Hawaii's Creative Industries

Update Report 2023

Department of Business, Economic Development and Tourism

May 2023

Hawaii Department of Business, Economic Development & Tourism

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CREATIVE INDUSTRIES HAWAIʻI OVERVIEW

The State of Hawaii's **Creative Industries Division (CID**) in the Department of Business, Economic Development and Tourism (DBEDT) is the lead agency which advocates and expands business opportunities for those sectors which comprise Hawaii's creative economy.

Hawaiʻi Film Office (HFO) branch in CID is responsible for the overall management of the state's film industry development, including offshore and local productions. The team interfaces with county film offices and industry to build a thriving production hub in the Pacific. HFO is statutorily mandated to manage statewide film permitting and film tax credit programs to increase economic diversification.

The **Arts and Culture Development Branch (ACDB)** is responsible for initiatives to accelerate a thriving creative entreprenurial ecosystem on a foundation of workforce and talent development, infrastructure, policy, access to capital and investment strategies for local creative entrepreneurs to expand business and content creation for export. Initiatives such as **Creative Lab Hawaiʻi** Accelerator, CreativeSpace at Entreprenrus Sandbox, and the Hawaii Film and Creative Industries Development Special Fund.

When combined this forms the **CID** strategic development for Hawaiʻiʻ creative economy, which accelerates growth of business creation, infrastructure and jobs in film, media, arts, culture, music, design, literary arts, publishing, game publishing and VR/AR interactive media sectors, forging the foundation of Hawaii's creative and innovation economy. The goal: to position the state to be a national and global leader in film, media, entertainment and the arts hub in the Pacific.

Hawaiʻi's Creative Industries Metrics 2022 (GDP Data in 2021):

- **51,231 jobs**, **4,747** businesses
- **6.2%** of the state **total civilian jobs**
- **$4.5 billion Gross Domestic Product (GDP) = 5.3%** of total State of Hawaii **GDP**
- **+ 7.1% job growth between 2012 and 2022**

Hawaii Film Industry Metrics:

- **2021** calendar year, **$421 million** in estimated state and county production expenditures generated an estimated **$728 million** of economic direct and induced impact, **$45.5 million** in estimated tax revenues and total job impacts totalling 4,180.
- For more information on granular data, Cost Benefit Analysis Report for the Hawaii Motion Picture, Digital Media and Film Production Tax Credit, see DBEDT website.

EXECUTIVE SUMMARY

Developing Hawaii's creative industries has become an important economic development strategy. Hawaii's cultural diversity and its Hawaiian host culture are brand differentiators, attracting millions of visitors to our destination, while supporting a thriving creative industries cluster. The uniqueness of Hawaii's creative, artistic and cultural sectors helps Hawaii's creative products compete in worldwide markets, while also supporting visitor spending and developing the foundation of Hawaii's creative economy. In addition, the creative industries and their workforce represent key sources of ideas, content creation for global export and provide the talent for Hawaii's emerging technology and knowledge-based industry sectors.

In order to capture and track data on the range of activities that can address the broader relationship between creative industries and emerging markets for technology and entertainment, the Research and Economic Analysis Division teamed up with the DBEDT Creative Industries Division to review more current definitions of creative industries and revise the scope of the activities in Hawaii's creative sector. This effort was largely based on similar work done in Massachusetts. The update adopted the same definition of the creative industries as defined in the July 2012 report. The creative sector now overlaps some elements of the technology sector.

Industry Groups in the Creative Sector

The table below provides an overview of the 13 industry groups in the updated creative sector, and their 2022 job count, based on the current definition of the sector. In total, the creative industries accounted for about 51,231 jobs in Hawaii for 2022. This was up 7.1% from 2012. The earnings average was $66,869 in 2022.

CREATIVE INDUSTRY PRODUCTION GROUPS	
Industry Group	**2022 Job**
Total Creative Industry	**51,231**
Marketing, Photography & Related	11,186
Performing and Creative Arts	9,284
Business Consulting	6,095
Engineering and Research & Development	5,999
Computer and Digital Media Products	5,570
Cultural Activities	2,684
Film, TV, Video Production/Distrib	2,095
Design Services	1,958
Architecture	1,868
Publishing & Information	1,568
Music	1,229
Radio and TV Broadcasting	972
Art Education	722

Source: DBEDT, READ.

These industries have been defined using the North American Industrial Classification System, or *NAICS*, which provides a rich source of standard data at a detailed level on producing industries. Without that standard data, we would be faced with the need to do special surveys and compilations, which are costly and usually not comparable with similar activity elsewhere.

The creative sector is a leading sector for job creation. In 2022, the sector had 51,231 jobs and accounted for 6.2 % of the State's total civilian jobs. Not only does this sector create jobs directly, but it also spawns innovations that drive job creation in other sectors.

Creative Jobs Compared with Other Industries, 2022		
Industry (without Creative)	**2022 Jobs**	**% of Civilian Jobs**
Total civilian	**832,435**	**100.0**
Accommodation and Food Services	102,035	12.3
State & local government	88,328	10.6
Health Care and Social Assistance	85,413	10.3
Retail Trade	83,689	10.1
Construction	53,490	6.4
Creative	**51,231**	**6.2**
Admin. and Support Services	50,248	6.0
Other Services	46,724	5.6
Real Estate and Rental and Leasing	44,929	5.4
Transportation and Warehousing	41,346	5.0
Federal government - civilian	34,823	4.2
Finance and Insurance	33,026	4.0
Educational Services	21,635	2.6
Wholesale Trade	20,483	2.5
Manufacturing	16,479	2.0
Crop and Animal Production	15,127	1.8
Professional, Scientific, and Technical Services	14,393	1.7
Arts, entertainment, and recreation	10,026	1.2
Management of Companies and Enterprises	9,390	1.1
Information	4,950	0.6
Utilities	4,083	0.5
Mining	588	0.1

Source: DBEDT, READ

As shown in the following table, the creative sector directly accounted for 5.3% of Hawaii's total GDP in 2021, with a value added of $4.5 billion.

Creative GDP Compared with Other Industries, 2021		
Industry (without Creative)	**2021 GDP ($M)**	**% of Civilian GDP**
Total civilian	**85,534**	**100.0**
Real Estate and Rental and Leasing	15,962	18.7
State & local government	8,629	10.1
Accommodation and Food Services	8,133	9.5
Health Care and Social Assistance	7,119	8.3
Retail Trade	6,061	7.1
Construction	5,279	6.2
Federal government - civilian	5,264	6.2
Creative	**4,512**	**5.3**
Finance and Insurance	4,085	4.8
Transportation and Warehousing	3,411	4.0
Wholesale Trade	3,163	3.7
Admin. and Support Services	2,664	3.1
Other Services	2,020	2.4
Utilities	1,969	2.3
Manufacturing	1,678	2.0
Professional, Scientific, and Technical Services	1,335	1.6
Management of Companies and Enterprises	1,135	1.3
Information	1,134	1.3
Educational Services	1,015	1.2
Arts, entertainment, and recreation	555	0.6
Crop and Animal Production	323	0.4
Mining	89	0.1

Source: DBEDT, READ

Performance of the Creative Industries Portfolio

The primary purpose of this report is to measure the performance of the industry groups within the creative industries portfolio. For each of the NAICS-measurable groups in the creative sector industry portfolio, a performance profile was constructed that was composed of three primary performance measures: job growth, change in competitive national industry share, and level of concentration (or specialization) in Hawaii's economy. The first two measures help assess the strength and competitiveness of the activity, while the third identifies likely export industries in the portfolio.

Combining the measures into a common framework called a performance map allows the creative sector industry groups to be placed in four performance categories as shown in the following figure (the full report explains this mapping process in more detail).

CREATIVE INDUSTRY GROUPS MAPPED BY PERFORMANCE, 2012-2022					
Total Creative Jobs, 2022: 51,231					
Average Annual Earnings, 2022: $66,869					
Net Change in Jobs, 2012-2022: 7.1%					
Transitioning Group: 82.1% of Jobs			**Base-Growth Group: 4.1% of Jobs**		
Group	Change in Jobs	Average Earnings	Group	Change in Jobs	Average Earnings
Art Education	10.6%	$22,133	Film, TV, Video Production/Distrib	37.3%	$83,438
Music	13.5%	$34,522			
Performing and Creative Arts	7.4%	$27,727			
Marketing, Photography & Related	7.3%	$36,696			
Engineering and Research & Development	3.5%	$117,037			
Business Consulting	26.4%	$74,502			
Design Services	0.8%	$41,327			
Computer and Digital Media Products	19.7%	$129,334			
Declining Group: 13.8% of Jobs			**Emerging Group: 0.0% of Jobs**		
Group	Change in Jobs	Average Earnings	Group	Change in Jobs	Average Earnings
Architecture	-2.7%	$95,867			
Cultural Activities	-13.0%	$65,363			
Radio and TV Broadcasting	-13.9%	$95,071			
Publishing & Information	-27.0%	$76,664			

Source: DBEDT compilation based on EMSI data.

The highest performing industries in the creative sector for the 2012 to 2022 period appear on the right side of the figure above. Industry groups on this side of the map have not only grown jobs over the period, but have outperformed the same industries nationally, suggesting that they are gaining in competitiveness. In addition, the *Base-Growth* industries show a higher proportion of jobs in Hawaii's economy than the nation's overall economy. This suggests they are likely to be exporting some proportion of their output, either directly or indirectly. Furthermore, while relatively small, these industries are significant drivers for the state's economy. *Emerging* industry groups are not as concentrated in Hawaii's economy, but their otherwise high performance suggests that they are candidates for becoming economic drivers in the future.

Industries on the left side of the performance map face some challenges. *Transitioning* industries are still growing or holding steady in terms of job count. However, they are growing slower than their national counterparts. This suggests that they have reached a plateau in terms of competitiveness. Finally, *declining* industries have lost jobs during the period of the analysis. In some cases, this may be the result of unusual factors. In other cases, like information and broadcasting, it may reflect outsourcing of services beyond Hawaii and/or significant increases in productivity arising from emerging technology, which reduces labor needs. In either case, these industries warrant closer study to understand the challenges and barriers to growth that they are facing.

Overall, the creative industry groups added about 3,403 jobs to the state's economy between 2012 and 2022. This amounted to a 7.1% increase in jobs, higher than the 3.8% growth in Hawaii's civilian economy as a whole for the period. The leading performer of the overall portfolio was the Film, TV, Video Production/Distrib group. The 2022 earnings average for the creative industry's portfolio was $66,869, which was higher than the statewide average of $65,907.

High Performing Creative Industry Groups

Only one creative industry group, film, TV, video production and distribution, registered as high performing base-growth and emerging industries for the 2012 to 2022 period.

The Henry Kapono & Friends Home In the Islands (HITI) concert was developed in 2020/21 through a partnership between the Henry Kapono Foundation, Hawaii Tourism Authority (HTA), Native Hawaiian Hospitality Association (NaHHA) and the Creative Industries Division DBEDT (CID). Photo credit: Henry Kapono Foundation

Other Creative Industries' Performance

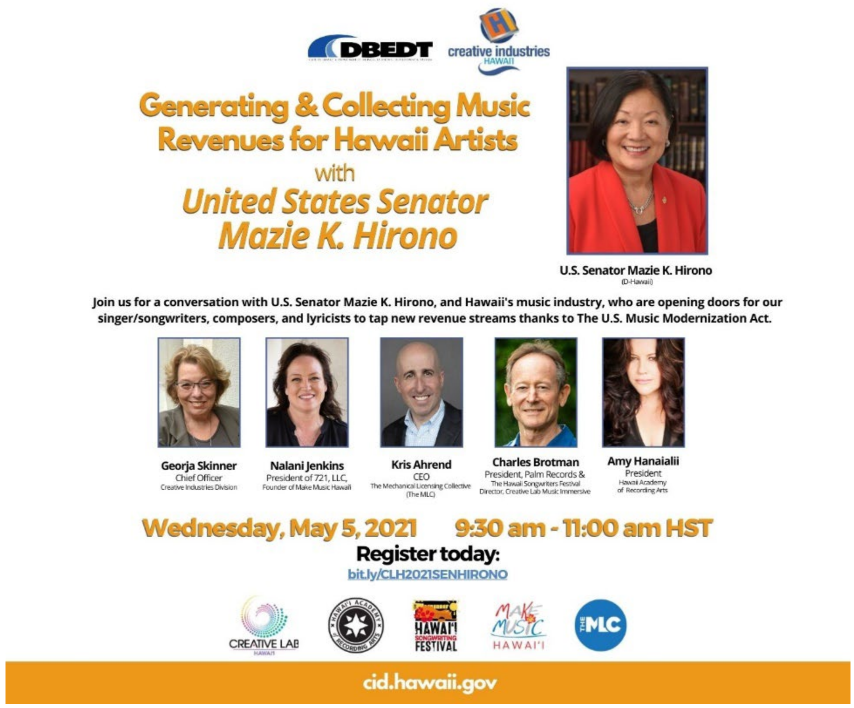
Eight of the creative sector industry groups were in the transitioning category for the 20112 to 2022 period. These ranged from design services, which increased only 0.8% in jobs, to business consulting, which grew jobs by 26.4%. However, while these industry groups grew, their growth rate was below the same industries nationally. As a result, they lost some ground to the nation in terms of competitive industry share.

Finally, the four creative industry groups that lost jobs during the 2012 to 2022 period fell into the declining quadrant of the performance maps; these were architecture, cultural activities, radio and TV broadcasting, and publishing & information.

It is important to note that the independence of these creative groups is not yet clear. The performance of some groups may reflect strong or weak markets driving other industries for which the creative target is simply a supplier. For instance, the high performance of cultural activities in the performance map probably reflects the strong tourism demand over the period, rather than a specific local or export market for cultural products. Likewise, some targets may perform poorly because they are tied to another industry that has experienced difficulties.

Conclusions and Next Steps

Work should continue to flesh out the dimensions and opportunities of the commercial markets served by the NAICS-based creative industry groups. This is especially important for the digital media and the broader film industry, which are only partially captured in the NAICS film production industry. Also needing closer study is the link between specific creative activity and emerging technologies in information, communications, entertainment, and the broad range of commercial applications that are being driven by innovation. Learning how creative activity supports and utilizes emerging technology can help clarify the skill sets and educational elements that will help make Hawaii a leader in innovation.



CID hosted a webinar conversation with US Senator Mazie K. Hirono, who has been instrumental in introducing legislation to address IP protections and improvements at the U.S. Copyright Office. The event will explore opportunities for local singer/songwriters, composers and lyricists to generate, collect and access digital audio royalties and new revenue streams for their work.

I. INTRODUCTION

Development of Hawaii's key creative activities has become an important focus of the State's economic development efforts in recent years for several reasons. First, Hawaii's cultural diversity and the unique heritage of its Hawaiian host culture are major attractions for the millions of visitors that inject billions of dollars into Hawaii's economy each year. Without this cultural component to the visitor experience, Hawaii is mostly a sun and surf destination like many of its competitors. Second, the depth of Hawaii's creative and cultural talent and unique artistic content helps Hawaii's creative products compete in global markets. Supporting this asset is a market of millions of visitors to the state each year, which helps the arts and culture sector maintain critical mass. Furthermore, visitors absorb the creative products of Hawaii in context and share their discovery in the many markets from which they have come. Third, the creative industries and their workforce are key sources of ideas, content and talent for Hawaii's emerging technology sector. Advancement in science and technology has made it possible for the development and delivery of new and valuable intellectual property, such as computer animation, mini-applications for mobile devices and even 3D modeling of potential new products. While the property rights to new technologies like smart phone, tablet, and 3D TV may be owned and licensed by a few, or even just a single company, content development stemming from, or using these technologies has no limit in terms of products and number of companies that can benefit from content development.

The Definition of the Creative Sector

In 2007 DBEDT's Research and Economic Analysis Division (READ), in conjunction with DBEDT's Creative Industries Division (CID), developed a measure for the creative sector that focused on a number of key industry groups, highlighted by film and TV, music, and performing arts.[1]

However, since that report, several emerging areas have been added to that focus of interest, particularly emerging types of intellectual property based on new technologies for developing and delivering content through digital media and the internet. The priority focus by the State on the creative sector is now on a number of key activities for which Hawaii has an established competitive advantage as well as areas based on emerging technology that can generate valuable exports and high paying jobs including:

- Film and TV
- Music
- Digital media products (such as games and mobile applications)
- Animation
- Workforce development in these focus activities

To support the evolving development focus, CID and READ determined that a broader definition of the sector was needed. More current definitions of the creative sector were reviewed and the scope of the activities was revised based in large part on a similar study in Massachusetts.[2]

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[1] *The Creative Industry in Hawaii*, April 2007, DBEDT.

[2] Specifically the *North Shore Creative Economy, Market Analysis and Action Plan*, ConsultEcon, Inc., Economic Research and Management Consultants. Prepared for: the Enterprise Center at Salem State College, the Salem Partnership, and the Creative Economy Association of the North Shore, April 2009.

In addition to including more technology-based creative activities, the newer Massachusetts definition also broadens the scope of industries in the creative sector portfolio to include such activities as advertising and marketing, design services, architecture, engineering and research and development. A report based on that framework was done in June 2010. This report is a continuation of a series of reports, updating Hawaii's Creative Industries Report with the latest data.

Data Sources

A major feature of the 2007, 2010, 2012, 2014, 2015, 2016, 2017, 2018 and current update of the creative sector is measurability and comparability. Where possible, the industries in the creative sector are selected from the very detailed North American Industrial Classification System (NAICS). A rich and reliable array of data is available on economic activity based on NAICS. NAICS data also permits the comparison of Hawaii industries against the same activities nationally, allowing better measures of performance.[3] The data for this report were developed for a recent DBEDT study on innovation industries, which included the creative sector. They consist primarily of jobs and labor earnings that are available annually for detailed industries.[4] Other measures such as sales, output and gross product are not available as frequently or in as much detail. More discussion on the data is contained in the following section.

DOOGIE KAMEALOHA, M.D - Disney's "Doogie Kamealoha, M.D" stars Peyton Elizabeth Lee as Lahela "Doogie" Kamealoha, Kathleen Rose Perkins as Dr. Clara Hannon, Jason Scott Lee as Benny Kamealoha, Matthew Sato as Kai Kamealoha, Wes Tian as Brian Patrick Kamealoha, Emma Meisel as Steph, and Alex Aiono as Walter. (Disney/Justin Stephens)

[3] The framework was developed by DBEDT in another recent study for the evaluation of emerging industry performance See *Benchmarking Hawaii's Emerging Industries*, http://hawaii.gov/dbedt/info/economic/data_reports/emerging-industries/ .

[4] The basic data are compiled by Economic Modeling Specialists, Inc. (EMSI) and processed by DBEDT. EMSI supplements data from the Federal Departments of Labor and Commerce by including estimates of proprietors and self-employed jobs, and by estimating data for very small industries that are not reported by the Federal agencies due to disclosure issues.

II. OVERVIEW OF HAWAII'S CREATIVE INDUSTRIES PORTFOLIO

Table 1 provides an overview of the 13 industry groups in the creative sector, and their 2022 job count, based on the current definition of the sector. In total, the creative industries accounted for about 51,231 jobs in Hawaii for 2022. This was up 7.1% from 2012. The earnings average was $66,869.

TABLE 1. CREATIVE INDUSTRY PRODUCTION GROUPS

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These industries have been defined using the North American Industrial Classification System, or *NAICS*, which provides a rich source of standard data at a detailed level on producing industries. Without that standard data, we would be faced with the need to do special surveys and compilations, which are costly and usually not comparable with similar activity elsewhere.

Unfortunately, NAICS is strictly a production-oriented, supply-side classification system, meaning that it is focused on firms and industries not markets. For that reason, NAICS data does not clearly identify major *commercial markets* for creative sector products such as digital media, computer animation and games. NAICS does measure many of the likely industries that produce products for these markets, such as computer programming, engineering and film & video production.

While the production-based NAICS data does not provide all the data we would like, it is high quality information and comparable with national data. Also, jobs associated with commercial market activity are contained, for the most part, in the production side industry groups. With the NAICS data as a base, further efforts can be made to better understand the commercial markets and Hawaii's competitiveness in serving them.

It should be noted that not all of the industry groups in the creative sector portfolio are the subject of active assistance by the State or local economic development organizations. The main groups of interest include film/TV, music, cultural activities, performing arts and computer services related to digital media.

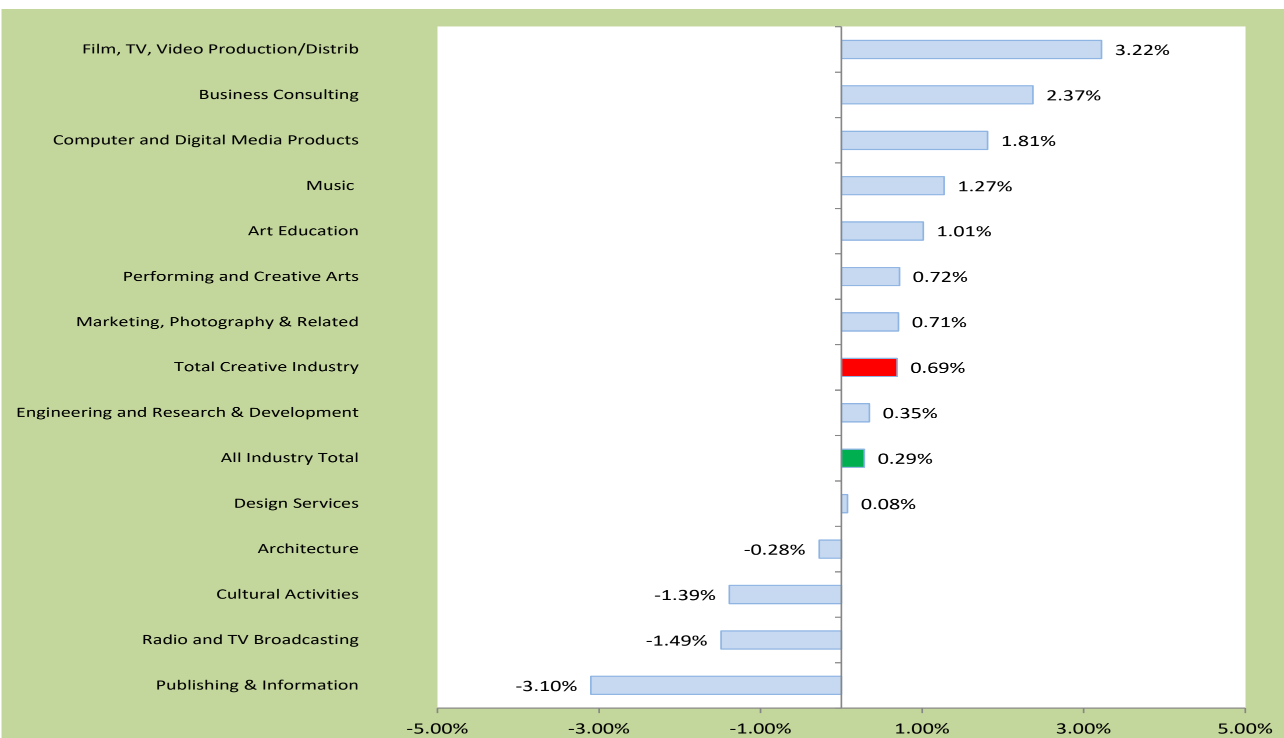
However, other groups like business consulting, publishing and information, broadcasting and architecture, to name a few, have not yet been the focus of development efforts. This is mainly because they have just recently been added to the creative industry portfolio through the adoption of the new, broader definition of the creative sector. The results of their performance in this study will need to be evaluated, as well as further investigated, to determine the intensity of development focus that would be appropriate for these additional creative industry groups.

Creative Sector Job Growth

In terms of job growth, the creative industries portfolio seems to have performed above the average over the 2012 to 2022 period (Figure 1). Nine of the thirteen NAICS-based, target industry groups showed net job growth over the period. Eight groups outperformed the overall state jobs annual growth rate of 0.29%. Film, TV, video production/distribution topped the list with 3.22% annual growth. This was followed by business consulting.

The four industry groups that lost jobs over the same period were architecture, cultural activities, radio and TV broadcasting, and publishing & information.

FIGURE 1. CREATIVE SECTOR AVERAGE ANNUAL JOB GROWTH RATE, 2012-2022



Source: DBEDT compilation based on EMSI data.

National Competitiveness of the Creative Sector

Job growth helps show the creative industries' competitiveness within Hawaii's economy. Another measure that can help shed light on creative sector industries is their performance compared to the same national industry. If Hawaii's creative industry growth rate is higher than the national growth rate, Hawaii's creative industry is effectively increasing its competitive share of the national industry. If the industry is growing more slowly in Hawaii, its national industry share is declining. [5]

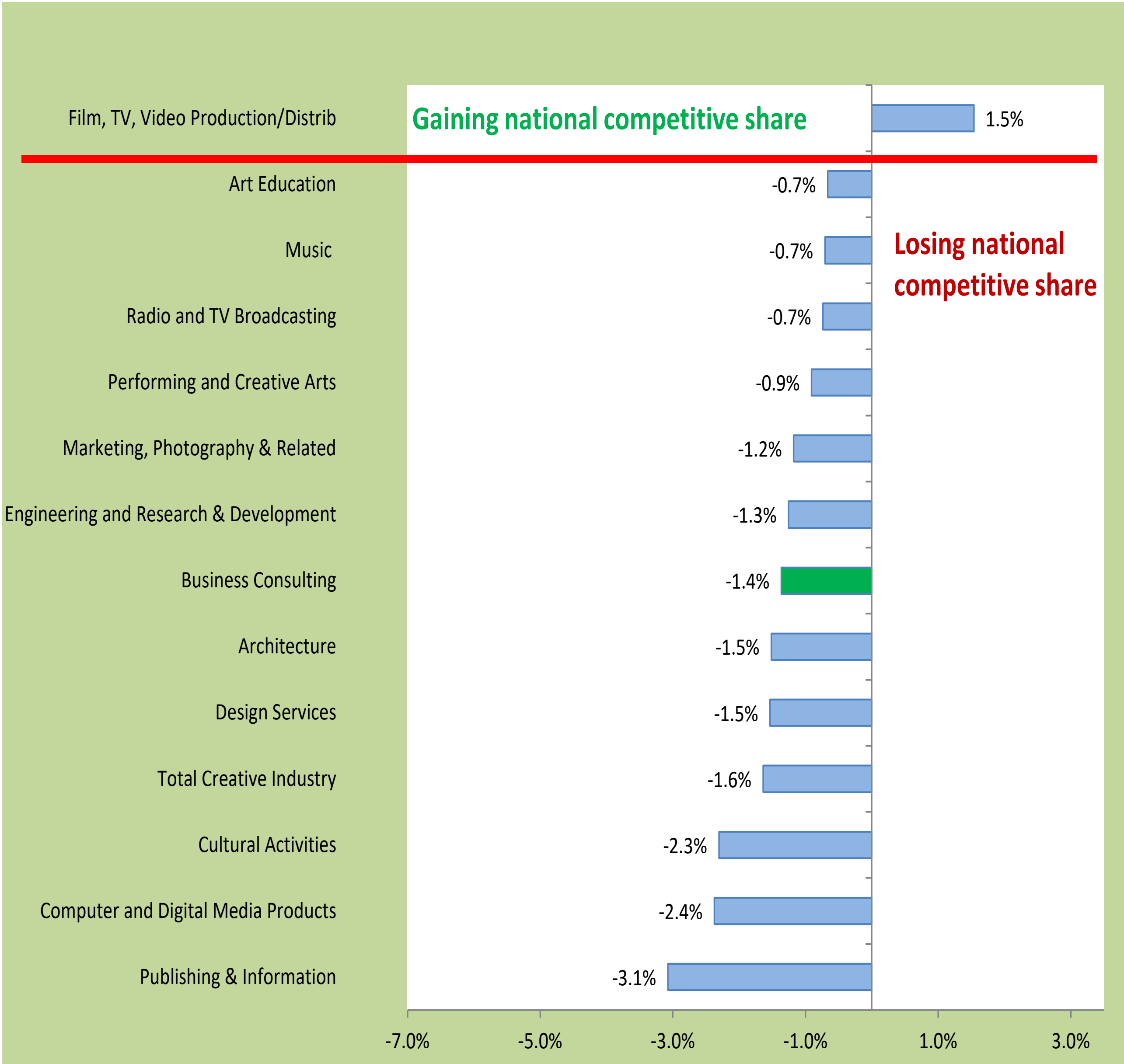
Figure 2 shows how much more or less Hawaii's creative industries grew per year on average than the same industries nationally. For instance, over the 2012 to 2022 period, jobs in the film, TV, video production/distribution industry group grew an average of 1.5% more annually in Hawaii than the same industry nationwide. Thus, Hawaii's film, TV, video production/distribution industry group gained competitive national industry share. On the other hand, even though the computer and digital media products industry group grew jobs over this period, it lost national industry share due to an average annual growth rate that was 2.4% below the national industry growth rate.

Industries like design services, business consulting, music, computer and digital media products, and marketing, photography & related also lost competitive national market share even though they increased their statewide job counts. Industries that have both positive job growth and an increase in competitive national industry share represent the best performing industry groups over a given period of time. Industry groups with the higher competitive share metric are probably showing a higher comparative advantage compared with the national industry.

Brands Salvage Public and Jana Lam, Fellows in the inaugural Creative Lab Hawaii Fashion Immersive, showcase their products at their respective shops in Hawaii and in boutiques throughout the world. Photo Credit: Photo credit Nella Media Group

[5] A more complete discussion of the performance metrics and framework for analysis is contained in the DBEDT report Benchmarking Hawaii's Emerging Industries, available for download at http://hawaii.gov/dbedt/info/economic/data_reports/emerging-industries/.

FIGURE 2. GAIN OR LOSS OF NATIONAL COMPETITIVE INDUSTRY SHARE, 2012-2022



Source: DBEDT compilation based on EMSI data.

Industry Concentration – Hawaii's Creative Specialties

A third performance metric that helps in the evaluation of the creative industry portfolio is industry job concentration (Figure 3). This is a measure of how much Hawaii specializes in the industry and helps shed light on the industries' export orientation.

Export activity brings new money into the state and is a basis for long-term industry growth. Unfortunately, estimates of industry exports are not part of standard industry data programs. Thus, it is not clear how much output in a given creative industry is exported.

However, it is possible to identify *likely* export industries by measuring the concentration of their employment in the state's economy. An industry that employs a significantly higher proportion of jobs in Hawaii than does the same industry nationally is relatively more concentrated and is likely to be exporting at least some of its output.

Industry concentration is measured by a metric called the Location Quotient, or LQ for short. The LQ for an industry at the U.S. level is fixed at 1.0. Hawaii industries with an LQ measure more than 1.0 are more concentrated in the economy than the same industry for the U.S. as a whole. Those below 1.0 are less concentrated.

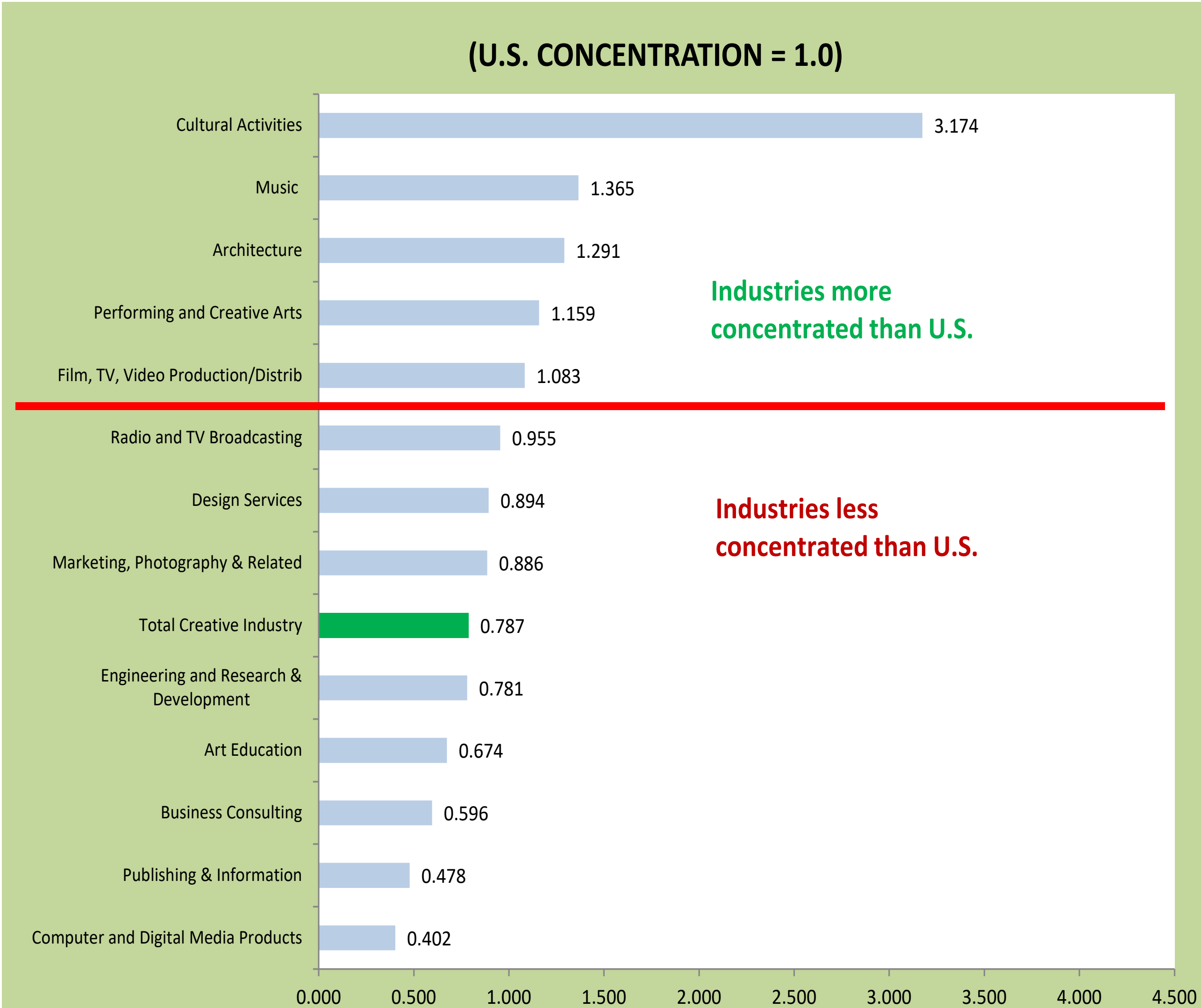
For instance, the measure for cultural activities in Figure 3 means that employment in Hawaii's cultural industry group is 3.2 times more concentrated than for the U.S. as a whole. This suggests that cultural activities are relatively more important to Hawaii and that the state may be exporting a significant amount of the industry's output. On the other hand, business consulting in Hawaii with, an LQ of just 0.6, has only about half the employment concentration of the same industry group for the U.S. as a whole. While it is possible that business consulting may be exporting some of its output, it has a long way to go to demonstrate the strong comparative advantage shown by the more concentrated industries above the 1.0 level.

In addition to cultural activities, music, architecture, film, TV, video production/distribution, and performing/creative arts had concentrations in Hawaii's economy that were higher than the same industries nationally. These more concentrated industries are probably helping to drive Hawaii's economy. Industries that are not as concentrated in Hawaii as they are nationally may also be exporting some of their output. However, they are probably serving mainly local demand.

CREATIVE LAB
HAWAIʻI

Creative Lab Hawaii, founded in 2012 by the Hawaii State Department of Business, Economic Development, and Tourism's Creative Industries Division (CID), is a key facet of DBEDT's HI Growth Initiative. Creative Lab fosters the talent development in Hawaii's innovation ecosystem to increase export, attract investment and build the state's creative entrepreneurial capacity.

FIGURE 3. CONCENTRATION OF INDUSTRY EMPLOYMENT COMPARED TO U.S., 2022



Source: DBEDT compilation based on EMSI data.

Performance Map Framework: Identifying Emerging Creative Industries

A framework to better understand the overall implications of these key performance measures would be very helpful, especially one that can clarify the notion of emerging industries and how they can be measured. A closely related framework in the economic development research tool box is the industry life cycle model. This model breaks industries in the economy into four generalized stages of life, starting with an *emerging* phase, moving to a *base-growth* industry phase, followed by a mature or *transitioning* phase and finally a *declining* phase. Of course, not all industries fit nicely into this notion, especially over short periods of time. However, with some qualifications, this notion of development stages can help us evaluate the status of the creative industry portfolio.

Using the performance metrics from Figures 1, 2 and 3, the creative industry groups can be placed into one of four life-cycle quadrants according to the criteria shown in Table 2.

TABLE 2. PERFORMANCE MAP CRITERIA

TRANSITIONING	BASE-GROWTH
• Positive job growth • Losing competitive national industry share	• Positive job growth • Highly concentrated in the economy • Increasing competitive national industry share
DECLINING	**EMERGING**
• Losing jobs over period	• Positive job growth • Current low concentration in the economy • Increasing competitive national industry share

Emerging Quadrant: These are industries that are potentially in the early, take-off stage. They have been performing well by showing both job growth and an increase in their competitive share of the national industry. However, these industries have yet to achieve a concentration in the state's economy equal to the same industry for the U.S. as a whole. An *emerging* creative industry is one that has found a competitive niche in the economy and is gaining in competitive national industry share. At some point, if the process continues, the industry's concentration will exceed the national level and the emerging industry will graduate to a base-growth industry in the state's economy.

Base-Growth Quadrant: These are industries that have become potential economic drivers. They are growing their job counts and are increasing their competitive national industry share. Moreover, they have exceeded the national level of industry concentration in the economy and are probably exporting at least a proportion of their output.

Transitioning Quadrant: Transitioning creative industries are still maintaining or growing their workforce, however they are losing competitive national industry share (growing more slowly than the same industry nationally). This is typical of mature industries that are still important to the economy but are having difficulty maintaining national market share. They are considered transitioning because they could either continue to lose industry share and eventually fall into decline or reinvigorate themselves and begin to regain industry share and continue growing. Also, in this quadrant may be former emerging industries that never reached base-growth status before losing competitive national industry share and some previously declining industries that are fighting back into competitiveness.

Declining Quadrant: The declining quadrant contains industry groups showing job losses over the period. All of these creative industry groups have lost jobs to some extent between 2009 and 2019. Most industries that are losing jobs are also losing competitive national industry share. However, while they are declining in jobs for the period, these industries are not necessarily dying industries. A number of temporary circumstances may have put some of Hawaii's creative industries into the declining quadrant for the period studied. Their appearance in the declining quadrant is a red flag that warrants more careful analysis to understand the problem.

It must be emphasized that the performance map framework is more of a guide to understand an industry's situation rather than a conclusion about the value of the industry to the state. It provides a starting point for assessing the strengths and weaknesses of the industries in the portfolio. Also, within industries that are experiencing mixed or poor performance there may be pockets of very successful firms.

III. CREATIVE INDUSTRY PORTFOLIO PERFORMANCE

Table 3 shows how the individual, NAICS-based creative industry groups fell on the performance map based on the 2012 to 2022 performance measures. Combined, the NAICS-based creative industry groups accounted for about 51,231 jobs in Hawaii's economy during 2022.

TABLE 3. CREATIVE INDUSTRY GROUPS MAPPED BY PERFORMANCE, 2012-2022

Total Creative Jobs, 2022: 51,231					
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Engineering and Research & Development	3.5%	$117,037			
Business Consulting	26.4%	$74,502			
Design Services	0.8%	$41,327			
Computer and Digital Media Products	19.7%	$129,334			
Declining Group: 13.8% of Jobs			**Emerging Group: 0.0% of Jobs**		
Group	Change in Jobs	Average Earnings	Group	Change in Jobs	Average Earnings
Architecture	-2.7%	$95,867			
Cultural Activities	-13.0%	$65,363			
Radio and TV Broadcasting	-13.9%	$95,071			
Publishing & Information	-27.0%	$76,664			

Source: DBEDT compilation based on EMSI data.

Overall, the creative industry groups added about 3,403 jobs to the state's economy between 2012 and 2022. This amounted to a 7.1% increase in jobs, higher than the 3.8% growth in Hawaii's civilian economy as a whole for the period. The leading performer of the overall portfolio was the film, TV, video production/distribution group. The 2022 earnings average of the creative industry portfolio of $66,869 was higher than the statewide average of $65,907.

High Performing Creative Industry Groups

Only one creative industry groups, film, TV, video production/distribution, registered as high performing base-growth industries for the 2012 to 2022 period.

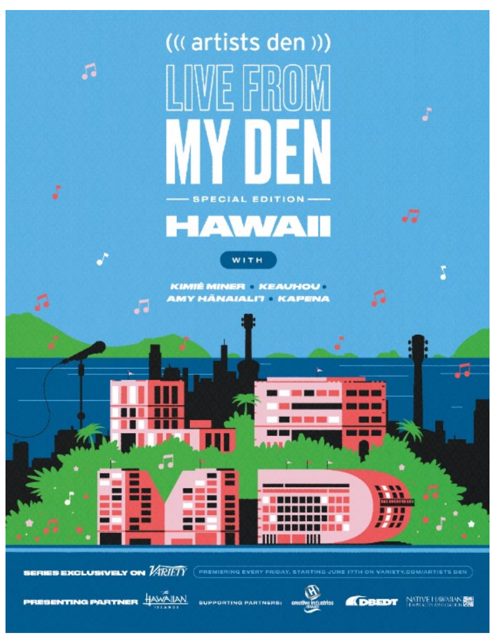
Other Creative Industries' Performance

Eight of the creative sector industry groups were in the transitioning category for the 20112 to 2022 period. These ranged from design services, which increased only 0.8% in jobs, to business consulting, which grew jobs by 26.4%. However, while these industry groups grew, their growth rate was below the same industries nationally. As a result, they lost some ground to the nation in terms of competitive industry share.

Finally, the four creative industry groups that lost jobs during the 2012 to 2022 period fell into the declining quadrant of the performance maps; these were architecture, cultural activities, radio and TV broadcasting, and publishing & information. It is important to note that the independence of these creative groups is not yet clear. The performance of some groups may reflect strong or weak markets driving other industries for which the creative target is simply a supplier. For instance, the high performance of cultural activities in the performance map probably reflects the strong tourism demand over the period, rather than a specific local or export market for cultural products. Likewise, some targets may perform poorly because they are tied to another industry that has experienced difficulties.

Hard-to-Measure Creative Activities

As discussed earlier, a number of creative activities cannot be easily or meaningfully defined in the NAICS industry system. These activities — mainly the digital media and broader film industry — represent either markets, or a series of partial NAICS industries. In Section V, the available information for these hard-to-measure activities will be presented to the extent available. However, most of the employment engaged in these market activities is probably captured in one or more of the producing industries that we are able to define and measure. The goal will be to eventually parse the producing industry employment into the important market sectors they support.



In coordination with Hawaii Tourism Authority (HTA), Native Hawaiian Hospitality Association (NaHHA), the Creative Industries Division worked during 2021 with the acclaimed Artists Den to produce the 4-part digital Live From My Den (LFMD) Special Edition Hawaii series, featuring Kimié Miner, Kapena, Amy Hānaialiʻi, and Keauhou. Image Credit: Artists Den

IV. CREATIVE INDUSTRY PERFORMANCE BY COUNTY

The following tables summarize the 2012 to 2022 county performance for creative industries (paid employment and self-employed/sole proprietors). Performance has been organized by *Best Performing Targets* (registering as base-growth & emerging industry groups) and *Other Targeted Industry Performance* (those that were in the transitioning and declining categories).

City & County of Honolulu

Honolulu accounted for 37,239 of the state's creative industry jobs in 2022, a 0.7% annual increase from 2012. As shown in Table 4, two creative industry groups were high performing in Honolulu County in the 2012 to 2022 period. These high performing groups not only grew jobs during the period, but also increased their competitive share of the activity by exceeding the national growth rate for the industry. These included: Film, TV, Video Production/Distribution, and Music. Four creative industry groups lost jobs in Honolulu County over the 2012 to 2022 period: Publishing & Information, Radio and Television Broadcasting, Architecture, and Cultural Activities.

TABLE 4. CREATIVE INDUSTRY JOBS, HONOLULU

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2012	2013	2021	2022	2012-2013	2013-2022	2021-2022	2012-2022
Film, TV, Video Production/Distrib	Base-Growth	1,313	1,592	1,936	1,865	21.2%	1.8%	-3.7%	3.6%
Music	Base-Growth	641	631	756	861	-1.6%	3.5%	13.9%	3.0%
Design Services	Transitioning	1,239	1,332	1,302	1,331	7.5%	0.0%	2.2%	0.7%
Engineering and R&D	Transitioning	4,719	4,525	5,067	5,054	-4.1%	1.2%	-0.3%	0.7%
Marketing, Photography & Related	Transitioning	7,213	7,680	7,620	7,716	6.5%	0.1%	1.3%	0.7%
Art Education	Transitioning	499	585	499	520	17.2%	-1.3%	4.2%	0.4%
Business Consulting	Transitioning	3,787	3,881	4,704	4,790	2.5%	2.4%	1.8%	2.4%
Performing and Creative Arts	Transitioning	4,622	4,678	4,662	4,749	1.2%	0.2%	1.9%	0.3%
Computer and Digital Media Products	Transitioning	3,936	4,072	4,306	4,433	3.5%	0.9%	3.0%	1.2%
Architecture	Declining	1,561	1,583	1,533	1,544	1.4%	-0.3%	0.7%	-0.1%
Radio and TV Broadcasting	Declining	917	993	783	794	8.3%	-2.5%	1.4%	-1.4%
Cultural Activities	Declining	2,873	3,137	2,175	2,451	9.2%	-2.7%	12.7%	-1.6%
Publishing & Information	Declining	1,526	1,460	1,131	1,130	-4.4%	-2.8%	-0.1%	-3.0%
Total Creative Industry	Transitioning	34,848	36,152	36,476	37,239	3.74%	0.33%	2.09%	0.67%

Source: DBEDT compilation based on EMSI data.

The comparisons of Honolulu County creative industry's job growth and earnings with the state and nation are listed in Table 5. For job growth, Honolulu County's 0.7% annual growth rate was about the same as the state's 0.7%, but lower than the national average of 2.3%. For average earnings, Honolulu County was higher than the state, but much lower than the national average.

TABLE 5. HONOLULU COUNTY CREATIVE INDUSTRY PERFORMANCE COMPARED WITH NATION AND STATE

Industry Group	Performance Class	Job Change 2012-2022	Average Annual Job Growth (%)			Avg. Annual Earnings (2022)		
			County	State	U.S.	County	State	U.S.
Film, TV, Video Production/Distrib	Base-Growth	551	3.6%	3.2%	1.7%	86,522	83,438	117,471
Music	Base-Growth	220	3.0%	1.3%	2.0%	37,356	34,522	46,824
Design Services	Transitioning	92	0.7%	0.1%	1.6%	42,991	41,327	53,844
Engineering and R&D	Transitioning	334	0.7%	0.3%	1.6%	117,608	117,037	131,163
Marketing, Photography & Related	Transitioning	502	0.7%	0.7%	1.9%	36,948	36,696	66,580
Art Education	Transitioning	21	0.4%	1.0%	1.7%	23,818	22,133	20,551
Business Consulting	Transitioning	1,003	2.4%	2.4%	3.7%	80,977	74,502	101,180
Performing and Creative Arts	Transitioning	127	0.3%	0.7%	1.6%	29,942	27,727	31,728
Computer and Digital Media Products	Transitioning	497	1.2%	1.8%	4.2%	130,844	129,334	161,982
Architecture	Declining	-17	-0.1%	-0.3%	1.2%	101,913	95,867	91,024
Radio and TV Broadcasting	Declining	-123	-1.4%	-1.5%	-0.8%	98,559	95,071	107,718
Cultural Activities	Declining	-422	-1.6%	-1.4%	0.9%	65,974	65,363	70,287
Publishing & Information	Declining	-396	-3.0%	-3.1%	0.0%	67,879	76,664	180,644
Total Creative Industry	Transitioning	2,391	0.7%	0.7%	2.3%	73,223	66,869	102,686

Source: DBEDT compilation based on EMSI data.

Hawaii County

Hawaii County accounted for 5,403 of the state's creative industry jobs in 2022, a 0.9% average annual increase from 2012. As shown in Table 6, four creative industry groups were high performing in Hawaii County during the 2012 to 2022 period. These high performing groups not only grew jobs during the period but also increased their competitive share of the activity by exceeding the national growth rate for the industry. These included: Music, Cultural Activities, Radio and TV Broadcasting, and Computer and Digital Media. Three creative industry groups lost jobs in Hawaii County over the 2012 to 2022 period.

TABLE 6. CREATIVE INDUSTRY JOBS, HAWAII COUNTY

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2012	2013	2021	2022	2012-2013	2013-2022	2021-2022	2012-2022
Music	Base-Growth	120	126	167	196	4.9%	5.0%	17.8%	5.0%
Cultural Activities	Base-Growth	84	80	127	131	-4.8%	5.6%	3.6%	4.5%
Radio and TV Broadcasting	Emerging	52	46	74	73	-12.1%	5.2%	-1.7%	3.3%
Computer and Digital Media Products	Emerging	246	281	400	426	14.3%	4.7%	6.3%	5.6%
Art Education	Transitioning	53	76	59	62	45.3%	-2.3%	5.2%	1.6%
Performing and Creative Arts	Transitioning	1,314	1,322	1,502	1,523	0.6%	1.6%	1.4%	1.5%
Film, TV, Video Production/Distrib	Transitioning	78	25	80	85	-67.5%	14.4%	5.2%	0.9%
Design Services	Transitioning	283	290	281	288	2.6%	-0.1%	2.5%	0.2%
Marketing, Photography & Related	Transitioning	1,234	1,268	1,228	1,246	2.7%	-0.2%	1.5%	0.1%
Business Consulting	Transitioning	500	507	583	591	1.4%	1.7%	1.3%	1.7%
Engineering and R&D	Declining	575	627	519	508	9.0%	-2.3%	-2.0%	-1.2%
Architecture	Declining	145	155	121	126	6.9%	-2.3%	4.5%	-1.4%
Publishing & Information	Declining	232	221	147	149	-4.7%	-4.3%	1.1%	-4.4%
Total Creative Industry	Transitioning	4,917	5,026	5,289	5,403	2.2%	0.8%	2.2%	0.9%

Source: DBEDT compilation based on EMSI data.

The comparisons of Hawaii County creative industry's job growth and earnings with the state and nation are listed in Table 7. For job growth, Hawaii County's 0.9% annual growth rate was higher than the state's growth rate and lower than the national average of 0.7%. For average earnings, Hawaii County was lower than the state, and much lower than the national average.

TABLE 7. HAWAII COUNTY CREATIVE INDUSTRY PERFORMANCE COMPARED WITH NATION AND STATE

Industry Group	Performance Class	Job Change 2012-2022	Average Annual Job Growth (%)			Avg. Annual Earnings (2022)		
			County	State	U.S.	County	State	U.S.
Music	Base-Growth	76	5.0%	1.3%	2.0%	26,776	34,522	46,824
Cultural Activities	Base-Growth	47	4.5%	-1.4%	0.9%	68,171	65,363	70,287
Radio and TV Broadcasting	Emerging	20	3.3%	-1.5%	-0.8%	66,883	95,071	107,718
Computer and Digital Media Products	Emerging	180	5.6%	1.8%	4.2%	95,948	129,334	161,982
Art Education	Transitioning	9	1.6%	1.0%	1.7%	15,285	22,133	20,551
Performing and Creative Arts	Transitioning	209	1.5%	0.7%	1.6%	21,959	27,727	31,728
Film, TV, Video Production/Distrib	Transitioning	7	0.9%	3.2%	1.7%	68,034	83,438	117,471
Design Services	Transitioning	5	0.2%	0.1%	1.6%	35,859	41,327	53,844
Marketing, Photography & Related	Transitioning	12	0.1%	0.7%	1.9%	30,699	36,696	66,580
Business Consulting	Transitioning	91	1.7%	2.4%	3.7%	51,298	74,502	101,180
Engineering and R&D	Declining	-67	-1.2%	0.3%	1.6%	109,382	117,037	131,163
Architecture	Declining	-19	-1.4%	-0.3%	1.2%	65,785	95,867	91,024
Publishing & Information	Declining	-84	-4.4%	-3.1%	0.0%	97,943	76,664	180,644
Total Creative Industry	Transitioning	487	0.9%	0.7%	2.3%	47,635	66,869	102,686

Source: DBEDT compilation based on EMSI data.

Maui County

Maui County accounted for 6,205 of the state's creative industry jobs in 2022, a 0.5% average annual increase from 2012. As shown in Table 8, only three creative industry groups were high performing in Maui County in the 2012 to 2022 period. These high performing groups not only grew jobs during the period but also increased their competitive share of the activity by exceeding national growth for the industry. These included: Cultural Activities, Art Education, and Film, TV, Video Production/Distribution. Six creative industry groups lost jobs in Maui County over the 2012 to 2022 period.

TABLE 8. CREATIVE INDUSTRY JOBS, MAUI COUNTY

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2012	2013	2021	2022	2012-2013	2013-2022	2021-2022	2012-2022
Film, TV, Video Production/Distrib	Emerging	57	15	101	114	-74.0%	25.3%	12.8%	7.1%
Cultural Activities	Emerging	43	43	49	53	-0.4%	2.3%	7.5%	2.0%
Art Education	Emerging	76	93	96	95	22.7%	0.3%	-0.5%	2.3%
Computer and Digital Media Products	Transitioning	342	348	497	509	1.6%	4.3%	2.5%	4.1%
Marketing, Photography & Related	Transitioning	1,352	1,405	1,531	1,578	3.9%	1.3%	3.1%	1.6%
Performing and Creative Arts	Transitioning	2,132	2,161	2,204	2,291	1.4%	0.7%	3.9%	0.7%
Business Consulting	Transitioning	384	386	456	467	0.6%	2.1%	2.4%	2.0%
Architecture	Declining	158	154	139	140	-2.4%	-1.1%	0.6%	-1.2%
Engineering and R&D	Declining	337	356	300	298	5.7%	-2.0%	-0.6%	-1.2%
Design Services	Declining	305	330	257	258	8.3%	-2.7%	0.3%	-1.7%
Publishing & Information	Declining	273	281	198	218	3.0%	-2.8%	10.1%	-2.2%
Radio and TV Broadcasting	Declining	124	108	58	66	-13.2%	-5.3%	14.2%	-6.1%
Music	Declining	299	405	109	117	35.6%	-12.8%	7.6%	-8.9%
Total Creative Industry	Transitioning	5,881	6,084	5,995	6,205	3.5%	0.2%	3.5%	0.5%

Source: DBEDT compilation based on EMSI data.

The comparisons of Maui County creative industry's job growth and earnings with the state and nation are listed in Table 9. For job growth, Maui County's 0.5% annual growth rate was lower than the state's 0.7% and the national average of 2.3%. For average earnings, Maui County was lower than the state, and much lower than the national average.

TABLE 9. MAUI COUNTY CREATIVE INDUSTRY PERFORMANCE COMPARED WITH NATION AND STATE

Industry Group	Performance Class	Job Change 2012-2022	Average Annual Job Growth (%)			Avg. Annual Earnings (2022)		
			County	State	U.S.	County	State	U.S.
Film, TV, Video Production/Distrib	Emerging	56	7.1%	3.2%	1.7%	57,317	83,438	117,471
Cultural Activities	Emerging	10	2.0%	-1.4%	0.9%	49,827	65,363	70,287
Art Education	Emerging	19	2.3%	1.0%	1.7%	20,599	22,133	20,551
Computer and Digital Media Products	Transitioning	167	4.1%	1.8%	4.2%	138,713	129,334	161,982
Marketing, Photography & Related	Transitioning	226	1.6%	0.7%	1.9%	39,890	36,696	66,580
Performing and Creative Arts	Transitioning	159	0.7%	0.7%	1.6%	26,243	27,727	31,728
Business Consulting	Transitioning	83	2.0%	2.4%	3.7%	38,764	74,502	101,180
Architecture	Declining	-18	-1.2%	-0.3%	1.2%	61,201	95,867	91,024
Engineering and R&D	Declining	-39	-1.2%	0.3%	1.6%	113,431	117,037	131,163
Design Services	Declining	-47	-1.7%	0.1%	1.6%	44,476	41,327	53,844
Publishing & Information	Declining	-55	-2.2%	-3.1%	0.0%	110,312	76,664	180,644
Radio and TV Broadcasting	Declining	-58	-6.1%	-1.5%	-0.8%	102,355	95,071	107,718
Music	Declining	-181	-8.9%	1.3%	2.0%	34,224	34,522	46,824
Total Creative Industry	Transitioning	325	0.5%	0.7%	2.3%	50,219	66,869	102,686

Source: DBEDT compilation based on EMSI data.

The Maui Film Festival's Celestial Cinema showcases work of Hollywood and Hawaii Filmmakers and attracts hundreds of celebrities, filmmakers, global media and visitors on the green in Wailea.

In 2021/22, in partnership with the Hawaii Academy of Recording Arts (HARA), and the High Technology Development Corporation (HTDC), the Creative Industries Division kicked off Hoku Nights, a new 1-Hour Monthly Series concept films at the Entrepreneur's Sandbox featuring performances by Hawaii's music legends and emerging recording artists.

Kauai County

Kauai County accounted for 2,239 of the state's creative industry jobs in 2022, a 0.5% annual increase from 2012. As shown in Table 10, four creative industry groups were high performing in Kauai County in the 2012 to 2022 period. These high performing groups not only grew jobs during the period but also increased their competitive share of the activity by exceeding the national growth rate for the industry. These included: Music, Art Education, Performing and Creative Art, and Radio and TV Broadcasting. Five creative industry groups lost jobs in Kauai County over the 2012 to 2022 period.

TABLE 10. CREATIVE INDUSTRY JOBS, KAUAI COUNTY

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2012	2013	2021	2022	2012-2013	2013-2022	2021-2022	2012-2022
Performing and Creative Arts	Base-Growth	573	623	661	720	8.7%	1.6%	8.9%	2.3%
Music	Base-Growth	22	38	50	54	76.5%	3.8%	6.8%	9.5%
Art Education	Emerging	25	29	49	45	15.9%	4.9%	-8.1%	6.0%
Radio and TV Broadcasting	Emerging	36	41	38	38	13.9%	-0.7%	-0.2%	0.6%
Business Consulting	Transitioning	152	152	207	217	0.0%	4.1%	5.3%	3.7%
Computer and Digital Media Products	Transitioning	102	134	137	143	31.2%	0.8%	4.7%	3.5%
Architecture	Transitioning	56	68	59	58	21.7%	-1.8%	-3.0%	0.3%
Marketing, Photography & Related	Transitioning	617	689	621	619	11.7%	-1.2%	-0.2%	0.0%
Engineering and R&D	Declining	160	152	163	131	-4.7%	-1.7%	-19.8%	-2.0%
Design Services	Declining	117	112	82	81	-3.7%	-3.6%	-0.9%	-3.6%
Cultural Activities	Declining	86	94	44	46	9.1%	-7.6%	4.8%	-6.1%
Publishing & Information	Declining	104	83	59	55	-20.9%	-4.4%	-6.4%	-6.2%
Film, TV, Video Production/Distrib	Declining	72	48	27	31	-34.0%	-4.5%	17.9%	-8.0%
Total Creative Industry	Transitioning	2,121	2,262	2,197	2,239	6.7%	-0.1%	1.9%	0.5%

Source: DBEDT compilation based on EMSI data.

The comparisons of Kauai County creative industry's job growth and earnings with the state and nation are listed in Table 11. For job growth, Kauai County's 0.5% average annual growth rate was lower than the state's 0.7% and lower than the national average of 2.3%. For average earnings, Kauai County was lower than the state and much lower than the national average.

TABLE 11. KAUAI COUNTY CREATIVE INDUSTRY PERFORMANCE COMPARED WITH NATION AND STATE

Industry Group	Performance Class	Job Change 2012-2022	Average Annual Job Growth (%)			Avg. Annual Earnings (2022)		
			County	State	U.S.	County	State	U.S.
Performing and Creative Arts	Base-Growth	147	2.3%	0.7%	1.6%	30,037	27,727	31,728
Music	Base-Growth	32	9.5%	1.3%	2.0%	18,068	34,522	46,824
Art Education	Emerging	20	6.0%	1.0%	1.7%	15,318	22,133	20,551
Radio and TV Broadcasting	Emerging	2	0.6%	-1.5%	-0.8%	61,770	95,071	107,718
Business Consulting	Transitioning	66	3.7%	2.4%	3.7%	44,094	74,502	101,180
Computer and Digital Media Products	Transitioning	41	3.5%	1.8%	4.2%	118,185	129,334	161,982
Architecture	Transitioning	2	0.3%	-0.3%	1.2%	83,546	95,867	91,024
Marketing, Photography & Related	Transitioning	3	0.0%	0.7%	1.9%	31,427	36,696	66,580
Engineering and R&D	Declining	-29	-2.0%	0.3%	1.6%	120,436	117,037	131,163
Design Services	Declining	-36	-3.6%	0.1%	1.6%	23,036	41,327	53,844
Cultural Activities	Declining	-40	-6.1%	-1.4%	0.9%	38,889	65,363	70,287
Publishing & Information	Declining	-49	-6.2%	-3.1%	0.0%	40,778	76,664	180,644
Film, TV, Video Production/Distrib	Declining	-41	-8.0%	3.2%	1.7%	34,838	83,438	117,471
Total Creative Industry	Transitioning	118	0.5%	0.7%	2.3%	44,299	66,869	102,686

Source: DBEDT compilation based on EMSI data.

V. CREATIVE INDUSTRY PERFORMANCE BY MAJOR GROUPS

This section takes a closer look at the performance of the industry groups in the creative industries portfolio. Detailed data are shown for selected industry groups in this section. However, complete data for all groups may be found in the appendix to this report.

States have increasingly come to realize in recent years that solely promoting technology does not necessarily generate the creative innovation upon which technology depends. It is the creative input that helps focus the commercial development and application technology, as well as providing content, such as in digital entertainment. Beyond technology, creative activity generates major export products and services in its own right and is essential to differentiating Hawaii's visitor product from other sun and surf destinations.

The diversity of creative activity has made the sector a difficult one to define for measurement purposes. As discussed earlier, an effort to establish an improved definition, the DBEDT Research Division worked with the Creative Industries Division in 2009 to better measure the sector in light of similar efforts in other states. Based on this collaboration, an updated measurement for the sector was developed using the definition established in Massachusetts as a model.

Table 12 shows the major industry groups of the creative sector and their primary performance metrics.

TABLE 12. EMPLOYMENT AND GROWTH IN HAWAII'S CREATIVE INDUSTRY

Group & Industry	Hawaii Jobs		Avg. Job Growth Rate, 2012-2022		Annual Earnings 2022		Performance Metrics		
	2012	2022	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2012-2022	Location Quotient (LQ), 2022	Change in LQ, 2012-2022
TOTAL HAWAII CREATIVE INDUSTRY	47,828	51,231	0.7%	2.3%	66,869	102,686	-1.6%	0.79	-0.04
Marketing, Photography & Related	10,424	11,186	0.7%	1.9%	36,696	66,580	-1.2%	0.89	-0.01
Performing and Creative Arts	8,642	9,284	0.7%	1.6%	27,727	31,728	-0.9%	1.16	0.02
Business Consulting	4,822	6,095	2.4%	3.7%	74,502	101,180	-1.4%	0.60	-0.01
Engineering and Research & Development	5,795	5,999	0.3%	1.6%	117,037	131,163	-1.3%	0.78	-0.01
Computer and Digital Media Products	4,655	5,570	1.8%	4.2%	129,334	161,982	-2.4%	0.40	-0.05
Cultural Activities	3,086	2,684	-1.4%	0.9%	65,363	70,287	-2.3%	3.17	-0.41
Film, TV, Video Production/Distrib	1,526	2,095	3.2%	1.7%	83,438	117,471	1.5%	1.08	0.25
Design Services	1,943	1,958	0.1%	1.6%	41,327	53,844	-1.5%	0.89	-0.04
Architecture	1,920	1,868	-0.3%	1.2%	95,867	91,024	-1.5%	1.29	-0.05
Publishing & Information	2,149	1,568	-3.1%	0.0%	76,664	180,644	-3.1%	0.48	-0.11
Music	1,083	1,229	1.3%	2.0%	34,522	46,824	-0.7%	1.37	0.05
Radio and TV Broadcasting	1,129	972	-1.5%	-0.8%	95,071	107,718	-0.7%	0.95	0.03
Art Education	653	722	1.0%	1.7%	22,133	20,551	-0.7%	0.67	0.03

Source: DBEDT compilation based on EMSI data.

As discussed in Section III, in 2022, the creative sector includes about 51,231 jobs in 13 industry groups. The average annual earnings for the creative sector was $66,869 in 2022. Most of the 13 industry groups are composed of several smaller industries that are shown in more detail in the following subsections.

Performing and Creative Arts

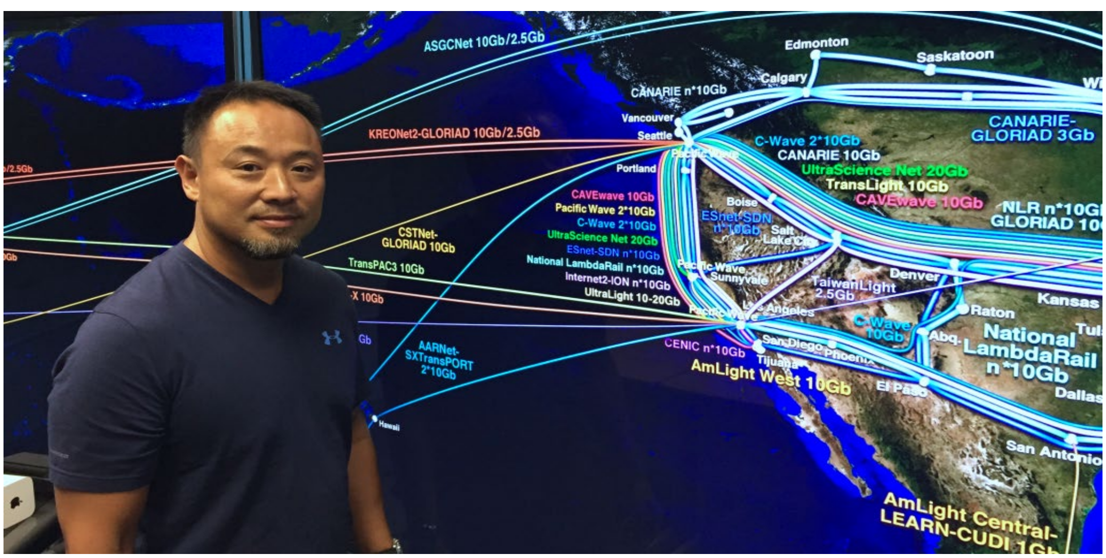
This group is composed of several areas of the arts including selected performing arts, creative arts (visual and literary), and supporting industries such as promoters, agents, managers and art dealers. The group does not include musicians, who are included with the music industry group and museums, which are included in cultural activities group. Both of these groups are discussed later on.

Performing and creative arts is the second largest single industry group in the creative sector with about 9,284 employees in 2022, including self-employed workers. From 2012 to 2022, this group added 642 jobs. Jobs increased the most in Independent Artists, Writers, and Performers at 598 jobs; followed by Dance Companies at 190 jobs. Jobs decreased the most in Other Performing Art Companies at 85 jobs. The earnings average for workers in the performing and creative arts group was only $27,727 in 2022. Since many of the jobs in this group are part time, the average earnings do not represent a full-time labor force.

The performing and creative arts group is very concentrated in Hawaii, with about 16% more jobs proportionately than for the industry nationally. This probably reflects the interdependence between Hawaii's rich artistic and cultural resources and the tourism sector. That interdependence probably also explains part of the under-performance of the industry group in the last several years, during which the tourism cycle peaked and began to decline. Beyond tourism, this sector also provides a channel for the input of artistic creativity to a range of other innovation activities, including film, various forms of digital media, architecture and applied design.

Engineering Research and Development

One of the leading components of Hawaii's creative sector is engineering research and development, with about 5,999 jobs in 2022. This group overlaps the technology and the creative sectors. It is included in the creative sector because innovation and creativity are major drivers in the application of engineering and in transforming emerging technologies into commercial products and services. As in technology, social science research is also an activity in creative R&D.



Co-Principal Investigator Jason Leigh, director of the University of Hawaiʻi at Mānoa's Laboratory for Advanced Visualization and Applications (LAVA). Photo credit LAVA, UH Mānoa.

Jobs in the Engineering R&D group increased by 0.3% annually from 2012 to 2022. The average annual earnings of this group was $117,037 in 2022, the second highest among the whole creative industry sector. Detailed data can be found in the Appendix.

Computer and Digital Media

The computer and digital media industry group also includes many of the same activities as in the computer services group in the technology sector. However, in addition to the core computer technology services, the creative sector places heavy emphasis on the rapidly developing and evolving marriage of digital technology with traditional entertainment, cultural and artistic content. This marriage is variously referred to as *digital media*, *creative media* and sometimes *new media.* Evolving digital technology not only revolutionizes the delivery of traditional content such as music and movies, it also pushes the bounds of possible content well beyond those traditional formats into animation, games and a myriad of internet-based services. This in turn creates new commercial opportunities for programmers, artists, designers, musicians and authors.

As Table 13 shows, the computer and digital media sector overlaps the similar group in the technology sector, varying by only the inclusion of software publishers. The group includes both programming and software activities and support activities such as systems design and computer facilities.

TABLE 13. COMPUTER AND DIGITAL MEDIA INDUSTRY GROUP EMPLOYMENT

Group & Industry	Hawaii Jobs		Avg. Job Growth Rate, 2012-2022		Annual Earnings 2022		Performance Metrics		
	2012	2022	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2012-2022	Location Quotient (LQ), 2022	Change in LQ, 2012-2022
Computer and Digital Media Products	4,655	5,570	1.8%	4.2%	129,334	161,982	-2.4%	0.40	-0.05
Software Publishers	171	491	11.1%	7.1%	179,951	216,095	4.0%	0.18	0.07
Custom Computer Programming Services	1,752	1,652	-0.6%	3.5%	151,495	156,173	-4.1%	0.30	-0.10
Computer Systems Design Services	2,731	3,427	2.3%	3.6%	111,393	140,464	-1.3%	0.62	-0.01

Source: DBEDT compilation based on EMSI data.

As a whole, jobs in this sector grew at an average annual rate of 1.8% over the 2012 to 2022 period. Overall, the group lost in terms of competitive national share. Two of the three sub-sectors lost in terms of competitive national share.

The average earnings in the sector were relatively high, at $129,334 in 2022. The highest paying activity, software publishers, averaged $179,951, while the lowest averaged $111,393.

While not a measurable activity within this industry group, digital media is a direct and indirect product of computer activity. Directly, computer programming and support activities integrate content from various sources into entertainment and information packages. Indirectly, computer activity provides specialized input into other products like film and sound recordings.

As will be noted in the music industry group section, evolving digital technology is an opportunity for artists and small programming/content developers to compete in a market that has been usually dominated by large firms. Using digital technology, video, music, speech, literature, historical documentation, games, educational instruction, as well as computer programs and data, can share a similar, digitized format and be distributed and consumed on common platforms. These platforms are quickly evolving beyond computers to smart phones, tablets, smart TV and direct internet broadcasts. New products for this market are evolving as fast as new platforms are developed. Examples of such products are shown in Table 14.

TABLE 14. EXAMPLES OF DIGITAL MEDIA PRODUCTS

Video games and interactive media (including alternative reality games, augmented & virtual reality)	Internet of things (wearables, appliances, connected cars, food tech)
Mobile & social games	Video content for online sharing
Digital music publishing and distribution	Social media content
Application development for mobile and web	Transmedia content
Electronic books	Podcasting and episodic content
Computer animation and graphics	Hypertext fiction
Digital marketing and communications	Multimedia publishing
Medical imaging /animation	Live streaming events
Location/GPS and venue-based interactive media	Digital & motion comics/graphic novels
Digital first-run series	Post production
Mobile videography/filmmaking (e.g. smartphone, drone-based)	Web site development and design
Rendering services	Visual effects

Measuring digital media is similar in difficulty to measuring emerging energy activity. There are a multitude of firms in numerous industries that dedicate some fraction of their work to that particular market. It is likely that the NAICS computer services industry will contain more of these firms than other industries. But there are probably firms serving this market in other NAICS industries such as the music, film production, and information industries. Work is needed to better identify and measure the mix and scope of these firms across industries and digital markets.

Marketing, Photography and Related Activities

Marketing, photography and related activities in Hawaii play an important role in bringing Hawaii's goods and services to the attention of national and international markets. Photography studios, portrait, marketing, advertising, public relations, media specialists, and other professional, scientific, and technical services account for most of this sector's workforce of about 11,186 in 2022. As the largest sector in Hawaii's creative industries, this sector's jobs increased 0.7% annually from 2012 to 2022, lower than the 1.9% annual growth in the national workforce of this industry group. From 2012 to 2022, this group added 761 jobs. Jobs added the most in marketing consulting services at 735 jobs.

The annual earnings average for the industry group was $36,696 in 2022, below the state average. Earnings ranged from an average $104,888 in media buying agencies to $27,299 in the other services related to advertising.

The marketing and related activities group is a very competitive business from both a creative and business development perspective. Since geography is less of an advantage in these activities, Hawaii companies in the marketing and related group must continuously show that their creativity and knowledge of Hawaii's product outweighs the greater reach and possible economies held by nationwide advertising and related firms.

Business Consulting

Business consulting was a thriving activity over the 2012 to 2022 period with 6,095 jobs in 2022, up 2.4% annually from 2012. This was about three times the growth rate of Hawaii's overall job count.

Administrative management and general management consulting services, environmental consulting services, and other scientific and technical consulting services are the three largest components of the business consulting industry group, accounting for about 85% of the group's jobs in 2022.

The annual earnings average for business consulting was $74,502. This ranged from $110,637 for other management consulting services to $59,235 for process, physical distribution, and logistics consulting services.

Publishing and Information

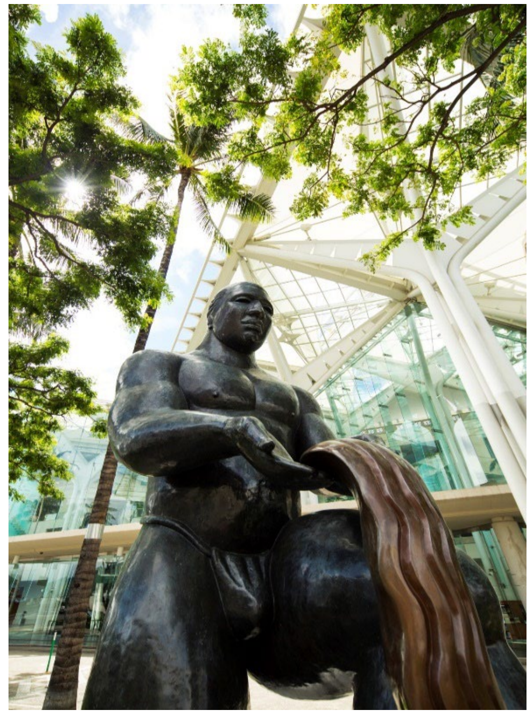
As a whole, publishing and information showed a 3.1% annual decline in jobs from 2012 to 2022, which was worse than the national level. This industry group is dominated by newspaper publishing, which accounted for about 34% of the industry group's jobs in 2022. Newspaper publishing showed a 5.8% annual decline in jobs over the period, and this was better than the 6.4% annual decline nationally. The rise of the internet as a source of information is certainly a major factor in the decline of traditional publishing. In Hawaii, internet publishing and broadcasting increased jobs by 5.4% annually from 2012 to 2022, with 407 employees in 2022.

The annual earnings average for publishing and information in Hawaii was $76,664 in 2022. This ranged from $183,121 for news syndicates to $37,313 for book publishers. The newspaper publishing earnings average was $72,319 in 2022.

Cultural Activities

The cultural activities industry group accounted for 2,684 jobs in 2022 and included museums, historical sites, nature parks and other similar institutions, and grant making foundations. As a group, cultural activities registered a 1.4% annual decrease in jobs over the 2012 to 2022 period, much worse than the state's economy as a whole and much worse than the same set of activities nationally. As a result, the cultural industry group lost competitive national industry share. The annual earnings average for the cultural activities group was $65,363 in 2022. This ranged from $36,299 for nature parks and other similar institutions to $112,143 for grant making establishments.

Architecture



"The Water Giver" by Maui artist Shige Yamada at Hawaii Convention Center. Photo credit HVCB

Architecture is one of the more visible examples of the creative sector. In particular, a unique style of Hawaiian architecture has developed over the last several decades, weaving themes from old and new Hawaii into designs suited for the state's climate and lifestyle. More recently, architecture has become a leading source of creativity in addressing the need to conserve energy and provide for alternative energy sources in Hawaii's residential and commercial structures.

Architecture employed 1,868 people in 2022 and had a negative 0.3% annual growth since 2012. This was below the average growth for the state's workforce as a whole, and worse than the 1.2% annual growth for the architecture industry nationally. Most of the industry group's jobs were among architectural services, while the remainder of the jobs was in landscape architecture. Landscape architecture registered a negative 0.5% annual job growth from 2012 to 2022.

The annual earnings average in architecture was $95,867 in 2022, with architecture services at $101,744 and landscape architecture averaging $70,517.

Design Services

Design services employed about 1,958 people in 2022. About 48% of these jobs were among graphic design firms, while another 32% were in interior design. Overall, jobs grew by 0.1% annually in the design industry group since 2012. Interior design jobs grew 2.0% and graphic design firms jobs grew negative 0.8% annually.

The annual earnings average for the design group was $41,327 in 2022. Other specialized design services had the lowest average at $23,247, and industrial design services had the highest at $73,702.

Radio & TV Broadcasting

Like publishing, broadcasting has been impacted by the rise of the internet as an information and entertainment alternative. Radio and TV broadcasting shrank by 1.5% annually to about 972 jobs over the 2012 to 2022 period. Nationally, the industry group did better, managing a negative 0.8% annual growth in jobs. Television broadcasting lost 1.2% of its workforce annually over the period to just 483 jobs in 2022.

Radio stations lost 2.2% annually over the period with about 392 jobs in 2022. Jobs in radio networks, the only other activity in the industry group, remained about the same. The annual earnings average for broadcasting was about $95,071 in 2022. This ranged from $193,223 for radio networks to $52,400 for radio stations.

Film, TV, and Video Production

Filmmakers from Hollywood and around the world are using Hawaii as a location for film, television, commercial, and digital media production. For decades, Hawaii's natural beauty has been the backdrop for popular films such as "From Here to Eternity," "South Pacific" and "Jurassic Park." Millions have also been captivated by iconic television shows like the original "Hawaii Five-O", "Magnum P.I.," and most recently the fresh remake of CBS Productions "Hawaii Five-O", all of which were shot entirely in the Islands.

The state has established tax incentives to attract productions to Hawaii. Since 2007, Act 88/89 incentives continue to lure a wave of major feature films to the Islands including Disney's "Pirates of the Caribbean: At World's End," Lionsgate's "The Hunger Games: Catching Fire", Paramount's "Indiana Jones and the Kingdom of the Crystal Skull" and Warner Bros. Pictures' "Godzilla". Most recently, producers of "Jurassic Park" returned to shoot the fourth installment of the successful franchise, "Jurassic World." Hawai`i now ranks among the top ten film destinations in the United States.

Film and television production in Hawaii has been an important contributor to both jobs and income in the state, as well as to the visitor industry through the global exposure these productions have enjoyed.

TABLE 15. FILM & TV PRODUCTION INDUSTRY PERFORMANCE, 2009 TO 2019

Group & Industry	Hawaii Jobs		Avg. Job Growth Rate, 2012-2022		Annual Earnings 2022		Performance Metrics		
	2012	2022	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2012-2022	Location Quotient (LQ), 2022	Change in LQ, 2012-2022
Film, TV, Video Production/Distrib	1,526	2,095	3.2%	1.7%	83,438	117,471	1.5%	1.08	0.25
Prerecorded Compact Disc (except Software), Tape, and Record Reproducing	0	0		-2.2%	0	245,363	2.2%	0.00	0.00
Motion Picture and Video Production	1,345	1,997	4.0%	2.9%	83,093	112,114	1.1%	1.31	0.26
Motion Picture and Video Distribution	13	2	-16.6%	3.5%	127,078	162,717	-20.1%	0.04	-0.30
Teleproduction and Other Postproduction Services	65	70	0.7%	3.0%	77,875	88,525	-2.3%	0.50	-0.06
Cable and Other Subscription Programming	103	26	-13.0%	-4.6%	121,661	156,735	-8.4%	0.12	-0.15

Source: DBEDT compilation based on EMSI data.

The NAICS industries for film and TV production do not include creative and business services beyond the direct production jobs and certain production support services. As a result, the employment data represent only the core jobs in film/TV and video activity. Other sources of industry jobs such as actors, musicians, writers, food service and other specialties are compiled in statistics for other NAICS industries. However, the data does not differentiate film/TV project jobs from other activities. (Many jobs are short in duration and hiring is done only for the duration of the production, not full time. Jobs recorded for the industry in the NAICS-based statistics are shown in Table 15).

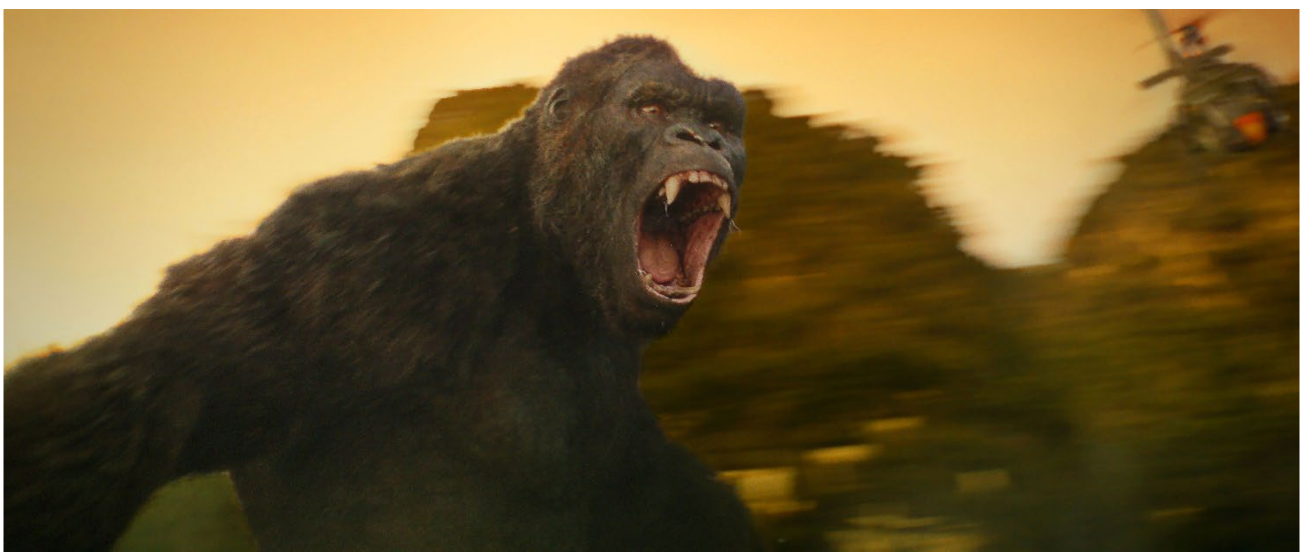
These represent jobs among Hawaii companies and enterprises involved in the direct production of Hawaii film and TV products. Direct film and TV production activities involved about 2,095 jobs in 2022 and increased 3.2% annually from 2012. Nationally, jobs in this group increased 1.7% annually over the period.

Volatility in the year to year film production employment is a major factor. The combination of limited data and extreme volatility from year to year make this a very difficult industry to assess over a short period of time. Based on film permits and tax credit applications, and additional data from the Hawaii Film Office, Table 16 shows the estimated jobs generated, as well as economic impacts of the industry from 2009 to 2019.

TABLE 16. ESTIMATED FILM AND TELEVISION PRODUCTION: ECONOMIC IMPACT 2009 TO 2019
[In millions of dollars, except for employment which is in number of jobs]

Category	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total production expenditures	168.2	173.2	384.1	184.9	245.6	228.5	221.5	243.5	263.2	319.9	420.0
Expenditures qualified for tax credit	81.2	86.2	292.1	127.7	189.1	163.7	162.3	199.6	217.6	268.6	268.6
Expenditures not qualified for tax credit	87.0	87.0	92.0	57.2	56.5	64.8	59.2	43.9	45.6	51.3	51.3
Economic Impact											
Output	291.6	300.3	665.9	320.6	425.8	396.2	384.0	422.2	456.3	554.7	728.2
Earnings	67.4	69.4	153.9	74.1	98.4	91.6	88.8	97.6	105.5	128.2	168.3
State taxes	18.4	19.0	42.1	20.3	26.9	25.1	24.3	26.7	28.9	35.1	46.1
Employment	2,308	2,301	4,942	2,304	2,963	2,670	2,506	2,668	2,793	3,288	4,200

Source: DBEDT Research and Economic Analysis Division and Creative Industry Division, records



KONG SKULL ISLAND, filmed in Hawaiʻi, continues the legacy of exciting high-profile monster movies filmed in the Hawaiian Islands. Photo courtesy of Warner Bros.

Music

Hawaii has always had a unique music arts culture based on Hawaiian heritage, but has expanded to embrace trends in music worldwide. The range of talented musicians in Hawaii has been an important attraction for visitors as well as a staple of the island's culture. Until the digital age, the problem of taking Hawaii's unique music to the world at large had been the difficulties of breaking into a national recording industry that was mainstream-oriented and the high investment cost of producing and distributing recorded music without the backing of major music labels.

Hawaii Songwriting Festival attracts artists, musicians, songwriters and music supervisors from around the world to Hawaii Island and is a feeder program for the Creative Lab Music Immersive

The dynamics changed with the digital age, which has made production of high quality recordings affordable to individual artists and new distribution systems that allow artists to promote and sell their music through the internet and music downloading services.

There were about 1,229 employed and self-employed workers in Hawaii's music industry in 2022, most of them performers. As Table 17 shows, employment in Hawaii's music industry increased 1.3% per year on average over the 2012 to 2022 period. By contrast, jobs in this industry group nationally grew by 2.0%.

Creative Lab Music Immersive Fellow Aolani Yukie Silva and Mentor/Professional Producer Bobby Campbell record an original song that will be pitched for sync licensing for film, television and advertising at the 2023 Creative Lab Hawaii Music Immersive (CLMI). Photo Credit: Sarah Anderson

TABLE 17. EMPLOYMENT IN MUSIC INDUSTRY GROUP

Group & Industry	Hawaii Jobs		Avg. Job Growth Rate, 2012-2022		Annual Earnings 2022		Performance Metrics		
	2012	2022	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2012-2022	Location Quotient (LQ), 2022	Change in LQ, 2012-2022
Music	1,083	1,229	1.3%	2.0%	34,522	46,824	-0.7%	1.37	0.05
Musical Instrument and Supplies Stores	138	216	4.6%	1.1%	36,347	35,061	3.5%	1.06	0.38
Record Production	27	49	6.3%	3.7%	35,677	110,020	2.6%	0.85	0.25
Music Publishers	22	44	7.4%	3.4%	30,009	82,097	4.0%	0.91	0.35
Sound Recording Studios	37	66	6.0%	3.5%	29,581	38,365	2.5%	0.65	0.19
Other Sound Recording Industries	43	11	-13.0%	2.6%	18,396	43,857	-15.6%	0.37	-1.35
Musical Groups and Artists	817	843	0.3%	1.7%	34,815	42,362	-1.4%	1.83	-0.05

Source: DBEDT compilation based on EMSI data.

The centerpiece of this industry group — musical groups and artists — increased by about 0.3%. Among the subgroup, only other sound recording industries showed decline in jobs.

Annual earnings in the music industry generally reflect part-time professions. The average for the industry group as a whole was $34,522 in 2022. Earnings for the same industry groups nationally were higher than in Hawaii, and generally below the average for the economy as a whole.

Opening day at the 2023 Creative Lab Music Immersive. This five-day intensive program, which takes place on the Big Island of Hawaii provides participants with the opportunity to co-write and produce music for specific film or TV projects with a team of professional mentors. Phot credit: Sarah Anderson

Arts Education

Arts education — music, theater, dance, visual and literary art — is pervasive in public and private elementary and secondary schools, and in institutions of higher education. Within the public sector the size and trends in arts are difficult to discern due to a lack of information. However, in the private sector there are about 65 small establishments and numerous self-employed educators in the state specializing in various forms of arts education. The total number of persons engaged in this small industry was about 722 in 2022, up about 1.0% annually from 2012. Nationally, this group of industries showed a 1.7% annual growth in jobs for the period. Average annual earnings amounted to only $22,133 for Hawaii in 2022 and $20,551 at the national level. This suggests that part time work is the norm in the industry. Until more can be learned about the extent and trends in education serving the arts and other creative disciplines, this small industry may serve as a barometer for interest in education supporting the creative sector.

HAWAIʻI
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CULTURE and the ARTS

SFCA Hawaii is one of the state organizations providing arts education through a collaboration with Department of Education, the Hawaii Arts Alliance and University of Hawaii as part of the ARTS First Program.

At Creative Lab Hawaii, creative entrepreneurs are coached by professional mentors in the business aspects of the creative industries and learn how to accelerate new business and monetization opportunities. Photo Credit: Sarah Anderson

VI. CONCLUSIONS AND NEXT STEPS

Development of Hawaii's key creative activities is a valuable economic development strategy. Hawaii's cultural diversity and its Hawaiian host culture are major attractions for millions of visitors and their spending. The uniqueness of Hawaii's creative, artistic and cultural content helps Hawaii's creative products compete in worldwide markets. Additionally, the creative industries and their workforce are key sources of ideas, content and talent for Hawaii's emerging technology sector.

The four-quadrant performance map has helped to organize the industry groups of the updated creative sector by their growth, competitiveness, and concentration in the economy.

Only one creative industry group, film, TV, video production and distribution, registered as high performing base-growth and emerging industries for the 2012 to 2022 period

Eight of the creative sector industry groups were in the transitioning category for the 20112 to 2022 period. These ranged from design services, which increased only 0.8% in jobs, to business consulting, which grew jobs by 26.4%. However, while these industry groups grew, their growth rate was below the same industries nationally. As a result, they lost some ground to the nation in terms of competitive industry share.

Finally, the four creative industry groups that lost jobs during the 2012 to 2022 period fell into the declining quadrant of the performance maps; these were architecture, cultural activities, radio and TV broadcasting, and publishing & information. In broadcasting and information, productivity may be playing a role in reducing the need for labor to deliver the same level of service as in years past.

Future research should examine the dimensions and opportunities of the commercial markets served by the NAICS-based creative industry groups. This particularly includes digital media and the broader film industry, which is only partially captured in the NAICS film production industry. Also needing closer study is the link between specific creative activities and emerging technologies in information, communications, entertainment, and the broad range of commercial applications that are being driven by innovation. Learning how creative activity utilizes and supports emerging technology can help clarify the skill sets and educational elements that will help make Hawaii a leader in innovation.

Creative Industries, Hawaii Film Office and Creative Lab Hawaii are key facets of the State's Creative and Innovation Industry Development, building a continuum of talent, infrastructure and investment to transform Hawaii's economy to one based on innovation and creative economy.

APPENDIX: DETAILED INDUSTRY DATA

NAICS Code	Group & Industry	Hawaii Jobs and Earnings				Performance Metrics			US Comparable	
		2012	2022	Avg. Job Growth Rate, 12-22	Annual Earnings, 2022	Compet. Share 12-22	Location Quotient (LQ)	Change in LQ, 12-22	Avg. Job Growth Rate, 12-22	Annual Earnings, 2022
	TOTAL HAWAII CREATIVE INDUSTRY	**47,828**	**51,231**	**0.7%**	**66,869**	**-1.6%**	**0.79**	**-0.04**	**2.3%**	**102,686**
	Architecture	1,920	1,868	-0.3%	95,867	-1.5%	1.29	-0.05	1.2%	91,024
541310	Architectural Services	1,549	1,516	-0.2%	101,744	-1.7%	1.39	-0.08	1.4%	102,234
541320	Landscape Architectural Services	370	351	-0.5%	70,517	-1.2%	0.98	-0.01	0.7%	56,920
	Art Education	653	722	1.0%	22,133	-0.7%	0.67	0.03	1.7%	20,551
611610	Fine Arts Schools	653	722	1.0%	22,133	-0.7%	0.67	0.03	1.7%	20,551
	Business Consulting	4,822	6,095	2.4%	74,502	-1.4%	0.60	-0.01	3.7%	101,180
541611	Administrative Management and General Management Consulti	2,377	3,114	2.7%	80,325	-2.1%	0.55	-0.06	4.9%	111,318
541612	Human Resources Consulting Services	471	320	-3.8%	66,102	-5.4%	0.52	-0.29	1.6%	97,178
541614	Process, Physical Distribution, and Logistics Consulting Services	244	422	5.6%	59,235	1.8%	0.48	0.12	3.8%	82,874
541618	Other Management Consulting Services	171	142	-1.9%	110,637	-5.8%	0.18	-0.10	3.9%	93,790
541620	Environmental Consulting Services	758	1,031	3.1%	67,297	1.6%	1.56	0.36	1.6%	76,892
541690	Other Scientific and Technical Consulting Services	800	1,066	2.9%	68,209	1.0%	0.66	0.12	1.9%	90,875
	Computer and Digital Media Products	4,655	5,570	1.8%	129,334	-2.4%	0.40	-0.05	4.2%	161,982
511210	Software Publishers	171	491	11.1%	179,951	4.0%	0.18	0.07	7.1%	216,095
541511	Custom Computer Programming Services	1,752	1,652	-0.6%	151,495	-4.1%	0.30	-0.10	3.5%	156,173
541512	Computer Systems Design Services	2,731	3,427	2.3%	111,393	-1.3%	0.62	-0.01	3.6%	140,464
	Cultural Activities	3,086	2,684	-1.4%	65,363	-2.3%	3.17	-0.41	0.9%	70,287
712110	Museums	1,971	1,437	-3.1%	37,487	-3.6%	3.76	-1.11	0.5%	54,505
712120	Historical Sites	290	214	-3.0%	47,943	-1.1%	3.68	-0.02	-1.9%	43,738
712190	Nature Parks and Other Similar Institutions	17	60	13.6%	36,299	10.7%	1.15	0.76	2.9%	43,526
813211	Grantmaking Foundations	808	973	1.9%	112,143	0.2%	2.76	0.34	1.7%	95,762
	Design Services	1,943	1,958	0.1%	41,327	-1.5%	0.89	-0.04	1.6%	53,844
541340	Drafting Services	318	280	-1.3%	61,658	-0.6%	1.96	0.09	-0.6%	43,454
541410	Interior Design Services	515	631	2.0%	45,560	-0.8%	0.80	0.02	2.9%	48,320
541420	Industrial Design Services	32	5	-16.7%	73,702	-19.7%	0.04	-0.23	3.1%	96,718
541430	Graphic Design Services	1,024	943	-0.8%	34,192	-1.4%	1.01	-0.04	0.6%	50,424
541490	Other Specialized Design Services	54	99	6.4%	23,247	3.5%	0.57	0.20	2.9%	68,855
	Engineering and Research & Development	5,795	5,999	0.3%	117,037	-1.3%	0.78	-0.01	1.6%	131,163
541330	Engineering Services	3,967	4,748	1.8%	121,253	0.4%	0.94	0.13	1.5%	120,110
541715	Research and Development in the Physical, Engineering, and Life	1,482	1,063	-3.3%	109,126	-5.2%	0.46	-0.24	2.0%	160,270
541720	Research and Development in the Social Sciences and Humanitie	347	187	-6.0%	55,123	-7.0%	0.60	-0.51	1.1%	91,705
	Film, TV, Video Production/Distrib	1,526	2,095	3.2%	83,438	1.5%	1.08	0.25	1.7%	117,471
334613	Blank Magnetic and Optical Recording Media Manufacturing	0	0		0	2.2%	0.00	0.00	-2.2%	245,363
512110	Motion Picture and Video Production	1,345	1,997	4.0%	83,093	1.1%	1.31	0.26	2.9%	112,114
512120	Motion Picture and Video Distribution	13	2	-16.6%	127,078	-20.1%	0.04	-0.30	3.5%	162,717
512191	Teleproduction and Other Postproduction Services	65	70	0.7%	77,875	-2.3%	0.50	-0.06	3.0%	88,525
515210	Cable and Other Subscription Programming	103	26	-13.0%	121,661	-8.4%	0.12	-0.15	-4.6%	156,735
	Marketing, Photography & Related	10,424	11,186	0.7%	36,696	-1.2%	0.89	-0.01	1.9%	66,580
541613	Marketing Consulting Services	830	1,565	6.5%	42,721	1.5%	0.64	0.14	5.0%	79,613
541810	Advertising Agencies	542	414	-2.7%	61,946	-4.5%	0.33	-0.14	1.8%	116,673
541820	Public Relations Agencies	422	292	-3.6%	67,849	-5.9%	0.58	-0.36	2.3%	110,195
541830	Media Buying Agencies	5	19	13.3%	104,888	10.7%	0.19	0.13	2.6%	122,567
541840	Media Representatives	105	106	0.1%	41,061	1.9%	0.86	0.22	-1.8%	112,592
541850	Outdoor Advertising	110	239	8.1%	57,339	8.5%	1.25	0.75	-0.4%	77,662
541860	Direct Mail Advertising	62	36	-5.3%	34,855	-3.1%	0.17	-0.04	-2.2%	71,752
541870	Advertising Material Distribution Services	26	6	-13.7%	85,926	-15.7%	0.07	-0.27	2.0%	74,430
541890	Other Services Related to Advertising	539	509	-0.6%	27,299	-2.0%	0.97	-0.09	1.4%	49,816
541910	Marketing Research and Public Opinion Polling	365	319	-1.3%	46,148	0.4%	0.60	0.08	-1.7%	98,111
541921	Photography Studios, Portrait	1,695	1,990	1.6%	29,972	0.2%	2.00	0.24	1.4%	22,479
541922	Commercial Photography	379	528	3.4%	30,434	-1.8%	1.41	-0.09	5.2%	42,538
541990	All Other Professional, Scientific, and Technical Services	5,344	5,163	-0.3%	33,315	-1.8%	0.98	-0.07	1.4%	50,247
	Music	1,083	1,229	1.3%	34,522	-0.7%	1.37	0.05	2.0%	46,824
451140	Musical Instrument and Supplies Stores	138	216	4.6%	36,347	3.5%	1.06	0.38	1.1%	35,061
512250	Record Production and Distribution	27	49	6.3%	35,677	2.6%	0.85	0.25	3.7%	110,020
512230	Music Publishers	22	44	7.4%	30,009	4.0%	0.91	0.35	3.4%	82,097
512240	Sound Recording Studios	37	66	6.0%	29,581	2.5%	0.65	0.19	3.5%	38,365
512290	Other Sound Recording Industries	43	11	-13.0%	18,396	-15.6%	0.37	-1.35	2.6%	43,857
711130	Musical Groups and Artists	817	843	0.3%	34,815	-1.4%	1.83	-0.05	1.7%	42,362
	Performing and Creative Arts	8,642	9,284	0.7%	27,727	-0.9%	1.16	0.02	1.6%	31,728
453920	Art Dealers	810	821	0.1%	42,201	-0.2%	2.90	0.25	0.3%	44,134
711110	Theater Companies and Dinner Theaters	410	388	-0.5%	43,625	-1.0%	0.92	0.00	0.5%	36,022
711120	Dance Companies	110	300	10.5%	20,693	7.1%	3.13	1.69	3.4%	32,047
711190	Other Performing Arts Companies	91	5	-25.0%	10,585	-25.6%	0.09	-1.47	0.6%	40,826
711310	Promoters of Performing Arts, Sports, and Similar Events with Fa	268	260	-0.3%	35,534	-3.2%	0.46	-0.11	2.9%	44,199
711320	Promoters of Performing Arts, Sports, and Similar Events withou	493	513	0.4%	29,963	-2.1%	1.19	-0.13	2.5%	52,376
711410	Agents and Managers for Artists, Athletes, Entertainers, and Oth	325	264	-2.1%	15,649	-2.2%	0.79	-0.10	0.2%	79,034
711510	Independent Artists, Writers, and Performers	6,135	6,733	0.9%	25,373	-0.7%	1.16	0.04	1.7%	25,274
	Publishing & Information	2,149	1,568	-3.1%	76,664	-3.1%	0.48	-0.11	0.0%	180,644
511110	Newspaper Publishers	952	526	-5.8%	72,319	0.7%	0.92	0.15	-6.4%	63,918
511120	Periodical Publishers	641	413	-4.3%	39,464	-0.6%	0.91	0.05	-3.8%	92,165
511130	Book Publishers	97	93	-0.4%	37,313	1.8%	0.31	0.08	-2.2%	97,450
511140	Directory and Mailing List Publishers	119	57	-7.1%	111,148	0.3%	0.79	0.10	-7.4%	85,709
511191	Greeting Card Publishers	6	6	0.5%	47,941	7.1%	0.41	0.23	-6.6%	64,667
511199	All Other Publishers	11	14	3.1%	64,558	5.0%	0.24	0.11	-1.9%	69,460
519110	News Syndicates	39	18	-7.2%	183,121	-5.6%	0.32	-0.20	-1.5%	150,692
519130	Internet Publishing and Broadcasting and Web Search Portals	241	407	5.4%	123,245	-2.6%	0.26	-0.04	8.0%	278,037
519190	All Other Information Services	44	33	-2.6%	41,095	-10.6%	0.20	-0.30	7.9%	154,173
	Radio and TV Broadcasting	1,129	972	-1.5%	95,071	-0.7%	0.95	0.03	-0.8%	107,718
515111	Radio Networks	97	97	0.0%	193,223	1.0%	0.92	0.18	-1.0%	98,679
515112	Radio Stations	488	392	-2.2%	52,400	0.2%	1.17	0.14	-2.4%	69,518
515120	Television Broadcasting	544	483	-1.2%	110,031	-1.6%	0.84	-0.04	0.4%	131,466

Source: DBEDT compilation based on EMSI data.