

Developing Databases for Thai Film Industry: Analysis and Recommendations in Line with Creative Industry Concepts

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ABSTRACT

The film industry is one of the promotional branches within a creative industry framework. It is considered both a creative socio-cultural media and products of economic value. However, the lack of information and a well-organized and accessible database may hinder decision-making process and delay the economic expansion of the Thai film creative industry. This qualitative research aims to identify problems related to databases and propose guidelines for the design and development of Thailand's film industry database system. The content analysis of the document research, in-depth interviews, and a group discussion with 15 Thai film industry experts in total yields that the Thai film industry still faces three major problems, including a lack of complete information and diversity of datasets, unsystematic data collection without constant update of information, and the lack of a central authority responsible for database management. Therefore, it proposes a guideline for the development of reliable and essential Thai film database in 5 areas, namely, a database of revenues and marketing, of moviegoers' behaviors and tastes, of Thai movies and profiles, of creative workers and companies in the film industry, of source of funding, and of suitable shooting locations in Thailand. Having an efficient, complete and up-to-date database will benefit the development of the Thai movie industry in many dimensions - both in terms of personnel development of creative labors within the film industry, well-informed decision-making for potential investment, and assistance and support to the film industry in accordance with the creative economy concept.

Keywords: Thai films, Thai movies, Film industry, Creative industry, Database

Introduction

The film industry has evolved with rich features. While many view movies as the sum of human collective or individual creativity, works of art and cultural heritage, others are interested in movies as a commodity that creates economic value through complex management in order to

maximize profits. When these two perspectives converge under a new concept, Creative Industry, which focuses on creating economic value from media creation, filmmaking is therefore seen as a process of investing in ideas that can generate

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huge profits, both directly in the movie industry and expanding into other related businesses.

Besides this dimension of popular media and socio-cultural representation, one distinctive feature of the Thai film industry is the economic aspect that emphasizes the grossing figures of Thai moviemaking. The National Federation of

Motion Pictures and Contents Associations (MPC) report confirms such financial potential of the Thai film industry through its 2017 statistics of the entertainment content industry. It reads that the overall revenue generated by the Thai film industry in 2017 was 26,039.52 million baht in total (see Table 1).

Table 1: Revenue from various activities in the Thai film industry as of 2017

Sources of Revenue in the Thai Film Industry	Revenue (Million Baht)
Film screenings in cinemas (Bangkok, metropolitan area and Chiang Mai)	3,974.52
Selling drinks and snacks in the cinema	2,384.00
Advertising in the cinema	6,807.00
Foreign film-shooting service business in Thailand	3,074.00
Post production, Sound lab, Visual effects, Animation	7,000.00
Granting rights to distribute Thai movies abroad	200.00
Video distribution of Thai and foreign movies	1,000.00
Authorization to sell characters, collectible items and memorabilia	1,600.00
Total	26,039.52

Source: National Federation of Motion Pictures and Contents Associations

Usually, MPC is considered the main organization that represents the entire Thai film industry. Its website is a popular resource that offers the most frequently-cited statistics regarding financial performance and contribution to the Thai economy from the Thai film industry sector. However, while the data availability is not up-to-date, these figures also were not borne without questions. In fact, the revenue from movie screenings above are estimated numbers mainly offered by theatrical chains in metro areas only, and it often does not include the performance across the country especially from regional and provincial distributors. Another issue is the problem with data completion and reliability of information. While MPC attempts to collect information about the film industry, it has not been done on a regular basis; hence the numbers can be out-of-date for the fast-changing nature of the industry. This raises a question as to where and how to find a complete and reliable database that would epitomize the accurate performance and help filmmakers predict the future of the industrial sector.

Judging from the above situation, recommendations for the development of information systems and databases for promoting the Thai film industry is greatly necessary. Having complete and accurate database systems that offer quick access to search for required information can make a difference for business

planning and growth, as up-to-date information and precise planning can lead to strategic decision-making and achievement of the desired results with full efficiency and timeliness. The world's industries are driven by state-of-the-art network and telecommunication technologies, hence whether or not a business will succeed depends on effective data management and reliable information systems.

The purpose of this research is to examine the database management situation, particularly obstacles and problems in the use of information for the development of the Thai film industry. It conducts a gap analysis and analyzes insights and opinions acquired from experts in the field, in response to the need for essential databases. It explores how a quality database would enhance the growth of the Thai film industry in accordance with the creative economy concept and policy-making in Thailand. Two research questions are: 1) What are currently considered as major problems with the Thai film industry's database and information needed? and 2) What types of databases are essential for the development of the Thai film industry in the context of Thailand's creative economy?

Literature Review

Creative Industries and Economy

The Royal Decree regarding the establishment of the Creative Economy Promotion Agency (Public Organization) B.E. 2561 states that “creative economy is development of an economic system using creativity -- based on knowledge, intellectual property and researches connected with culture, the historical basis, the accumulation of knowledge of the society, technology and innovation -- for use in business development, the production of goods and services in a new way that creates added value for economy or social value,” (Office of the Creative Economy Promotion Agency (Public Organization) or CEA, 2022). The creative economy will not be able to exist without industrial clusters that produce creative products and cultural costs to create economic value and jobs for people. These industries are known as creative industries.

The United Nations Conference on Trade and Development (UNCTAD, 2021), which has laid the foundation for global understanding and development of the creative economy since 2004, defines creative industries as a cycle of creation, production and distribution of goods and services which uses creativity and intellectual property as the main source. These industrial clusters consist of activities that are knowledge-based and mostly related to the arts and has the potential to generate income and profit from trading. The creativity-driven product can be classified as tangible and intangible, or services with economic value and marketing objectives. UNCTAD has classified creative industries into four categories: Cultural Heritage, Arts, Media and Functional Creation, which are based on models developed since the late 90s, whether it be the UK DCMS model, Concentric Circles model or WIPO Copyright model.

The UNCTAD model is popular and applied in the policies and plans of developing a creative economy in many countries around the world, including Thailand. The Office of Creative Economy Promotion Agency (Public Organization) or CEA (2022) divides creative industries, or into five major clusters consisting of 15 industries. Films and movies fall in the clusters entitled creative content/ media.

Therefore, the creative industry concept is applied in this study as it considers how useful databases can be used to strengthen and develop the potential of creative workers, and project creative cost and trends in the development of Thai film industry to create careers, employment, value from intellectual property, and knowledge of Thai cinema.

Basic Knowledge of Database Preparation

In the research entitled “The preparation of the database and the creative industry development plan in the field of film and video” (Parivudhiphongs & Louiyapong, 2021), the data are categorized into two types:

1) Quantitative data: a collection of numerical data, both as a whole and detail, broken down by type of products, services, personnel and related operators to show the direction of the industry changes that occur.

2) Qualitative data: a collection of information that shows the status, properties, and characteristics of a product, or services for each type of creative work related to personnel and entrepreneurs who are involved in the development of those creative products and services, including the knowledge that can be used to build on and promote the creative industries

Reviewing major works in the field of data management (Kaewwit, 2009; Iamsiriwong, 2018; Sripaisan, 2016), it laid out the preliminary framework for this research as follows:

A. Definition of database

Database is the digital storage of related information in a single source. Data is categorized to avoid duplication. Based on a method of categorization, such as alphabetical, bibliographic, or statistical contents, the database system allows data creation, searching, addition, editing and access in various ways, arranged in an easy-to-use manner. In addition, the collected data needs to be filtered to verify its authenticity, and should maintain the same standard. The information that is stored must meet the purpose of use by an organization, industry or individual.

B. Concept of database management

The management of a database can help develop the center of information about the Thai film industry, which is open to academics, business operators, and personnel. Government and private agencies can access and use relevant information to promote and increase economic value for the Thai film industry. Effective management can ensure that the necessary database and knowledge base will be available for future use. It helps to organize information architecture and systems for easy access and use, including suggestions for efficient data collection with accurate information and reliable operation on a regular basis.

This preliminary understanding helped the researcher determine the objectives of the study of the current Thai film industry database management in Thailand. The study examines availability of necessary data from relevant departments, organizations, and sources that currently collect and store data about the Thai movie businesses and industry. It surveys obtainable types and the variety of information

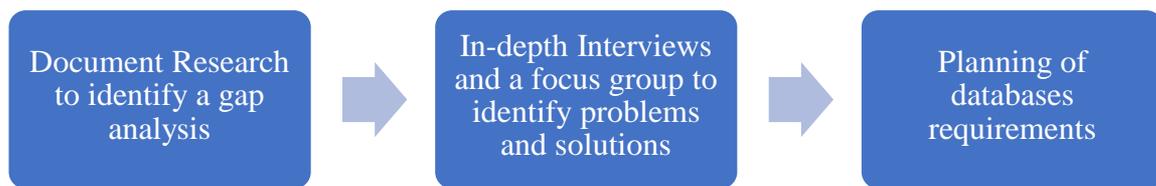
(e.g., name of personnel, location, investment unit revenue or other important contents) and the use of information in researching and planning strategies for developing database for the Thai film industry.

Conceptual Framework

The review of the relevant literature above is to provide a research design framework that leads to the process of content analysis and synthesis of the findings. It is not used as a base for contesting ideas and theories or comparing them with other related research. The above knowledge can be applied in research design to identify missing gaps and data types, or specify incompleteness in present databanks, or implies how to effectively propose the development of a

database that benefits the progress of the Thai film industry to be in line with creative economy concepts. Understanding the needs of data management paves way to formulation of research methods to study data from three different sources; namely document research, in-depth interviews with experts, and a focus group for detailed discussions. The use of three different data collection methods manifests the method triangulation to certify reliability of information of a similar topic from three different sources. The analyzed data is then synthesized to find data gaps and later offer recommendations for planning necessary and effective databases for the progress of the Thai film industry, reflecting the creative economy (see Figure 1).

Figure 1 Conceptual framework for this study



Methodology

This qualitative research is an applied study using the content analysis method. The study was conducted between August and December 2021, following the five steps below:

Step 1: Review relevant documents including studies and reports about the Thai film industry. The focus of the review is on documents and information from government and private agencies that play a role in database management and distribution, including information from news, articles, state policies related to the Thai film industry and a sectoral development according to the creative economy concept.

Step 2: Use the above information to study the gap and find what is missing in the current databank and required by data users. The analysis would help identify problems and limitations in the present state of database management and lay a foundation for further analysis of the necessity of planning and development of essential databank for the Thai film industry.

Step 3: Take the above issues and formulate in-depth interview questions with experts who will 1) criticize problems in gap analysis and current state of database usage; 2) comment on the need for different types of data utilization, and 3) discuss on the efficacy of the database for the development of creative economy in Thai context.

In this regard, the researcher has selected experts based on their roles in the industrial value chain, who are recognized for their work or

knowledge and have direct experience in the Thai film industry. A total of 15 industry experts, consisting of studio and independent Thai film producers and filmmakers (6 persons), Thai film distributors and publishers (3 persons), film archive representatives (2 persons), Thai film academics (2 persons), policy-makers and regulators of the Thai film industry (2 persons). To protect the personal rights of informants, this research project has been approved by the Human Research Ethics Committee, Institutional Group 2, Chulalongkorn University, No. 157/64 (dated August 5, 2021). This research addresses only the main content based on opinions of experts, while disclosure of the interviewees' identity is prohibited--unless stated otherwise in the consent form.

Step 4: Collect issues related to the industry database development and formulate questions for a focus group with selected experts. A total of 7 people were selected from the aforementioned interviewees on a rolling basis to jointly review the preliminary analysis on the problems and solutions for the development of databases for the industry. Their role is to verify the accuracy and completeness of information synthesized from documents and interviews above.

Step 5: Synthesize information from the three data sources above. The use of three different data collection methods for analyzing the same data aims to test the validity of information from various sources and to develop a comprehensive understanding of phenomena. Based on such data triangulation principles, the researcher employs

content analysis to identify obstacles and solutions to current database management. It aims to provide well-informed synthesis to increase the efficiency of the database development for the Thai film industry further.

Results

Major Agencies that Maintain Databases Related to the Thai Film Industry

The analysis read that the main agencies collecting data about the Thai film industry consist of three government agencies, two public organizations, and a number of private sectors:

Category 1: Government agency or government autonomous agency

1. *Ministry of Culture.* The Secretariat of the National Film and Video Committee under the Strategy and Planning Division Office of the Permanent Secretary, Ministry of Culture has a mission to be an organization with high performance in setting policies, strategies, and cultural management, both at home and abroad, improving the quality of work standards, including the service work of affiliated agencies.

Its main duties are to 1) formulate policies, plans and measures on arts, religion and culture, 2) promote and develop a system of participation of all sectors in the arts religion and culture, 3) develop personnel, budget system, legal information system with quality standard; 4) promote public relations and dissemination of art works religion and culture, and 5) develop cooperation and relations with foreign countries through cultural exchange.

In detail, types of information about Thai films collected and disseminated by the Ministry of Culture are mainly information on promotional projects. This includes a project to support and develop the potential of the film and video industry, a report of mobilization strategy phase 3 (Half-Stage), a film and video industry promotion strategy phase 3 (2017-2021), 70 Best Thai Films during the Reign of King Rama IX (E-Book) and YouTube Channel entitled "CONTENT THAILAND."

2. *Ministry of Commerce.* The Ministry of Commerce has compiled and published information about the film industry on its website (datawarehouse.dbd.go.th), including information on companies/partnerships related to the film industry. Users can access the website and then search for the company name or company registration number. The database offers name, registration number and status of juristic persons or legal entities, registered capitals, board of directors and authorized signatory directors, address, the company statement of financial position, share

values and investment ratio of each company classified by nationality.

3. *Ministry of Tourism and Sports.* The International Film and Video Affairs Division, Department of Tourism, Ministry of Tourism and Sports, oversees activities related to film promotion and supports foreign film shooting and business in the Kingdom of Thailand. The information about Thai films that the division collects and disseminates include overview information about incentives, taxes, visas, work permits, procedures for foreign filmmakers seeking permission to film in Thailand and benefits to foreign film crew.

4. *Film Archive (Public Organization).* While the Film Archive is a state-funded agency, its status as a public organization allows the organization to operate with more ease on strategic planning and decision-making to protect film archiving as a public interest. With operations similar to a library, a museum, and an art gallery, Film Archive houses thousands of Thai movies and videos, various types of audio-visual media related to Thai movies, as well as rare footages and digital movie file formats. Its mission to preserve intellectual property and cultural heritage of the nation goes together with its role to run cultural activities for the public to appreciate classic movies conveniently and widely, and provide educational service for people to study and research Thai films.

5. *Creative Economy Promotion Agency or CEA.* In mobilizing the creative economy of Thailand, this organization is responsible for the development and progress of 15 creative industrial clusters, including the Thai film industry. Its mission is to promote and facilitate the potential operation of the creative industries and businesses and support the development of the creative-driven economy, such as endorsing creativity and innovation development for entrepreneurs and educational institutions that offer film curriculum. It also collaborates with government agencies to develop areas that are conducive to creative atmosphere and new business startups, such as location shooting in Thailand. At present, the role of CEA in the development of creative industries can be seen through film and movie conferences, research and studies to increase industrial competitiveness and the cultural exchange of creativity-driven knowledge related to Thai films. The challenge is to set up a center for collecting and developing information and statistics about the creative economy, including Thai film databases, for policy decisions and related entrepreneurship.

Category 2: Private Organizations

Private organizations responsible for promoting the Thai film industry mainly offer public relations news and entertainment reports.

Information available are translated articles from foreign entertainment media and local interviews by staff, such as behind the scenes of filming and interviews with actors and filmmakers. Annual statistics presented include estimated revenue, usually derived from the unsystematic data collection of the editorial team themselves.

Information from private agencies can be classified into two main groups:

1. *Film magazine groups*, namely ENTERTAINMENT, STARPICS, FILMAX, BIOSCOPE. At the time of this study, the researcher found that the latter three are no longer available in print, with two having shifted to online channels instead, i.e., Facebook by STARPICS and BIOSCOPE. Nevertheless, active updating is not guaranteed.

2. *Movie-related websites*. Most of these websites present general news in the film industry both domestically and internationally, heavily focusing on personal views or movie reviews. Though it is not a place for statistical data, analysis on behavioral reflection, sentiments and tastes of moviegoers, and possibly industrial insights can be conducted. These websites are usually owned by film production and/or distribution companies, such as GDH, Sahamongkol Films, SF Cinema, Major cineplex, while many private websites or personal social media usually offer varied opinions regarding movies, activities and movements in the industry. This includes such private online media as Kanin The Movie, Cinema Gangster, My favorite movies, Good Luck, Cornetto Gods, Hot Tickets, Cheese Popcorn, JUST Watch IT, Muen Thip, and Jedi youth.com.

Gap Analysis

The information acquired from the above was used to analyze the gap in the industry's database collection. In order to fill in the missing information gap, the results of the analysis revealed that at present, the Thai film industry faces three main problems related to the incompleteness of the database:

1. Incomplete information and databases

A major problem reflected in the initial data collection is that the data available is incomplete and not well-rounded. In particular, figures of movie box offices are collected and represented only by movie screening (both Thai and foreign films) and sales revenue within Bangkok and its vicinity. It does not actually represent the ticket sales nationwide. Yet there is no database about the compensation, salary base of various jobs in the industry, income of filmmakers, tax-paying records, creative labors in the film industry, behavior of moviegoers, and the number and types of producers and operators that

determine the market share, consumer behavior, and investment.

2. Unsystematic data collection and retrieval

Another major weakness is the lack of systematic data collection and retrieval in the Thai film industry. The information is also scattered and difficult to access and find. Each agency collects and stores data according to their own use, usually not for public interest. The databases offered by different agencies are not yet linked, let alone well-integrated. This makes accessing and retrieving information a hassle. In addition, complaints about outdated information are common among film scholars and investors because there is no mechanism to update the information according to the rapidly-changing nature of the Thai film industry.

3. Lack of central authority responsible for database management

At its current state, the necessary and useful information is still scattered among various agencies, making it difficult to get an overview of the industrial profile and strategic planning to effectively promote the sector as a creative cluster. In many cases, each agency only offers specific information for their own perusal within certain contents and timelines. Therefore, there is no comprehensive integration among different agencies and stakeholders. What should be done is to establish a central agency responsible for database management for the development of the Thai film industry. Such agencies need to have the authority, duties and resources to carry out the database work to solve the problem of data disintegration and to produce concrete benefits.

All three problems reflect inefficient data management, causing obstacles for the Thai film industry to develop to its fullest potential. Therefore, it is necessary to have an agency responsible for compiling, processing and disseminating the database in a systematic and reliable manner. This agency will be able to monitor the situation within the film industry with accuracy and timeliness and achieve the goals in line with the development of a creative economy in Thailand.

Recommendations for Essential Databases to Support the Thai Film Industry

While the tradition of studying the film industry may explore each stage of filmmaking -- starting from production, distribution to exhibition, this study stresses on the overall needs of database requirements that would primarily cover all three stages. Based on document research, in-depth interviews and a focus group, the results of the gap analysis and content analysis reveal that there are requirements in six areas for

the development of a database for the Thai film industry, which are as follows:

1. Income and Marketing Database

At present, there is no complete marketing information available, especially about the exact income and revenue. It is notorious in the Thai film industry that formal revenue and marketing information is not systematically collected. Usually, the figures of the revenue are estimated or speculated by industry experts, media or film critics. Income from ticket sales (box office) reported by the media or websites, movies and screening houses are also estimated without a clear protocol of data collection. The current number reported is from “asking around”, for approximate numbers from different cinemas or movie companies. While these estimated numbers can show the whole picture of the industry performance, it cannot accurately represent the performance of the industry and may not clearly reflect the movie's revenue -- not to mention the questionable reliability.

In addition, there is still a problem with inadequate information about professional contact lists, personnel and entrepreneurs in the Thai film industry. The analysis finds that the industry requires data varying, from professional creative talents to freelancers, with no association with film companies, and from amateur filmmakers to budding talents. The lack of contact hampers the chance for potential business, as most of the connections are currently made through personal network and personal social media, rather than professional channels. Hence, from the creative industry perspective, it is crucial to make such information available, accessible and current, as it would allow filmmakers and investors to plan employment and resources on talent management, as well as building partnerships inside the film industry.

While the MPC is the primary source for annual revenue of movie screening, other types of data set are still in high demand and need comprehensiveness. For this reason, experts believe that there should be a central authority for collecting data and marketing information, behavior and tastes of the moviegoers, for instance. A publicly available database could help filmmakers and investors determine market trends, predict consumer behavior and popular methods of content production. Yet this is not easy as revenue disclosure and business marketing information strategy can reveal the confidentiality of the film company and movie theaters. It can also result in many unpleasant side effects, such as the higher collection of income taxes, losing competitive strategies to rivals in the industry. Therefore, to create an income and marketing database, it may be necessary to consider the presence of a law that compels the disclosure of film revenues – like in

the case of the film industry in the United States. Still, this will be a time-consuming effort and a long trip to develop such laws to enforce movie companies and cinema chains to disclose the real numbers of revenues and financial performance.

2. A database regarding the behavior and tastes of the moviegoers

While there might be some information about the behaviors and tastes of the moviegoers conducted by the film companies and academic institutes, interviews with the experts still reveal the need for more systematic and updated database on this matter. From the popular genres and choices of movies to frequency of viewing, the current database does not show the demography of Thai moviegoers, namely gender, age group, income base, viewing rates. There is no reliable information from cinemas on popular choices and genres of movie consumption on a monthly basis--except that one hires research firms to conduct study reports from time to time, which is not publicized and kept confidential. Acquiring information about modes of communication and channels among moviegoers is useful because one can learn about the audience's feelings towards the movie, a reason why they choose the movie, for instance, from word of mouth or reviews.

Currently, the audience database or movie fanbase are made differently by different people and organizations. The inconsistency of data presentation--both through the website of the cinema and ticketing platforms, such as Thaiticketmaster and Ticket Melon, makes it difficult to locate reliable data. Ticket buyers often put only such raw data as first name, last name, age and e-mail, which must be organized to meaningful information. Later, a systematic platform should be developed to present such raw data as a complete report to assist decision-making, in response to industry dynamics and time for publication.

Database regarding the behavior and tastes of the moviegoers is an important part in determining the direction of moviemaking and the market, as well as satisfaction of moviegoers, which eventually affects the development, planning and growth of the movie industry.

3. Database about Thai movies

It is important to build a comprehensive movie database of both Thai and foreign movies released in the country. Currently in Thailand, there is a database of Thai movies for specific purposes. For example, movie theaters and movie companies have their own websites and social media, focused on promoting and advertising their movies in the theatres. Thai entertainment media and movie websites have haphazard information scattered around, based on the interests of the general audience, movie fans and

journalists. While the Film Archive has the most systematic collection of Thai movies for education and preservation, there is still an incomplete record of movie showings and screenings, and revenue made from Thai vs. foreign film releases in different cities and regions. From interviews and a focus group, it was found that there is no host to produce such a dataset or it has been done differently and separately by the concerned parties. Experts therefore suggest that it is imperative to have a central authority to build a comprehensive and effective movie database in Thailand. The idea is pretty similar to Internet Movie Database or IMDb, an online database of information related to films, television series, home videos, video games, and streaming content online – including cast, production crew and personal biographies, plot summaries, trivia, ratings, and fan and critical reviews. This idea however requires an efficient business model to ensure sustainable investment, a well-protected subscription system, reliable and accurate information architect and storage, and cooperation among stakeholders.

From the analysis in this study, the contents for such database should cover the value chain (production, distribution, exhibition, and consumption). It is practical to have details, such as a list of Thai movies with synopsis, cast, directors, producers, still images, sample clips, year of release, country of release, movie ratings, and so on. Even Thai films that enter a film festival should have a systematic record of information to be used as evidence and important documents for future reference and study. In Thailand, the Film Archive (Public Organization) is the main center for information on Thai movies. It is a government agency that functions like a library, a museum, an art gallery that houses film and video, as well as film and video related stuff. To preserve films as the intellectual property and cultural heritage of the nation, it also stores certain films, screenplays and materials for study, research, and appreciation.

In addition, there should be a film storage system that is easily accessible and systematic. For example, converting old film negatives and movies into digital files for research and screening. It is also valuable to create a databank for copyright-protection information, to prevent infringement, and details of location and ownership of movie footages. At the same time, film footages can be sent to other storage units as a backup base, such as donating to Film Archive (for preservation and public viewing), administering various platforms where data is stored, and detailing types of technologies used for film production (digitalization, camera model, and special effects used).

With holistic cooperation among government agencies and private sectors that own the movie rights and materials, database on Thai movies could allow the public and the future generation to learn more about this national arts and cultural heritage. It is believed that proper knowledge and great appreciation of Thai cinema may result in Thai moviegoers' sense of pride in Thai movies, leading to fondness and regular consumption.

4. A database of creative workers and companies in the film industry

Making a creative workforce database will help filmmakers and investors to know how many talents and skilled workers, as well as film crew, are available in the job market. This also helps producers and investors to assess compensation and expenses that accurately reflect the money revolving in the economy. However, the standard of such information and employment profile in the Thai film industry is still missing. Experts therefore propose a plan to create a database of creative labors and talents for various positions in film-making. Such data should include personnel on the set, number of experts in each field of work, recognizable and well-accepted work, minimum or acceptable wage standards for each position within the value chain, remuneration in each department, contact and address. This information can help executives in their decision-making when hiring creative talents.

In addition, there should be a database about the employment and relevant systems, including tax-based conditions and incentives for filmmaking in Thailand. First and foremost, filmmaking is a career and disclosure of salary structure and the standard of payment should be available for the producers and investors. This information will help industrial workers and students who choose to make an occupation as filmmakers prepare for their careers. Also, data can reveal the numbers and types of roles in filmmaking, as well as the diversification in the field of cinematic work from backstage to front stage, as usually seen in the end credits of a Hollywood movie. This data can contribute to the development of many career paths within the film industry and help people consider whether or not the financial gains commensurate with the scope of work and benefits.

While the International Film and Video Affairs Division heavily promotes location shooting to boost economic outcome in Thailand, records of local coordinators, information to facilitate foreign filming and post-production processes are not well kept and presented. Rather, this lucrative business has been left in the hands of the private sector which facilitates foreign film production. Foreign companies employing workers

in Thailand can have a reference point for negotiating that is in line with industry standards. They can also help assess how they should be treated like legitimate workers, especially about the health insurance of filmmakers in the situation of COVID-19. Unfortunately, this information is difficult to find because the management standards in each production are not the same. In particular, workers in this occupation are usually freelancers or temporary workers and the payment depends on economic factors in each period. With a database of creative workers and companies in the film industry, it could therefore make this career in Thailand more professional and sustainable for all creative talents in this creative industry.

5. Database for source of funding and sponsorship

Collecting information on sources of funding for film production and distribution is also a demanding issue. Because there is no official and organized collection of this information, people in the film industry are left on their own in searching for funding and sponsorship from both local and international sources, which are scattered on the internet, social media, or personal and closed networking set up to communicate among themselves or within the group. Moreover, some funding organizations that have ad hoc projects to fund movie productions are subject to various terms and conditions and foreign funding sources that use English or foreign languages are a limitation for many Thai people in the film industry. At present, many filmmakers rely on grants from the Thai Media Fund, the Ministry of Culture. One criticism however is that, on many occasions, the grantees are often the same person and usually they are already famous and well-established in the industry. While this is understandable as their fame and successful works in the past can return the promising favor to the grant givers, the new-generation filmmakers may be at a disadvantage in accessing this source of funding. Consequently, it is practical to have a single channel or website that compiles all comprehensive sources of funding to assist filmmakers, and for filmmakers to have access to such information.

Meanwhile, the terms of investment for local filmmakers are usually complicated. In fact, database for creative economy investment can be obtained from the Office of the Board of Investment (BOI), which provides information about the type of business, person or agency that receives investment promotion and incentives. These statistics also include the country base, amount of investment, tax benefits and relevant incentives. However, the lack of data about clear directions, motivation and requirements of the private sector causes a problem for investment,

many of which could not comply with investment conditions offered by BOI and other government agencies. This may require reconsideration of the feasibility of these conditions, if the country wants to promote the film industry in Thailand as part of creative industry sectors.

6. Database of suitable locations for filming in Thailand

The Department of Tourism, Ministry of Tourism and Sports, is a government agency that is responsible for approving the use of filming locations in Thailand for feature films and advertising promotion. The department's website has quarterly statistics showing the number of authorized persons and the amount of investment from overseas location shooting in Thailand, including incentives such as discounts and rebates. Still, experts pointed out that it lacks complete logistics information, up-to-date details of the geography at each location for film shooting, photobank of available locations for shooting, available accommodations and facilities that fits the size of crew, and details that aid in the decision of those seeking permission to film in Thailand. Therefore, it becomes the burden of the private sector or the intermediary to coordinate with foreign film companies to provide any missing data and materials.

However, as the film industry can be a cut-throat business, information can be classified as confidential and separately stored by different methods, by different companies, with different standards. In many cases, a remuneration is agreed on a case-by-case basis and not disclosed to the public. Experts, therefore, agree that there should be an integral system of hiring and management to offer a standard fee and compensation, or a professional union of the film industry to protect the rights of its members. Investors can also make decisions about the cost of the overall production, and budget more accurately and efficiently. The data about the remuneration standard can also help avoid a problem of unfair treatment that varies from one skilled person to another. For instance, a team of photographers working for an advertising film production usually gain higher payment than those working for movie production, despite the similar skills required. This can help standardize the creative film sectors in the long run.

Discussion

The above recommendations for planning to create six databases for development of the Thai film industry require the cooperation from relevant agencies. There is an integrated system of databases in the form of cooperation between the public and private sectors, as well as other related organizations. Still due to rivalry in the film

industry, inter-agency collaboration remains a major obstacle. Important information is, therefore, limited only among certain departments, while data management is not effective enough for access and research, to drive the Thai film industry as anticipated by creative economy policymakers. Accordingly, it is necessary for Thailand to develop the database system that collects, stores and synthesizes raw data to all sectors relevant to the growth of the Thai film industry in the country.

Although literature review aims to provide a framework for research design, the content analysis found that the results are in consistent with the reviewed concepts in that a comprehensive, quality database can act as a substrate for analyzing the situation and predicting impact from the lack (and the need) of a database. According to the concept of creating a database described above, entrepreneurs and stakeholders in the Thai film industry, both public and private, can use the information to decide whether to invest ideas and resources. Details of the creative workforce in the film industry can set salary standards, reflect market value, and point out the increasingly sophisticated movie-watching behavior in the digital age, as well as the integration of public policy information links. Regulations and laws related to the development of the creative economy and other related businesses should also be endorsed if the government were to endorse its policy of creative economy. Therefore, quality database management is the most needed method for forecasting revenue, expenses, and resource investment. Creating the value of data by using “creativity based on knowledge and intellectual property” (Office of the Creative Economy Promotion Agency (Public Organization) (CEA, 2022) can help drive the country in accordance with the creative economy development guidelines.

The results of the research clearly show that the Thai film industry database of the country is still fragmented and needs integration. Therefore, to solve this problem and develop the above databases, what should be done quickly is to develop a comprehensive hub of information about the Thai film industry that manages to store reliable and updated information in a single source and on a digital system, to avoid overlapping and confusing data duplication. As experts suggest, the establishment of a central authority with appropriate duties and adequate resources to manage the Thai film industry's database should be expedited to resolve the issue of data fragmentation and make the data collection entirely meet the goal and can be used for concrete benefits. Accordingly, the researcher proposes that the central information hub or sole responsible agency should be managed as follows:

Firstly, such agency should begin by defining clear, comprehensive data usage objectives that must be consistent with the development goals of the Thai film industry in various dimensions. Database design, storage and presentation of information must be conducted for integration and public accessibility to maximize information collected and put them to practical use.

Second, the data collection by this agency should be conducted to represent all sectors and stakeholders throughout the value chain of the Thai film industry. This includes information of creative talents and personnel in all fields in the industry, profiles and information of various companies, standard remunerations, grants and funding resources, financial performance both in Thailand and abroad, and data about moviegoers and viewers' behavior. All can help increase the level of competitiveness in the Thai film industry on regional and global scale.

Thirdly, the newly-developed database center and systematic management should present information in a user-friendly and accessible format, such as creating a well-organized, one-stop website. Classification of information into clear categories should be presented in a variety of formats suitable for different users. Presentations should be available in both Thai and English for domestic filmmakers and overseas partners and interested foreigners.

Fourth, this central agency should constantly maintain its system of updating information to keep up with the changes in the industry and the world. It should offer an efficient data search system and clear division of usage -- reviewing, monitoring, collecting and presenting the information. It should keep records of the frequency of presentation in accordance with the type of information presented and to make it easier and more convenient for users. An advanced search system should be developed to allow users to narrow down the search and retrieve information quickly and accurately.

Applying the concept of creative economy development as a framework in this study can open new issues in education, planning guidelines for creating a database for the country's Thai film industry. Although investing in databases may seem like an indirect way of promoting the development of a creative economy, it is undeniable that decision-making in the modern world is based on the availability of diverse, reliable data. High quality databases would have a positive economic impact as they can help drive and increase the broader scale of economic activities to be in line with the idea of developing the country's creative economy to its full potential. Databases can elevate progress of the Thai film industry in relation to career promotion, employment, and expand knowledge in the development of the film

industry. Making databases also requires the understanding of digital technology to lay an essential basis for entrepreneurs in the film industry. As a creative industry cluster, the Thai film industry requires a centralized data center to provide integration of information to drive the Thai film industry, especially amid the global economic changes and technological advancement. A quality database is an indispensable asset for entrepreneurs. Filmmakers and developers who do not know how to exploit the database will be left behind and cannot compete with those who choose to use data to make effective and feasible decisions, reaching their fullest potential.

Research Recommendations

This study aims to explore problems and determine the scope of creating a database for effective development of the Thai film industry. The obtained research results will be recommendations for the initiative to design and develop a database system for the Thai film industry, raising awareness of the initiative to develop more reliable and sustainable databases in this area, and optimizing benefits to the organization and creative talents in the Thai film industry in many ways. This includes:

1) Integration of service sources and information access processes related to the Thai film industry.

2) Creating an information hub for the Thai film industry that connects government agencies and the private sector.

3) Generating an efficient data collection system to create a body of knowledge relevant to the Thai film industry.

4) Application of information for business decision making and resource management, especially for creative workers to create value for the Thai film industry in accordance with the creative economy development guidelines.

Suggestions for Future Research

1) The group of selected key informant experts represented mainly filmmakers, producers, movie distributors, academics and policy makers. To obtain a more diverse and comprehensive information for more profound understanding, further study can include representatives from other groups of stakeholders, such as moviegoers, film critics, marketing strategists and other business operators involved in the value chain of the Thai film industry.

2) This study uses the conceptual framework of creative economy development in utilizing databases to create added-value information. Further study can apply other concepts, such as platform economy, digital economy, and transmedia, which could contribute

to other forms and results of database planning to fill the information deficiencies in the system and reflect a better picture of the ecology of Thailand's film industry.

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