage is preserved and presented, bringing both challenges and opportunities (Angelidou et al, 2017; Borda & Bowen, 2017; Liritzis et al., 2015).

Smart cities face the task of incorporating heritage into their growth by utilizing it for tourism, partnerships and engaging with the community (Mendoza et al.,2023). Integrating cultural aspects with smart technologies presents hurdles such as aligning community needs with technological solutions and fostering cooperation across different industries. Overcoming these obstacles requires collaboration with local experts to enhance and safeguard cultural identity (Evans, 2009). Cultural intermediaries navigate through these environments by balancing heritage conservation, with technology integration promoting interdisciplinary teamwork and ensuring that technological progress enriches cultural heritage (Zhang & Li, 2019).

In conclusion, the convergence of cultural heritage and technology presents both opportunities and challenges, requiring extensive exploration and collaboration to harness the potential of cultural-technological integration for urban development. These challenges also highlight opportunities for strategic intervention. To foster the growth of smart cities that prioritize cultural heritage, it is essential to harmonize the infrastructure, governance, and human capital aspects of the cultural content technology ecosystem sustainably (Angelidou & Stylianidis, 2020). Effective partnerships between culture and technology demand the cultivation of shared values, reciprocal data flow, a long-term focus, and supportive policies (Pintossi, et al, 2023; Labadi, et al, 2021).

The above analysis suggests that developing the CTCE in historic urban areas where cultural heritage holds significance calls for a practical and deeper comprehension of its mediating processes. While culture has emerged as a component of global identity and competitiveness blending it with advancing technology poses intricate challenges.

Research Method

The data collection process of the case study on the 'AR Exhibition of the 17th Century Fort Zeelandia Recreation' included reviews of literature, government policy documents, and media press coverage to provide context and background of the chosen case. The interviewees inviting process utilized a snowball sampling method to identify key stakeholders, ensuring knowledgeable participants were included. This method began with initial interview with the Director of the Tainan 400 Project Office, who then referred additional relevant stakeholders. The selection criteria for this case study focused on its commitments to culture technology cross-sector collaborations, alignment with the Tainan 400 vision, as well as the Tainan city rebranding initiatives.

Contexts and Case:

Tainan City- The Transforming Cultural Capital

The Tainan City Government is focused on revitalizing the city by blending technology with its deep cultural roots. As the oldest city in Taiwan and a historical center of culture, Tainan is emerging as a key player in national technological advancements. This direction aligns with its 2022 government policy to use technology for governance enhancing diversity, fostering innovation and revitalizing the historic capital, shaping Tainan into a smart city that embraces culture and technology (Tainan City Government, 2022).

Before the Covid-19 pandemic, Tainan City was awarded the global "Top 7 Intelligent Communities" 2018 list by the international Intelligent Community Forum (ICF) under the theme of "Cultural Ancient Capital, Technological Transformation." This recognition acknowledged Tainan's use of its century-old cultural heritage as a key asset driving cultural tourism and the economy, as well as the city's recent innovative progress in technology. Now the city's economic landscape has been enriched by technology parks specializing in optoelectronics, integrated circuits, energy and biotechnology. Despite challenges posed by the pandemic, Tainan has expedited the fusion of heritage with technology to enhance public engagement through innovative applications at local cultural festivals.

The ongoing Taina 400 marks 400 years since Fort Zeelandia was established by the Dutch in 1624—a milestone highlighting centuries of historical change. Emphasizing on its multiculturalism history , and the innovation toward the future, this event features a year long series of cultural tech events showcasing Tainan's rich evolution. This milestone offers a chance to delve into collaborative structures within the city context and the creation of various cultural technology content.

The Culture-Tech-Content Project: AR Exhibition of the 17th Century Fort Zeelandia Recreation

The AR Exhibition at Fort Zeelandia Recreation a project spearheaded by the Heritage Operations Management Division of Tainan City Cultural Affairs Bureau in partnership with Architecture Professor H from National Cheng Kung University marks an endeavor. As part of the Tainan 400 project this exhibition utilizes five years of research to reconstruct the Dutch colonial era Fort Zeelandia in Anping Old Fort Park using 3D modeling and AR technology. Through the incorporation of devices for guided tours the initiative breathes new life into the fort. The adjacent Fort Zeelandia Museum supplements this experience with documents, artifacts and interactive media components offering visitors an immersive cultural journey that allows them to delve into historical contexts through innovative exhibition setups.

Preceding this exhibition was the introduction of VR exhibits at the National Cheng Kung University Museum dating back to 2021. In 2023 a collaboration was formed with Crystal Hotel for a static display showcasing research findings from Professor Hs team in conjunction with the Departments of Archaeology and History at National Cheng Kung University. This joint effort involved contributions from entities such as Barking Dog Entertainment Co., Ltd. responsible for digital content development and storytelling; ggddg Design Co., Ltd. handling AR interface design and exhibition layout.

This extensive partnership underscores the web of relationships, among industry players, governmental bodies, academic institutions, researchers and public entities—with considerations even extending to local property rights concerning AR billboard installations. This exhibit highlights the fusion of legacy, technology and creative content. It shows how combining study with modern advancements can result in immersive and educational encounters. Moreover the initiative not revives past landmarks but also prompts people to reconsider history in light of cultural norms and technological progress. The partnership among parties showcases the complex network needed to carry out such a diverse project stressing the importance of collaboration and synergy, across various fields.

The table below summarizes the key interviewees, their job titles, affiliations, The key figures including Prof. H from local University, who played a significant role in providing academic research archival content which anchor and guiding the AR exhibition project. Collaborations spanned multiple sectors, involving public and private entities like the Cultural Affairs Bureau of the Tainan city government, Ministry of Culture, and design and cultural tech companies. These collaborations highlight the complexity of stakeholder relationships in cultural heritage and technology content projects.

Interviewee Name	Job Title	Affiliation
H EY (Prof. H)	Assoc. Prof.	Architecture Dept., University
Lin HM (MD Lin)	Managing Director	X Design Co., Ltd.
Lin ZB (DD Lin)	Design Director	X Design Co., Ltd.
Li XC (DC Li)	Division Chief	Cultural Heritage &Operation Management Division, Tainan City Gov.
Liao CH (CD Liao)	Content Director	Y Entertainment Co., Ltd.

Role	Description	Example
Facilitators	Provide funding, resources, and support to bridge gaps between different sectors, enhancing collaboration.	The Cultural Affairs Bureau of the Tainan City Government and Ministry of Culture support projects like the 5G initiative, which communicates 5G and VR technology to traditional art teams .
Providers	Supply critical resources and academic content, facilitating knowledge transfer and trust.	Prof. H provides dense academic content, transforming it into accessible formats such as websites, VR, or on-site AR .
Connectors	Link different teams and sectors through tender processes and introductions, facilitating collaboration.	The Monument Operation Section connects excellent teams through government tenders, while the NCKU Museum introduces talent to Prof. H .
Communicators	Ensure clear and effective communication among all stakeholders, translating complex academic content into practical applications.	Prof. H is noted for his intensive interactions and communication about project content, ensuring historical and cultural research is conveyed rightly to the public .

Role	Description	Example
Creators	Develop content or items for exhibitions and projects, integrating technology with cultural content.	Teams like ggddg and A Barking Dog create models and animations based on historical research, ensuring that content is accurate and engaging.
Disruptors	Challenge or obstruct the progress of projects, often due to conflicting interests or skepticism.	Property owners in the Anping area and certain business owners and city councilors might challenge the budget and project's effectiveness .

'Six Roles of the Creative Ecosystem' Sterback E. (2014)

Findings and Discussion

Some topics explored in the study revolved around the merging of cultural heritage with technology applications, the intricate nature of cross-sector collaborations, and the roles played by intermediaries in shaping cultural tech content creation. Through a review of related literature and the interviews with stakeholders involved in the AR exhibition, three distinct types of stakeholders were identified: cultural heritage experts, specialized cultural-tech developers, and city branding strategists and gatekeeper. This section delves into how these stakeholders work to meet project objectives and navigate partnership complexities, and utilize the Tainan 400 event to boost the city's cultural tech reputation and sheds light on the evolving roles of intermediaries.

1) Identifying Components and Values

In terms of the Perceived Meanings and Values within Cultural Technology Content Collaborations, interviewees' perspectives underscore the themes such as blending academic rigor with historical accuracy, while ensuring engaging content and supporting interdisciplinary collaboration.

Balancing Historical Accuracy and Academic Engagement

Prof. H highlighted the difficulty in harmonizing with audience engagement, ''*We possess all data related to the Forts' historical architecture; however, we had to explore ways to infuse aspects reflecting peoples lifestyles and captivating interactive elements to enhance visitor experience*.'' The CD Liao further emphasized the importance of making historical content accessible for the public, ''*the main challenge is finding a balance, between the nature of history and the need to capture interest by introducing elements of imagination or speculative reconstruction. For example, incorporating furnishings or decorations that no longer exist and lack evidence poses a dilemma.''*

All interviewees acknowledged the significance of honoring historical sources as the foundation for the culture-tech-content transformation. This was evident in the responses from the DD Lin;

> *'The initial step involves respecting the source material. When we first received content from Prof. as the inputs, each story he shared had depth and a future-looking perspective that we could leverage for our work as output... Our task was to digest this research data without any translation errors. Our responsibility is to convert his written reports into a website, VR experience or on site AR application while carefully planning data mapping and determining how to present them at points within the historical sites.'*

The significance of Tainan culture is also highlighted by DC Li from the city government, who emphasizes the need to preserve and showcase its heritage using modern technologies.

> *'Reflecting on the interactions, among ethical groups in Tainan four centuries ago, including indigenous peoples, Han Chinese, Japanese and Dutch reveals a history of conflicts and exchanges. By collaborating on a narrative, we aim to deepen visitors understanding and appreciation of Tainan's diverse cultural legacy.'*

Interdisciplinary cooperation is also vital for the project as emphasized by Prof. H., who stresses the importance of partnerships involving academia, industry, government and the public. This echoes DC Li's acknowledgment of the complexities involved in these collaborations concerning resource allocation and interdisciplinary teamwork. '*Our division has a history of working with departments like Archaeology and History at the University. Each party plays a role in seeking opportunities for collaboration.'*

2) Connecting Culture, Technology and Content, and the Roles of Intermediaries

The culture-technology-content development process with this case comprises intricate stages. Each stage demands a balance of technological development and value justification. The following demonstrates how this transforming process unfolds, with a focus on the roles of intermediaries.

Research Data Collection and Exploitation

Prof. H's extensive research on Tainan's cultural heritage forms the very foundation of the AR content development. His works involves detailed studies of the Fort Zeelandia historical site , and the interactions among different ethnic groups over the Dutch trading colony. H states, "*we focused on how these different cultures interacted and the conflicts and exchanges in the existing cultural trade system*". This research provides the essential factual accuracy required for creating compelling cultural content. H noted the role of intermediaries in smoothing these transferring interactions and ensuring that technological applications enhance the cultural.

DC Li also underscores the pivotal role of intermediaries in bridging gaps between different sectors and facilitating project execution. She stresses the lack of intermediary mechanisms within the heritage management field, which hinders the effective integration of historical research, technological applications, and public engagement. ''*The lack of intermediaries is a deficiency that I keenly felt upon taking up the director position*. *Intermediaries are crucial for translating academic research into public-friendly formats and for coordinating efforts among various stakeholders, thereby enhancing the overall impact of government's cultural projects*.''

Adapting Research into Technological Developments

While preserving historical accuracy at its core, transforming research data into a tech format entails a process of adjustment and simplification. As Prof. H notes, ''*the key lies in presenting research in a manner that resonates with the public while upholding our scholarly integrity*.'' This phase often necessitates involvement, from intermediaries versed in both scholarship and technology. CD Liao also discussed the diverse skillsets required within his teams, stressing the talent needs : "*Our team requires a diverse combination of talents of both technical and cultural knowledge to succeed this project*."

Once the technological foundation is established, the content creation process begins along with testing. This stage encompasses incorporating elements based on research findings into scripting, visual, interactive and immersive assets development. Intermediaries play a role here

by overseeing content creation to ensure that historical narratives are accurately portrayed and that the technology operates seamlessly. DD Lin highlights: ‘’*we need intermediaries assist in transforming data into compelling content that resonates with a wider audience, there are challenges involved in translating cultural and historical content into technological applications, that's why Prof. H needs to give meticulous verification, to avoid any information loss at each stage.’’*

Content Creation and Evaluation

The development of AR and VR experiences heavily relies on transforming research data into immersive formats. This process involves an effort among historians, technologists and designers. During this phase an intermediary could facilitate communication between the research team and the technology developers or game designers to ensure that the content is not only accurate but also captivating. As CD Liao emphasizes, ‘*the significance of the partnership lies in working with technology experts and the design team in crafting an experience that's both educational, entertaining and engaging for the audience*.’ DD Lin also stresses the efforts in avoiding translation errors and ensuring consistency: “ *If each step has a 10% lost, only 90% will remain for the next step. There is already a difference between web pages and websites, and VR offers even more disparity. We provided tools to help them understand how to use the services and who would use them* ‘’.

Public Engagement and Investment

In the stage when the created content is shared with the public for their feedback is crucial, in evaluating how well the various content format are received by the audience. Intermediaries play a role in this process by managing feedback channels. According to Prof. H, ‘’*Feedback from the public is vital in refining the information to meet engagement objectives*.’’ MD Lin also notes that, ‘’*Our communication should convey emotion effectively. As technology advances, people will inevitably interact with these technological products, this exhibit acts as a catalyst.* ’’

Effective cross-sector collaboration is crucial for developing culture tech content. While emphasizing that the project requires extensive cooperation between government agencies, academic institutions, and creative enterprises, Prof. H also comments that this collaboration faces ‘bureaucratic hurdles’ that impede the integration of cultural and technological elements. Similarly, as MD Lin mentioned, ‘’*Compressed timelines are typical for government projects, and cross-departmental coordination issues still persist with Tainan City Government. For instance, obtaining authorization for photos of Chihkan Tower (a heritage site) still requires multiple departmental approvals.*’’ And DC Li also *confesses that ‘’while bringing together expertise enriches these initiatives, challenges such as property rights and managing resources, like time and funding remain hurdles.’’*

Key Intermediary Roles:

Roles of Intermediaries: The literature emphasizes the significance of cultural intermediaries as connectors, translators, and facilitators within the ecosystem. This aligns with findings from the case study, where intermediaries played a pivotal role in bridging gaps between academia, industry, government, and the public. However, in developing the CTCE, the intermediaries are required to ensure the seamless integration of historical accuracy, academic rigor with engaging technological applications, underscoring their demands for cultural and digital competence as crucial skills in the content ecosystem.

Interdisciplinary Collaboration: Theoretical frameworks highlight the necessity of cross-sector stakeholders' interaction for effective cultural expression and technological integration.

The case study demonstrated this through extensive cooperation and communication among historians, designers, technologists, and city branding strategists. This collaboration was essential for addressing challenges related to resource constraints, cross-departmental coordination, cultural-technological translation gaps, and creative and technological partnerships.

Platformization and Digital Transformation: The literature discusses the transformative impact of digital platforms on cultural content dissemination, emphasizing the need for digital competencies and adaptive strategies. In the case study, the use of AR and VR technologies to recreate Fort Zeelandia illustrated the potential of digital transformation in enhancing public engagement with cultural heritage. This case highlights the need for continuous investment in public digital skills and open access to technologies to keep pace with evolving platform dynamics.

Conclusion:

The case study exemplifies the intricate interplay between culture, technology and content generation in Tainan's emerging cultural tech content ecosystem. This intricate process requires intermediaries who mediate scholarly research and cultural values, assisting in interdisciplinary collaboration among diverse stakeholders, so as to ensure the successful transformation of cultural content into engaging technological experiences.

Intermediaries now must be equipped with both cultural and technological senses and sensibilities to balance historical accuracy with engaging content while coordinating cross-sector partnerships, and managing resource constraints. Intermediaries drive innovation and collaboration, adapting to evolving technologies and market demand and dynamics. Despite their crucial roles, their professional development and learning still lacks sufficient attention. To foster a robust cultural tech content ecosystem, it is imperative to prioritize the continuous development of intermediary talent through learning opportunities and support mechanisms, this case study underscores the need for enhanced policy focus and practical measures to support intermediaries, foster interdisciplinary collaboration, invest in digital transformation, and maintain supportive governance frameworks.

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