



# Hawai'i's Creative Industries

*Update Report 2020*



**Department of Business, Economic Development and Tourism**  
**May 2020**



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## CREATIVE INDUSTRIES HAWAII OVERVIEW

The State of Hawai'i'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 and manages for those sectors which comprise Hawai'i's creative economy, anchored by the media and film industries.

Comprised of the **Hawai'i Film Office (HFO)** responsible for the overall management of the state's off-shore and local film industry development and the **Arts and Culture Development Branch (ACDB)**, CID is responsible for initiatives which support talent, infrastructure, policy development and investment strategies for the statewide creative industries spectrum, increasing the capacity for entrepreneurial success while maintaining the State's global reputation as a premiere location filming destination.

Through CID/DBEDT initiatives such as **Creative Lab**, coupled with state-of-the-art infrastructure development, the agency is further strengthening Hawai'i's creative clusters in film, arts, culture, music, design, literary arts, publishing, creative and interactive media – all integral components of Hawai'i's creative and innovation economy.

CID/DBEDT is positioning the state to be a national and global leader in creative sector development as well as a hub for creative media and film production in the Pacific.

### Hawai'i's Creative Industries Metrics 2018:

- **53,464 jobs**
- **6.1%** of the state **total civilian jobs**
- **\$4.2 billion Gross Domestic Product (GDP)**
- **4.5%** of total State of Hawai'i **GDP**
- **+ 10.0% job growth between 2008 and 2018**

### Hawai'i's Film And Television Industry Metrics:

- **2019** calendar year, **\$405 million** in estimated production expenditures generated estimated **\$707 million** of economic impact, **\$43.7 million** in estimated tax revenues and total job impacts of **3,303 jobs**.
- **2018** calendar year, **\$419.4 million** in estimated production expenditures generated estimated **\$725.6 million** of economic impact, **\$45.3 million** in estimated tax revenues and total job impacts of **4,194 jobs**.

## EXECUTIVE SUMMARY

Developing Hawai'i's creative industries has become an important economic development strategy. Hawai'i'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 Hawai'i's creative, artistic and cultural sectors helps Hawai'i's creative products compete in worldwide markets, while also supporting visitor spending and developing the foundation of Hawai'i'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 Hawai'i'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 Hawai'i'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

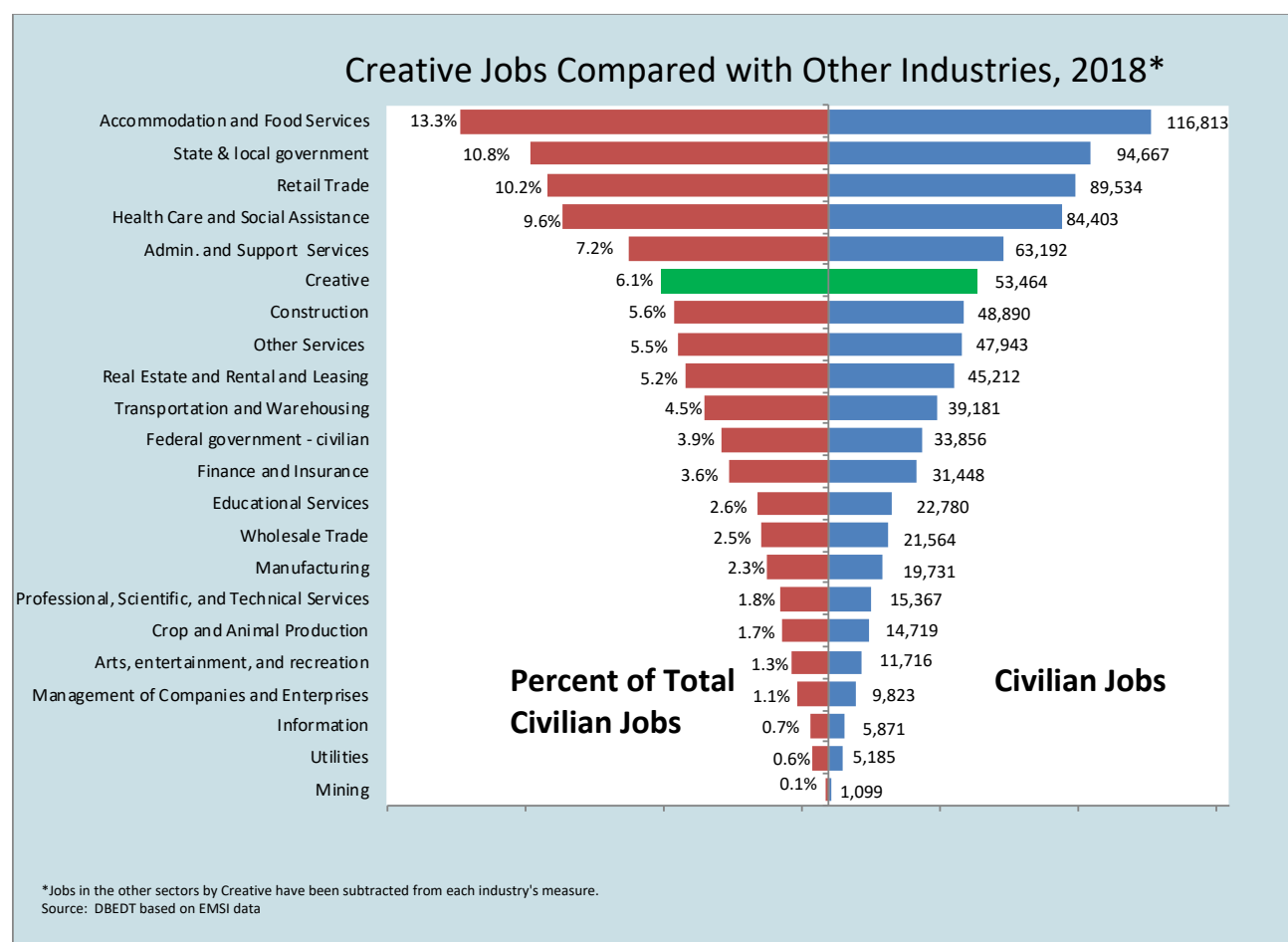
The table below provides an overview of the 13 industry groups in the updated creative sector, and their 2018 job count, based on the current definition of the sector. In total, the creative industries accounted for about 53,464 jobs in Hawai'i for 2018. This was up 10.0% from 2008. The earnings average was \$55,868 in 2018.

<b>CREATIVE INDUSTRY PRODUCTION GROUPS</b>	
<b>Industry Group</b>	<b>2018 Job</b>
<b>Total Creative Industry</b>	<b>53,464</b>
Marketing, Photography & Related	12,588
Performing and Creative Arts	9,687
Engineering and Research & Development	5,429
Business Consulting	5,426
Computer and Digital Media Products	5,190
Cultural Activities	3,616
Film, TV, Video Production/Distrib	2,318
Design Services	2,113
Architecture	1,996
Publishing & Information	1,822
Music	1,385
Radio and TV Broadcasting	1,064
Art Education	831

Source: DBEDT, READ.

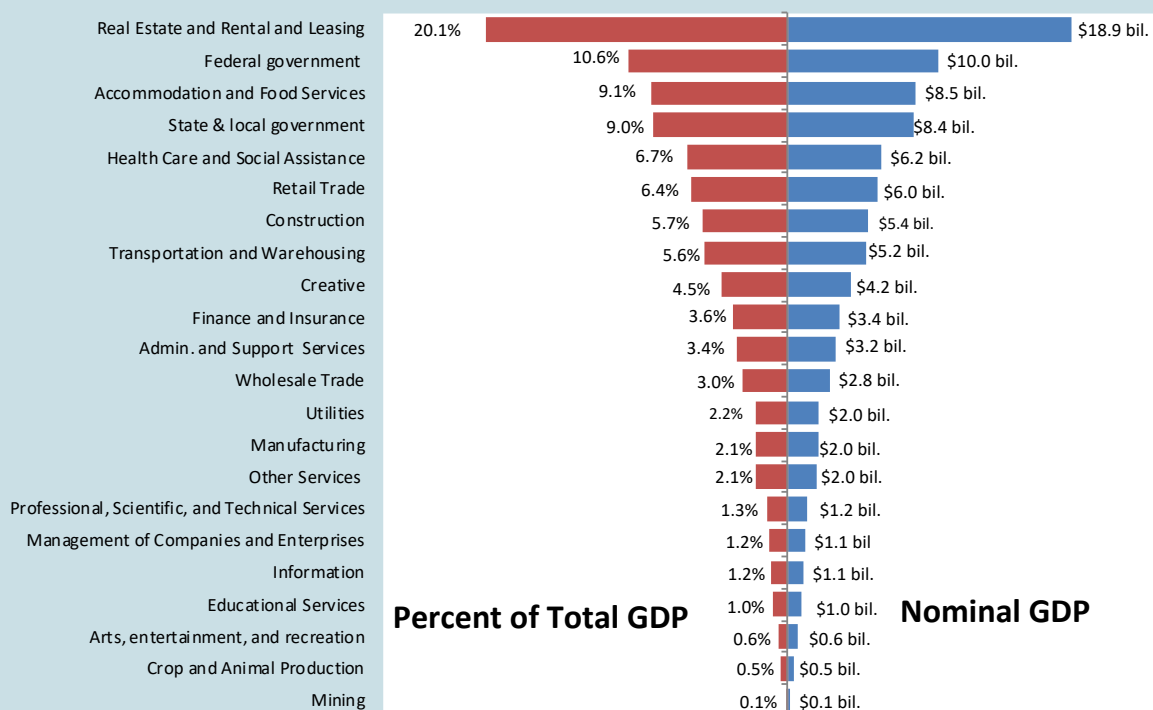
These industries have been defined using the North American Industrial Classification System, or *NAICS*, which provides a rich source of standard data at a detailed level on producing industries. Without that standard data, we would be faced with the need to do special surveys and compilations, which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

The creative sector is a leading sector for job creation. In 2018, the sector had 53,464 jobs and accounted for 6.1% 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.



As shown in the following figure, the creative sector directly accounted for 4.5% of Hawai'i's total GDP in 2018, with a value added of \$4.2 billion. If the tourism sector is consolidated with the tourist related portions of accommodation and food services, retail trade, transportation and warehousing and other industries, the creative sector is the 5<sup>th</sup> largest private sector in the economy. This would place it next to real estate, tourism, health care and social assistance, and construction. If the government sector is included and the tourism related sectors are not consolidated, then the creative industry is the 9<sup>th</sup> largest sector in the economy.

### Creative GDP Compared with Other Industries, 2018\*



\*GDP generated in the other sectors by Creative have been subtracted from each industry's measure.

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 Hawai'i'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, 2008-2018					
Total Creative Jobs, 2018: 53,464					
Average Annual Earnings, 2018: \$55,868					
Net Change in Jobs, 2008-2018: 10.0%					
Transitioning Group: 69.6% of Jobs			Base-Growth Group: 11.1% of Jobs		
Group	Change in Jobs	Average Earnings	Group	Change in Jobs	Average Earnings
Marketing, Photography & Related	19.7%	\$32,443	Cultural Activities	108.8%	\$52,666
Design Services	4.6%	\$36,436	Film, TV, Video Production/Distrib	56.4%	\$91,302
Music	19.9%	\$41,538			
Business Consulting	22.1%	\$69,319			
Art Education	31.1%	\$11,403			
Performing and Creative Arts	1.7%	\$25,887			
Computer and Digital Media Products	7.9%	\$94,571			
Declining Group: 19.3% of Jobs			Emerging Group: 0.0% of Jobs		
Group	Change in Jobs	Average Earnings	Group	Change in Jobs	Average Earnings
Engineering and Research & Development	-3.3%	\$104,854			
Architecture	-13.9%	\$85,645			
Radio and TV Broadcasting	-23.7%	\$71,938			
Publishing & Information	-38.4%	\$53,821			

Source: DBEDT compilation based on EMSI data.

The highest performing industries in the creative sector for the 2008 to 2018 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 Hawai'i'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 Hawai'i'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 Hawai'i 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 4,861 jobs to the state's economy between 2008 and 2018. This amounted to a 10.0% increase in jobs, higher than the 8.6% growth in Hawai'i's civilian economy as a whole for the period. The leading performer of the overall portfolio was the cultural activities group. The 2018 earnings average for the creative industry's portfolio was \$55,868, which was lower than the statewide average of \$56,892.



## High Performing Creative Industry Groups

Only two creative industry groups, cultural activities and film, TV, video production and distribution registered as high performing base-growth industries for the 2008 to 2018 period.



*CBS Hit series Magnum P.I. and star Jay Hernandez pictured in the camera car rig ready for another take on Oahu. The series employs over 300 local residents and purchases goods and services from hundreds of local vendors each season. Image courtesy CBS Productions.*

## Other Creative Industries' Performance

Seven of the creative sector industry groups were in the transitioning category for the 2008 to 2018 period. These ranged from performing and creative arts, which increased only 1.7% in jobs, to art education, which grew jobs by 31.1%. 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 2008 to 2018 period fell into the declining quadrant of the performance maps; these were engineering and research & development, architecture, 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 Hawai'i a leader in innovation.



*CID was a co-sponsor for Hawai'i fashion designer Manaola's debut at New York Fashion week 2017. Photo credit Manaola*



## I. INTRODUCTION

Development of Hawai'i's key creative activities has become an important focus of the State's economic development efforts in recent years for several reasons. First, Hawai'i'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 Hawai'i's economy each year. Without this cultural component to the visitor experience, Hawai'i is mostly a sun and surf destination like many of its competitors. Second, the depth of Hawai'i's creative and cultural talent and unique artistic content helps Hawai'i'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 Hawai'i 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 Hawai'i'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.<sup>1</sup>



*The MAGNUM P.I., starring Jay Hernandez as Thomas Magnum, just completed its second successful season filming in Hawai'i. The MAGNUM P.I. cast and crew participate in a traditional Hawaiian ceremony—which all productions do—to start filming off right.*

*Broadcasting, Inc. All Rights Reserved*

<sup>1</sup> *The Creative Industry in Hawai'i*, April 2007, DBEDT.

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 Hawai'i 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.<sup>2</sup>

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 Hawai'i's Creative Industries Report with the latest data.

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<sup>2</sup> 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 2008.

## 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 Hawai'i industries against the same activities nationally, allowing better measures of performance.<sup>3</sup> 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.<sup>4</sup> 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.



*Bernie Su, Emmy Award winning web series creator of the “Lizzie Bennet Diaries” mentoring Creative Lab Hawai'i Web Series participants*

<sup>3</sup> The framework was developed by DBEDT in another recent study for the evaluation of emerging industry performance See *Benchmarking Hawai'i's Emerging Industries*, [http://hawaii.gov/dbedt/info/economic/data\\_reports/emerging-industries/](http://hawaii.gov/dbedt/info/economic/data_reports/emerging-industries/).

<sup>4</sup> 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 2018 job count, based on the current definition of the sector. In total, the creative industries accounted for about 53,464 jobs in Hawai'i for 2018. This was up 10.0% from 2008. The earnings average was \$55,868.

**TABLE 1. CREATIVE INDUSTRY PRODUCTION GROUPS**

Industry Group	2018 Job
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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.

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 Hawai'i'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 2008 to 2018 period (Figure 1). Nine of the thirteen NAICS-based, target industry groups showed net job growth over the period. Six groups outperformed the overall state jobs annual growth rate of 0.78%. Cultural activities topped the list with 7.64% annual growth. This was followed by film, TV, video production/distribution, art education, business consulting, music, and marketing, photography & related.

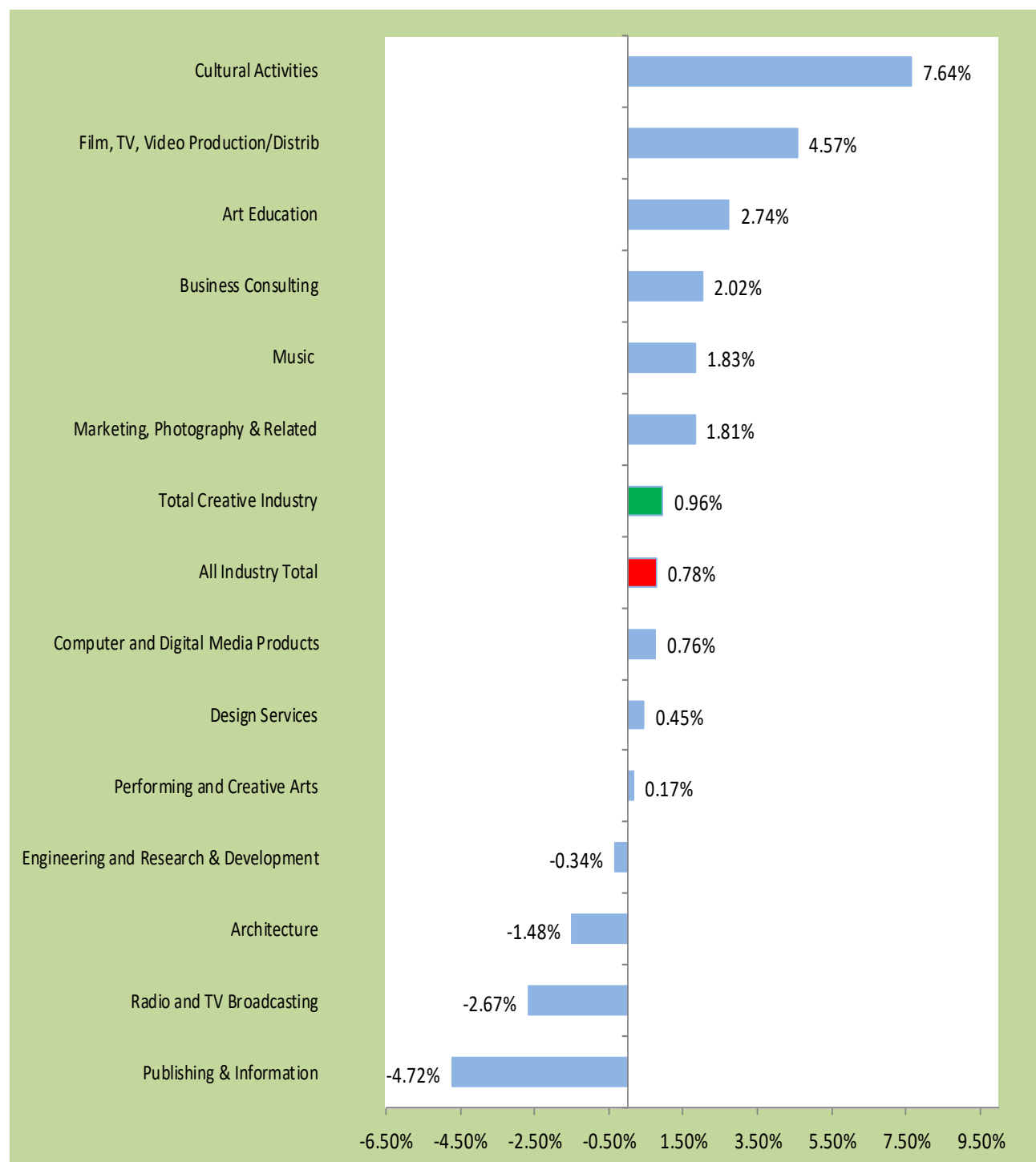
The four industry groups that lost jobs over the same period were publishing & information, radio and TV broadcasting, architecture, and engineering and research & development.



*Creative Entrepreneurs in Media, Fashion and Design from CID/DBEDT's Creative Lab Hawai'i 2013-15 were highlighted in Hawai'i Theatre for Hawai'i Business Magazine, 2017.*

*Photo credit Tommy Shih and Hawai'i Business Magazine.*



**FIGURE 1. CREATIVE SECTOR AVERAGE ANNUAL JOB GROWTH RATE, 2008-2018**

Source: DBEDT compilation based on EMSI data.

## National Competitiveness of the Creative Sector

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

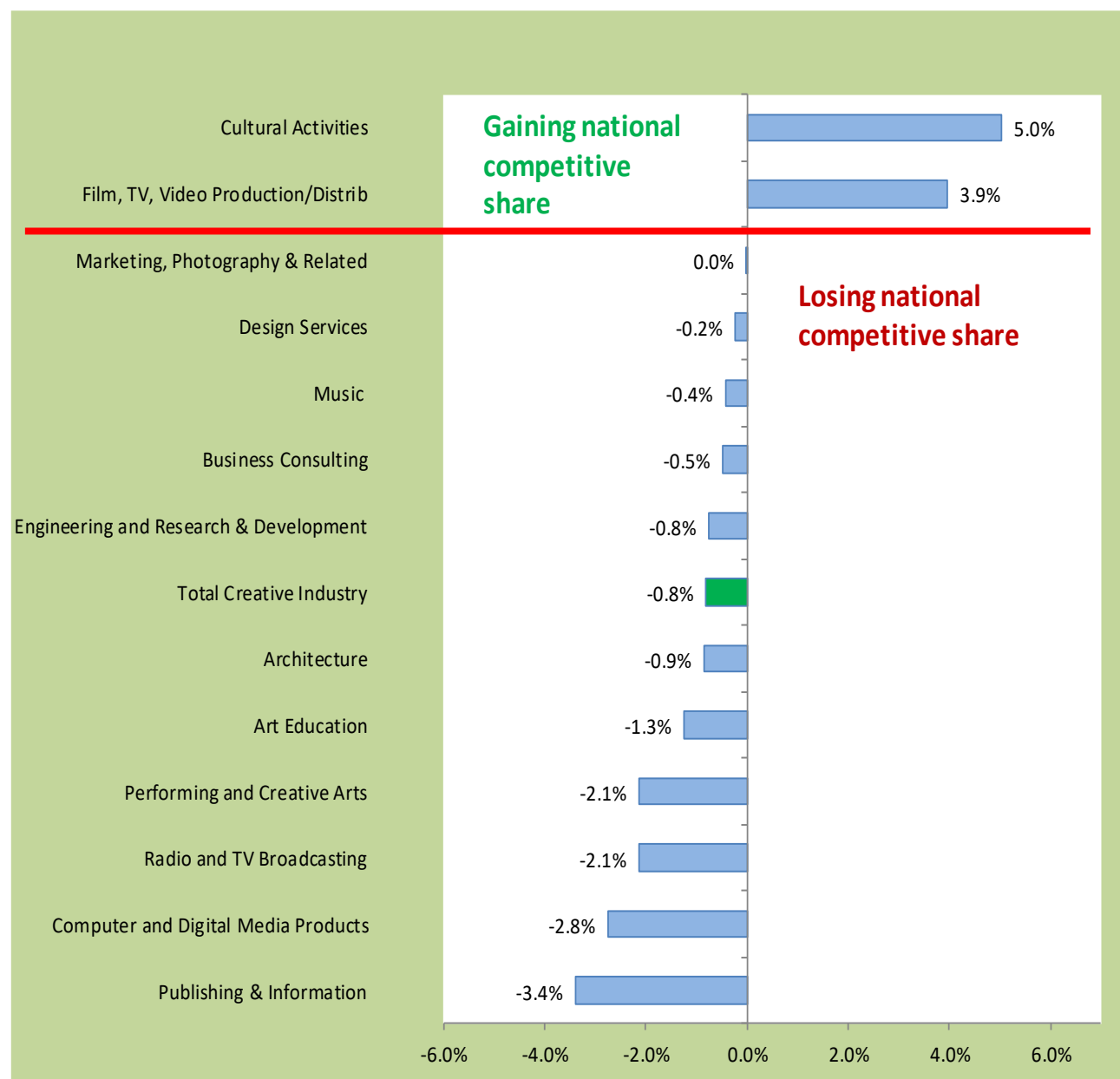
Figure 2 shows how much more or less Hawai'i's creative industries grew per year on average than the same industries nationally. For instance, over the 2008 to 2018 period, jobs in the cultural activities industry group grew an average of 5.0% more annually in Hawai'i than the same industry nationwide. Thus, Hawai'i's cultural activities 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 2.8% below the national industry growth rate.

Industries like design services, art education, 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.



*Textile designer, Jana Lam, is a Creative Lab Hawai'i Fashion Immersive fellow and Honolulu Magazine's Fashion Week Pitch Panel winner. Her work is carried at her Hawai'i Studio and boutiques throughout the islands. Photo Credit: Copyright Jana Lam*

<sup>5</sup> A more complete discussion of the performance metrics and framework for analysis is contained in the DBEDT report Benchmarking Hawai'i's Emerging Industries, available for download at [http://hawaii.gov/dbedt/info/economic/data\\_reports/emerging-industries/](http://hawaii.gov/dbedt/info/economic/data_reports/emerging-industries/).

**FIGURE 2. GAIN OR LOSS OF NATIONAL COMPETITIVE INDUSTRY SHARE, 2008-2018**

Source: DBEDT compilation based on EMSI data.

### Industry Concentration – Hawai‘i’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 Hawai‘i 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 Hawai'i than does the same industry nationally is relatively more concentrated and is likely to be exporting at least some of its output.

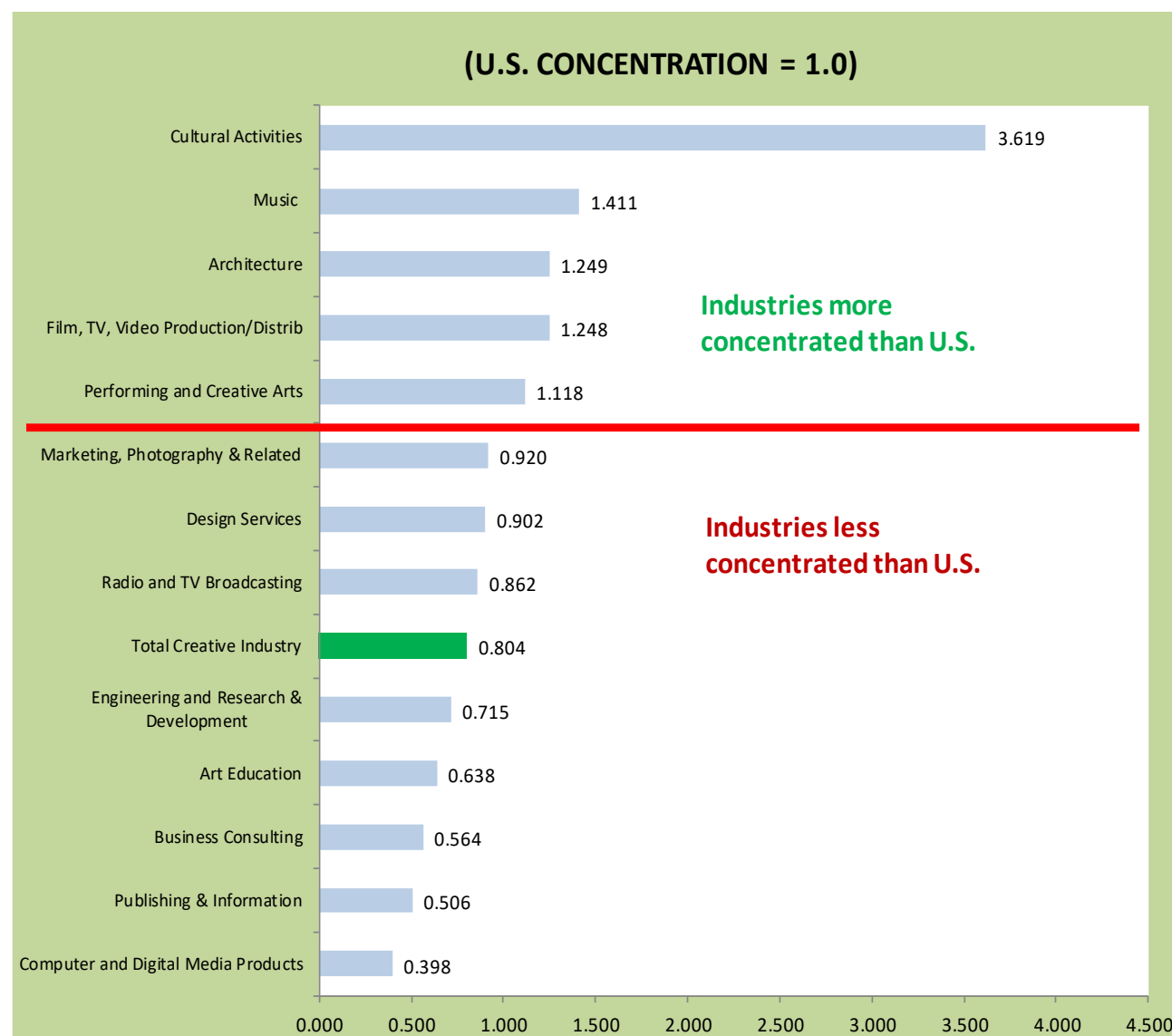
Industry concentration is measured by a metric called the Location Quotient, or LQ for short. The LQ for an industry at the U.S. level is fixed at 1.0. Hawai'i industries with an LQ measure more than 1.0 are more concentrated in the economy than the same industry for the U.S. as a whole. Those below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

For instance, the measure for cultural activities in Figure 3 means that employment in Hawai'i's cultural industry group is 3.6 times more concentrated than for the U.S. as a whole. This suggests that cultural activities are relatively more important to Hawai'i and that the state may be exporting a significant amount of the industry's output. On the other hand, business consulting in Hawai'i 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 Hawai'i's economy that were higher than the same industries nationally. These more concentrated industries are probably helping to drive Hawai'i's economy. Industries that are not as concentrated in Hawai'i as they are nationally may also be exporting some of their output. However, they are probably serving mainly local demand.



*Creative Lab Hawai'i, founded by the Hawai'i State Department of Business, Economic Development, and Tourism's Creative Industries Division (CID) is a key facet of Hawai'i's emerging and innovation sector ecosystem.*

**FIGURE 3. CONCENTRATION OF INDUSTRY EMPLOYMENT COMPARED TO U.S., 2018**

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
<ul style="list-style-type: none"> <li>Positive job growth</li> <li>Losing competitive national industry share</li> </ul>	<ul style="list-style-type: none"> <li>Positive job growth</li> <li>Highly concentrated in the economy</li> <li>Increasing competitive national industry share</li> </ul>
DECLINING	EMERGING
<ul style="list-style-type: none"> <li>Losing jobs over period</li> </ul>	<ul style="list-style-type: none"> <li>Positive job growth</li> <li>Current low concentration in the economy</li> <li>Increasing competitive national industry share</li> </ul>

**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 2008 and 2018. 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 Hawai'i'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 2008 to 2018 performance measures. Combined, the NAICS-based creative industry groups accounted for about 53,464 jobs in Hawai'i's economy during 2018.

**TABLE 3. CREATIVE INDUSTRY GROUPS MAPPED BY PERFORMANCE, 2008-2018**

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Design Services	4.6%	\$36,436	Film, TV, Video Production/Distrib	56.4%	\$91,302
Music	19.9%	\$41,538			
Business Consulting	22.1%	\$69,319			
Art Education	31.1%	\$11,403			
Performing and Creative Arts	1.7%	\$25,887			
Computer and Digital Media Products	7.89%	\$94,571			
Declining Group: 19.3% of Jobs			Emerging Group: 0.0% of Jobs		
Group	Change in Jobs	Average Earnings	Group	Change in Jobs	Average Earnings
Engineering and Research & Development	-3.3%	\$104,854			
Architecture	-13.9%	\$85,645			
Radio and TV Broadcasting	-23.7%	\$71,938			
Publishing & Information	-38.4%	\$53,821			

Source: DBEDT compilation based on EMSI data.

Overall, the creative industry groups added about 4,861 jobs to the state's economy between 2008 and 2018. This amounted to a 10.0% increase in jobs, higher than the 8.6% growth in Hawai'i's civilian economy as a whole for the period. The leading performer of the overall portfolio was the cultural activities group. The 2018 earnings average of the creative industry portfolio of \$55,868 was lower than the statewide average of \$56,892.

#### High Performing Creative Industry Groups

Only two creative industry groups, cultural activities and film, TV, video production/distribution registered as high performing base-growth industries for the 2008 to 2018 period.

No group was in the emerging category.



## Other Creative Industries' Performance

Seven of the creative sector industry groups were in the transitioning category for the 2008 to 2018 period. These ranged from performing and creative arts, which increased only 1.7% in jobs to art education, which grew jobs by 31.1%. 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 2008 to 2018 period fell into the declining quadrant of the performance maps; these were engineering and research & development, architecture, 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.



*Kimie Miner, 2019 Grammy Nominee for Best Regional Roots Album, 2018 Na Hoku Hanohano award winner for Female Vocalist of the Year and Song of the Year and also a 2016 Creative Lab Music Immersive finalist, is the founder of the Haku Collective, a mentorship program for students that teaches the craft of songwriting. Photo credit Nella Media Group*

## IV. CREATIVE INDUSTRY PERFORMANCE BY COUNTY

The following tables summarize the 2008 to 2018 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 38,507 of the state's creative industry jobs in 2018, a 1.1% annual increase from 2008. The annual job growth was negative 3.8% from 2008 to 2009. After experiencing severe setbacks due to the national economic recession that began in late 2007, the average annual growth rate was up to 1.6% during 2009-2018. As shown in Table 4, two creative industry groups were high performing in Honolulu County in the 2008 to 2018 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: Cultural Activities and Film, TV, Video Production/Distribution. Four creative industry groups lost jobs in Honolulu County over the 2008 to 2018 period: Publishing & Information, Radio and Television Broadcasting, Architecture, and Engineering and R&D.

**TABLE 4. CREATIVE INDUSTRY JOBS, HONOLULU**

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2008	2009	2017	2018	2008-2009	2009-2018	2017-2018	2008-2018
Cultural Activities	Base-Growth	1,518	1,430	3,159	3,293	-5.8%	9.7%	4.3%	8.1%
Film, TV, Video Production/Distrib	Base-Growth	1,311	1,019	1,875	2,141	-22.3%	8.6%	14.2%	5.0%
Business Consulting	Transitioning	3,399	3,508	4,082	4,308	3.2%	2.3%	5.5%	2.4%
Marketing, Photography & Related	Transitioning	7,299	6,965	8,368	8,615	-4.6%	2.4%	2.9%	1.7%
Art Education	Transitioning	463	429	629	650	-7.4%	4.7%	3.3%	3.4%
Design Services	Transitioning	1,329	1,220	1,334	1,338	-8.2%	1.0%	0.3%	0.1%
Music	Transitioning	580	546	591	602	-5.9%	1.1%	1.9%	0.4%
Performing and Creative Arts	Transitioning	5,051	4,884	5,070	5,217	-3.3%	0.7%	2.9%	0.3%
Computer and Digital Media Products	Transitioning	4,097	4,087	4,241	4,242	-0.2%	0.4%	0.0%	0.3%
Engineering and R&D	Declining	4,473	4,573	4,249	4,368	2.2%	-0.5%	2.8%	-0.2%
Architecture	Declining	1,793	1,612	1,566	1,565	-10.0%	-0.3%	0.0%	-1.3%
Radio and TV Broadcasting	Declining	1,116	1,020	875	863	-8.6%	-1.8%	-1.4%	-2.5%
Publishing & Information	Declining	2,208	2,038	1,330	1,305	-7.7%	-4.8%	-1.9%	-5.1%
Total Creative Industry	Transitioning	34,637	33,333	37,367	38,507	-3.8%	1.6%	3.0%	1.1%

Source: DBEDT compilation based on EMSI data.

The comparisons of Honolulu County creative industry's job and earnings growth with the state and nation are listed in Table 5. For job growth, Honolulu County's 1.0% annual growth rate was slightly higher than the state's 0.9%, but lower than the national average of 1.8%. 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, 2008-2018**

Industry Group	Performance Class	Job Change 2008-2018	Average Annual Job Growth (%)			Avg. Annual Earnings (2018)		
			County	State	U.S.	County	State	U.S.
Cultural Activities	Base-Growth	1,775	8.1%	7.6%	2.6%	52,412	52,666	57,536
Film, TV, Video Production/Distrib	Base-Growth	830	5.0%	4.6%	0.6%	94,275	91,302	109,552
Business Consulting	Transitioning	909	2.4%	2.0%	2.5%	75,329	69,319	90,445
Marketing, Photography & Related	Transitioning	1,316	1.7%	1.8%	1.8%	33,917	32,443	54,997
Art Education	Transitioning	186	3.4%	2.7%	4.0%	10,903	11,403	12,813
Design Services	Transitioning	9	0.1%	0.5%	0.7%	37,297	36,436	47,489
Music	Transitioning	21	0.4%	1.8%	2.3%	61,713	41,538	44,298
Performing and Creative Arts	Transitioning	167	0.3%	0.2%	2.3%	26,730	25,887	30,911
Computer and Digital Media Products	Transitioning	145	0.3%	0.8%	3.5%	98,197	94,571	130,810
Engineering and R&D	Declining	-105	-0.2%	-0.3%	0.4%	106,989	104,854	115,066
Architecture	Declining	-227	-1.3%	-1.5%	-0.6%	92,947	85,645	79,286
Radio and TV Broadcasting	Declining	-253	-2.5%	-2.7%	-0.5%	77,110	71,938	90,607
Publishing & Information	Declining	-903	-5.1%	-4.7%	-1.3%	59,153	53,821	128,776
Total Creative Industry	Transitioning	3,870	1.1%	1.0%	1.8%	62,271	55,868	84,246

Source: DBEDT compilation based on EMSI data.

## Hawai'i County

Hawai'i County accounted for 5,649 of the state's creative industry jobs in 2018, a 1.0% average annual increase from 2008. The annual job growth was negative 2.2% from 2008 to 2009, increased 1.3% from 2009 to 2018. As shown in Table 6, six creative industry groups were high performing in Hawai'i County during the 2008 to 2018 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, Design Services, Architecture, Radio and TV Broadcasting, and Film, TV, Video Production/Distribution. Three creative industry groups lost jobs in Hawai'i County over the 2008 to 2018 period.

**TABLE 6. CREATIVE INDUSTRY JOBS, HAWAI'I COUNTY**

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2008	2009	2017	2018	2008-2009	2009-2018	2017-2018	2008-2018
Music	Base-Growth	156	142	212	243	-9.4%	6.2%	14.8%	4.5%
Cultural Activities	Base-Growth	107	93	185	202	-13.4%	9.0%	9.3%	6.5%
Design Services	Base-Growth	285	256	326	339	-10.2%	3.2%	4.1%	1.8%
Architecture	Base-Growth	181	166	177	188	-8.5%	1.4%	6.4%	0.4%
Radio and TV Broadcasting	Emerging	79	61	80	85	-22.6%	3.7%	6.5%	0.7%
Film, TV, Video Production/Distrib	Emerging	68	84	70	74	23.0%	-1.4%	5.1%	0.8%
Computer and Digital Media Products	Transitioning	264	233	357	364	-11.4%	5.1%	2.1%	3.3%
Engineering and R&D	Transitioning	571	561	612	573	-1.7%	0.2%	-6.4%	0.0%
Marketing, Photography & Related	Transitioning	1,217	1,164	1,365	1,377	-4.4%	1.9%	0.9%	1.2%
Performing and Creative Arts	Transitioning	1,311	1,416	1,452	1,464	8.0%	0.4%	0.8%	1.1%
Art Education	Transitioning	56	49	66	62	-12.3%	2.6%	-6.7%	1.0%
Business Consulting	Declining	536	494	465	466	-7.8%	-0.6%	0.2%	-1.4%
Publishing & Information	Declining	297	296	211	212	-0.3%	-3.7%	0.5%	-3.3%
Total Creative Industry	Transitioning	5,127	5,014	5,578	5,649	-2.2%	1.3%	1.3%	1.0%

Source: DBEDT compilation based on EMSI data.

The comparisons of Hawai'i County creative industry's job and earnings growth with the state and nation are listed in Table 7. For job growth, Hawai'i County's 1.0% annual growth rate was the same as the state's growth rate but lower than the national average of 1.8%. For average earnings, Hawai'i County was lower than the state, and much lower than the national average.

**TABLE 7. HAWAI'I COUNTY CREATIVE INDUSTRY PERFORMANCE COMPARED WITH NATION AND STATE, 2008-2018**

Industry Group	Performance Class	Job Change 2008-2018	Average Annual Job Growth (%)			Avg. Annual Earnings (2018)		
			County	State	U.S.	County	State	U.S.
Music	Base-Growth	87	4.5%	1.8%	2.3%	24,619	41,538	44,298
Cultural Activities	Base-Growth	94	6.5%	7.6%	2.6%	58,808	52,666	57,536
Design Services	Base-Growth	55	1.8%	0.5%	0.7%	32,773	36,436	47,489
Architecture	Base-Growth	7	0.4%	-1.5%	-0.6%	63,448	85,645	79,286
Radio and TV Broadcasting	Emerging	6	0.7%	-2.7%	-0.5%	44,550	71,938	90,607
Film, TV, Video Production/Distrib	Emerging	6	0.8%	4.6%	0.6%	58,810	91,302	109,552
Computer and Digital Media Products	Transitioning	101	3.3%	0.8%	3.5%	66,622	94,571	130,810
Engineering and R&D	Transitioning	2	0.0%	-0.3%	0.4%	94,947	104,854	115,066
Marketing, Photography & Related	Transitioning	160	1.2%	1.8%	1.8%	27,407	32,443	54,997
Performing and Creative Arts	Transitioning	153	1.1%	0.2%	2.3%	23,828	25,887	30,911
Art Education	Transitioning	6	1.0%	2.7%	4.0%	12,081	11,403	12,813
Business Consulting	Declining	-70	-1.4%	2.0%	2.5%	41,324	69,319	90,445
Publishing & Information	Declining	-85	-3.3%	-4.7%	-1.3%	33,787	53,821	128,776
Total Creative Industry	Transitioning	521	1.0%	1.0%	1.8%	40,272	55,868	84,246

Source: DBEDT compilation based on EMSI data.

## Maui County

Maui County accounted for 6,609 of the state's creative industry jobs in 2018, a 0.3% average annual increase from 2008. The annual job growth was negative 6.7% from 2008 to 2009. After experiencing severe setbacks due to the national economic recession that began in late 2007, the average annual growth rate was up to 1.1% during 2009-2018. As shown in Table 8, four creative industry groups were high performing in Maui County in the 2008 to 2018 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: Marketing, Photography & Related, Cultural Activities, Film, TV, Video Production/Distribution, and Computer and Digital Media Products. The six creative industry groups lost jobs in Maui County over the 2008 to 2018 period were Radio and TV Broadcasting, Publishing & Information, Architecture, Engineering and R&D, Performing and Creative Arts, and Art Education.

**TABLE 8. CREATIVE INDUSTRY JOBS, MAUI COUNTY**

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2008	2009	2017	2018	2008-2009	2009-2018	2017-2018	2008-2018
Marketing, Photography & Related	Base-Growth	1,361	1,330	1,651	1,705	-2.3%	2.8%	3.3%	2.3%
Cultural Activities	Emerging	51	53	72	67	4.4%	2.7%	-6.3%	2.9%
Film, TV, Video Production/Distrib	Emerging	49	55	77	80	12.8%	4.3%	4.2%	5.1%
Computer and Digital Media Products	Emerging	279	319	403	415	14.4%	3.0%	2.9%	4.0%
Business Consulting	Transitioning	361	355	439	458	-1.7%	2.9%	4.3%	2.4%
Design Services	Transitioning	301	274	303	316	-8.9%	1.6%	4.3%	0.5%
Music	Transitioning	387	334	500	445	-13.7%	3.2%	-10.9%	1.4%
Art Education	Declining	89	85	82	82	-4.9%	-0.3%	0.3%	-0.8%
Performing and Creative Arts	Declining	2,469	2,200	2,161	2,216	-10.9%	0.1%	2.5%	-1.1%
Engineering and R&D	Declining	387	356	274	338	-7.9%	-0.6%	23.2%	-1.4%
Architecture	Declining	231	211	173	176	-8.7%	-2.0%	1.5%	-2.7%
Publishing & Information	Declining	339	303	234	229	-10.6%	-3.0%	-2.1%	-3.8%
Radio and TV Broadcasting	Declining	141	135	79	81	-4.3%	-5.5%	2.3%	-5.4%
Total Creative Industry	Transitioning	6,445	6,010	6,449	6,609	-6.7%	1.1%	2.5%	0.3%

Source: DBEDT compilation based on EMSI data.

The comparisons of Maui County creative industry's job and earnings growth with the state and nation are listed in Table 9. For job growth, Maui County's 0.3% annual growth rate was lower than the state's 1.0% and the national average of 1.8%. 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, 2008-2018**

Industry Group	Performance Class	Job Change 2008-2018	Average Annual Job Growth (%)			Avg. Annual Earnings (2018)		
			County	State	U.S.	County	State	U.S.
Marketing, Photography & Related	Base-Growth	344	2.3%	1.8%	1.8%	29,975	32,443	54,997
Cultural Activities	Emerging	17	2.9%	7.6%	2.6%	58,541	52,666	57,536
Film, TV, Video Production/Distrib	Emerging	31	5.1%	4.6%	0.6%	55,718	91,302	109,552
Computer and Digital Media Products	Emerging	136	4.0%	0.8%	3.5%	85,303	94,571	130,810
Business Consulting	Transitioning	97	2.4%	2.0%	2.5%	54,841	69,319	90,445
Design Services	Transitioning	16	0.5%	0.5%	0.7%	37,983	36,436	47,489
Music	Transitioning	58	1.4%	1.8%	2.3%	27,899	41,538	44,298
Art Education	Declining	-7	-0.8%	2.7%	4.0%	16,323	11,403	12,813
Performing and Creative Arts	Declining	-254	-1.1%	0.2%	2.3%	27,308	25,887	30,911
Engineering and R&D	Declining	-49	-1.4%	-0.3%	0.4%	93,257	104,854	115,066
Architecture	Declining	-55	-2.7%	-1.5%	-0.6%	59,531	85,645	79,286
Publishing & Information	Declining	-109	-3.8%	-4.7%	-1.3%	41,065	53,821	128,776
Radio and TV Broadcasting	Declining	-60	-5.4%	-2.7%	-0.5%	53,923	71,938	90,607
Total Creative Industry	Transitioning	164	0.3%	1.0%	1.8%	39,650	55,868	84,246

Source: DBEDT compilation based on EMSI data.



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



*The statewide design and fashion industries are coming into their own. Kauai now has a thriving design/fashion industry and each June hosts the Annual Kauai Fashion Weekend.*

## Kauai County

Kauai County accounted for 2,520 of the state's creative industry jobs in 2018, a 0.7% annual increase from 2008. The annual job growth was negative 4.0% from 2008 to 2009. The average annual growth rate was increased to 1.2% during 2009-2018. As shown in Table 10, three creative industry groups were high performing in Kauai County in the 2008 to 2018 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, Marketing, Photography & Related, and Designs Services. Seven creative industry groups lost jobs in Kauai County over the 2008 to 2018 period.



**TABLE 10. CREATIVE INDUSTRY JOBS, KAUAI COUNTY**

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2008	2009	2017	2018	2008-2009	2009-2018	2017-2018	2008-2018
Music	Base-Growth	30	41	83	95	37.9%	9.7%	14.5%	12.3%
Design Services	Base-Growth	106	96	118	119	-9.2%	2.5%	1.1%	1.2%
Marketing, Photography & Related	Base-Growth	630	578	752	754	-8.3%	3.0%	0.2%	1.8%
Art Education	Transitioning	26	31	35	37	20.7%	2.1%	6.8%	3.9%
Business Consulting	Transitioning	144	136	181	182	-5.5%	3.3%	0.4%	2.3%
Performing and Creative Arts	Transitioning	693	702	783	790	1.3%	1.3%	0.9%	1.3%
Cultural Activities	Declining	56	41	53	53	-26.3%	2.8%	0.2%	-0.5%
Computer and Digital Media Products	Declining	169	160	144	154	-5.1%	-0.4%	7.6%	-0.9%
Engineering and R&D	Declining	166	153	118	139	-7.7%	-1.1%	17.7%	-1.8%
Publishing & Information	Declining	107	124	70	72	15.5%	-5.8%	2.2%	-3.9%
Radio and TV Broadcasting	Declining	57	51	36	35	-10.5%	-4.2%	-3.1%	-4.9%
Architecture	Declining	113	77	68	66	-31.8%	-1.7%	-1.8%	-5.2%
Film, TV, Video Production/Distrib	Declining	52	65	25	23	24.3%	-11.0%	-7.9%	-8.0%
Total Creative Industry	Transitioning	2,350	2,256	2,466	2,520	-4.0%	1.2%	2.2%	0.7%

Source: DBEDT compilation based on EMSI data.

The comparisons of Kauai County creative industry's job and earnings growth with the state and nation are listed in Table 11. For job growth, Kauai County's 0.7% average annual growth rate was lower than the state's 1.0% and lower than the national average of 1.8%. 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, 2008-2018**

Industry Group	Performance Class	Job Change 2008-2018	Average Annual Job Growth (%)			Avg. Annual Earnings (2018)		
			County	State	U.S.	County	State	U.S.
Music	Base-Growth	65	12.3%	1.8%	2.3%	21,018	41,538	44,298
Design Services	Base-Growth	14	1.2%	0.5%	0.7%	33,097	36,436	47,489
Marketing, Photography & Related	Base-Growth	123	1.8%	1.8%	1.8%	28,291	32,443	54,997
Art Education	Transitioning	12	3.9%	2.7%	4.0%	8,130	11,403	12,813
Business Consulting	Transitioning	38	2.3%	2.0%	2.5%	31,971	69,319	90,445
Performing and Creative Arts	Transitioning	97	1.3%	0.2%	2.3%	20,118	25,887	30,911
Cultural Activities	Declining	-3	-0.5%	7.6%	2.6%	37,881	52,666	57,536
Computer and Digital Media Products	Declining	-14	-0.9%	0.8%	3.5%	80,312	94,571	130,810
Engineering and R&D	Declining	-27	-1.8%	-0.3%	0.4%	104,739	104,854	115,066
Publishing & Information	Declining	-35	-3.9%	-4.7%	-1.3%	54,298	53,821	128,776
Radio and TV Broadcasting	Declining	-23	-4.9%	-2.7%	-0.5%	52,684	71,938	90,607
Architecture	Declining	-47	-5.2%	-1.5%	-0.6%	45,687	85,645	79,286
Film, TV, Video Production/Distrib	Declining	-30	-8.0%	4.6%	0.6%	42,360	91,302	109,552
Total Creative Industry	Transitioning	170	0.7%	1.0%	1.8%	34,916	55,868	84,246

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 Hawai'i'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, 2008-2018		Annual Earnings 2018		Performance Metrics		
	2008	2018	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2008-2018	Location Quotient (LQ), 2018	Change in LQ, 2008-2018
TOTAL HAWAII CREATIVE INDUSTRY	48,603	53,464	1.0%	1.8%	55,868	84,246	-0.8%	0.80	-0.04
Marketing, Photography & Related	10,517	12,588	1.8%	1.8%	32,443	54,997	0.0%	0.92	0.03
Performing and Creative Arts	9,525	9,687	0.2%	2.3%	25,887	30,911	-2.1%	1.12	-0.22
Engineering and Research & Development	5,616	5,429	-0.3%	0.4%	104,854	115,066	-0.8%	0.72	-0.03
Business Consulting	4,443	5,426	2.0%	2.5%	69,319	90,445	-0.5%	0.56	-0.01
Computer and Digital Media Products	4,810	5,190	0.8%	3.5%	94,571	130,810	-2.8%	0.40	-0.11
Cultural Activities	1,732	3,616	7.6%	2.6%	52,666	57,536	5.0%	3.62	1.44
Film, TV, Video Production/Distrib	1,482	2,318	4.6%	0.6%	91,302	109,552	3.9%	1.25	0.42
Design Services	2,020	2,113	0.5%	0.7%	36,436	47,489	-0.2%	0.90	0.01
Architecture	2,318	1,996	-1.5%	-0.6%	85,645	79,286	-0.9%	1.25	-0.07
Publishing & Information	2,957	1,822	-4.7%	-1.3%	53,821	128,776	-3.4%	0.51	-0.19
Music	1,155	1,385	1.8%	2.3%	41,538	44,298	-0.4%	1.41	-0.02
Radio and TV Broadcasting	1,394	1,064	-2.7%	-0.5%	71,938	90,607	-2.1%	0.86	-0.18
Art Education	634	831	2.7%	4.0%	11,403	12,813	-1.3%	0.64	-0.06

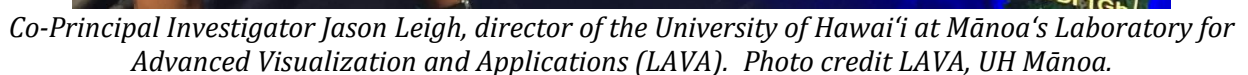
Source: DBEDT compilation based on EMSI data.

As discussed in Section III, the creative sector includes about 53,464 jobs in 13 industry groups. The average annual earnings for the sector was \$55,868 in 2018. Most of the 13 industry groups are composed of several smaller industries that are shown in more detail in the following subsections.

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.

The performing and creative arts group is very concentrated in Hawai'i, with about 12% more jobs proportionately than for the industry nationally. This probably reflects the interdependence between Hawai'i'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.

One of the leading components of Hawai'i's creative sector is engineering research and development, with about 5,429 jobs in 2018. 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.



Jobs in the engineering R&D group decreased by 0.3% annually from 2008 to 2018. The average annual earnings of this group was \$104,854 in 2018, the 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, 2008-2018		Annual Earnings 2018		Performance Metrics		
	2008	2018	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2008-2018	Location Quotient (LQ), 2018	Change in LQ, 2008-2018
Computer and Digital Media Products	4,810	5,190	0.8%	3.5%	94,571	130,810	-2.8%	0.40	-0.11
Software Publishers	121	327	10.5%	4.6%	82,705	174,007	5.9%	0.15	0.07
Custom Computer Programming Services	1,953	1,733	-1.2%	3.2%	93,524	125,394	-4.3%	0.33	-0.16
Computer Systems Design Services	2,737	3,130	1.4%	3.5%	96,391	118,948	-2.1%	0.57	-0.11

Source: DBEDT compilation based on EMSI data.

As a whole, jobs in this sector grew at an average annual rate of 0.8% over the 2008 to 2018 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 \$94,571 in 2018. The lowest paying activity, software publishers, averaged \$82,705, while the highest, computer system design services, averaged \$96,391.

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 Hawai'i play an important role in bringing Hawai'i'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 12,588. As the largest sector in Hawai'i's creative industries, this sector's jobs increased 1.8% annually from 2008 to 2018, same as the 1.8% annual growth in the national workforce of this industry group. Jobs in some areas such as display advertising, marketing consulting services, and photography studios, portrait grew faster than their national counterparts and faster than Hawai'i's economy as a whole. However, losses of jobs in advertising (especially direct mail) and marketing research reduced the overall growth rate.



The annual earnings average for the industry group was \$32,443, below the state average. Earnings ranged from an average \$66,579 in public relations agencies to \$24,334 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, Hawai'i companies in the marketing and related group must continuously show that their creativity and knowledge of Hawai'i'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 2008 to 2018 period with 5,426 jobs in 2018, up 2.0% annually from 2008. This was about two times the growth rate of Hawai'i'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 86% of the group's jobs. Other scientific and technical consulting services was one of the fastest growing activities in the group, with job growth of 4.1% for the period.

The annual earnings average for business consulting was \$69,319. This ranged from \$75,604 for administrative management and general management consulting services to \$46,813 for process, physical distribution, and logistics consulting services.

### **Publishing and Information**

As a whole, publishing and information showed a 4.7% annual decline in jobs from 2008 to 2018, which was worse than the national level. This industry group is dominated by newspaper publishing, which accounted for about 43% of the industry group's jobs in 2018. Newspaper publishing showed a 7.4% annual decline in jobs over the period, and this was worse 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 Hawai'i, internet publishing and broadcasting increased jobs by 2.6% annually from 2008 to 2018, with 259 employees in 2018.

The annual earnings average for publishing and information in Hawai'i was \$53,821 in 2018. This ranged from \$152,221 for news syndicates to \$36,959 for internet publishing and broadcasting and web search portals. The newspaper publishing earnings average was \$63,382 in 2018.

### **Cultural Activities**

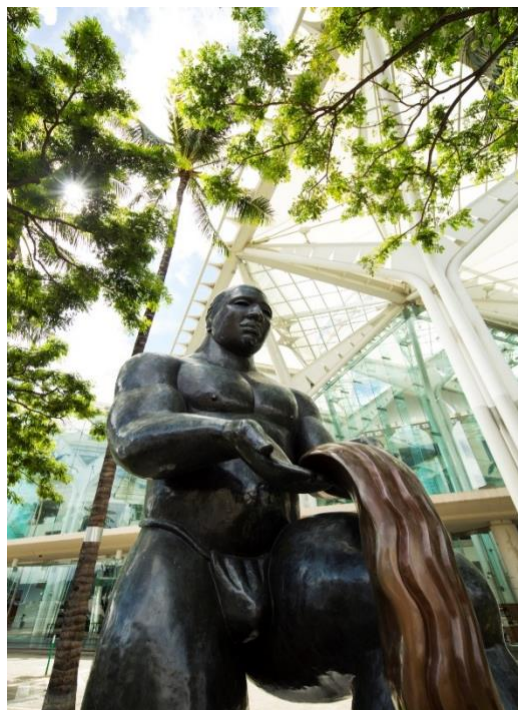
The cultural activities industry group accounted for 3,616 jobs in 2018 and included museums, historical sites, nature parks and other similar institutions, and grant making foundations. As a group, cultural activities registered a 7.6% annual increase in jobs over the 2008 to 2018 period, much better than the state's economy as a whole and the same set of activities nationally. As a result, the cultural industry group gained competitive national industry share. The annual earnings average for the cultural activities group was \$52,666 in 2018. This ranged from \$30,712 for museums to \$98,282 for grant making establishments.

## Architecture

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 Hawai'i into designs suited for the state's climate and life style. More recently, architecture has become a leading source of creativity in addressing the need to conserve energy and provide for alternative energy sources in Hawai'i's residential and commercial structures.

Architecture employed 1,996 people in 2018 and had a negative 1.5% annual growth since 2008. This was below the average growth for the state's workforce as a whole, and worse than the negative 0.6% 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 0.8% annual job growth from 2008 to 2018.

The annual earnings average in architecture was \$85,645 in 2018, with architecture services at \$91,795 and landscape architecture averaging \$61,767.



*"The Water Giver" by Maui artist Shige Yamada at Hawai'i Convention Center.  
Photo credit HVCB*

## Design Services

Design services employed about 2,113 people in 2018. About 49% of these jobs were among graphic design firms, while another 31% were in interior design. Overall, jobs grew by 0.5% annually in the design industry group since 2008. Interior design jobs grew 2.2% and other specialized design services jobs grew 16.9% annually.

The annual earnings average for the design group was \$36,436 in 2018. Graphic design services had the lowest average at \$33,039, and industrial design services had the highest at \$56,708.

## 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 2.7% annually to about 1,064 jobs over the 2008 to 2018 period. Nationally, the industry group did better, managing a 0.5% annual decline in jobs. Television broadcasting lost 2.6% of its workforce annually over the period to just 501 jobs in 2018.

Radio stations lost 2.0% annually over the period with about 474 jobs in 2018. Radio networks, the only other activity in the industry group lost 5.8% per year. The annual earnings average for broadcasting was about \$71,938 in 2018. This ranged from \$90,290 for television broadcasting, to \$49,655 for radio stations.



## Film, TV, and Video Production

Hawai'i's development as a world-class film destination has attracted a greater number of filmmakers from Hollywood and around the world than ever before. For more than a century, Hawai'i's natural beauty has been the setting for popular films such as "From Here to Eternity," "South Pacific" and "Jurassic Park." Millions have also been captivated by iconic television shows "Hawaii Five-O," "Magnum P.I.," and the rebooted versions both of which are shot entirely in the Hawaiian Islands. CBS recently announced that it would be ending the Hawai'i Five-0 series after a decade-long successful run that pumped more than half a billion into the state's economy.

The state established a competitive tax incentive program in 2006 to take Hawai'i's film industry to the next level. Since then, the tax incentive program has attracted a tsunami of new production business to the island, from the hit ABC show LOST to the reinvention of the CBS classics Five-0 and Magnum P.I., to major feature films that include Disney's "Jungle Cruise" and "Pirates of the Caribbean" franchise; Lionsgate's "The Hunger Games: Catching Fire," Paramount's "Indiana Jones and the Kingdom of the Crystal Skull," Legendary Entertainment's "Kong Skull Island" and "Godzilla vs. Kong," Netflix's "Triple Frontier," Columbia Pictures' "Jumanji" sequels, among many many others. Most recently, the original producers of "Jurassic Park" returned to shoot the fourth installment of the successful franchise, "Jurassic World," an NBC Universal production. Hawai'i now ranks among the top ten film destinations in the United States.

Film and television production is the anchor for the Creative Industries in Hawai'i and has been a critical contributor to both jobs and income in the state, as well as an important component to the visitor industry through the global exposure these productions have delivered to the world.

**TABLE 15. FILM & TV PRODUCTION INDUSTRY PERFORMANCE, 2008 TO 2018**

Group & Industry	Hawaii Jobs		Avg. Job Growth Rate, 2008-2018		Annual Earnings 2018		Performance Metrics		
	2008	2018	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2008-2018	Location Quotient (LQ), 2018	Change in LQ, 2008-2018
Film, TV, Video Production/Distrib	1,482	2,318	4.6%	0.6%	91,302	109,552	3.9%	1.25	0.42
Prerecorded Compact Disc (except Software), Tape, and Record Reproducing	0	0		-3.7%	0	174,118	3.7%	0.00	0.00
Motion Picture and Video Production	1,375	2,202	4.8%	1.9%	93,246	104,379	3.0%	1.58	0.43
Motion Picture and Video Distribution	29	7	-13.7%	-0.5%	91,449	139,494	-13.2%	0.16	-0.49
Teleproduction and Other Postproduction Services	49	72	4.0%	1.8%	54,118	86,173	2.1%	0.55	0.12
Cable and Other Subscription Programming	29	37	2.6%	-3.9%	47,676	137,749	6.5%	0.13	0.07

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).

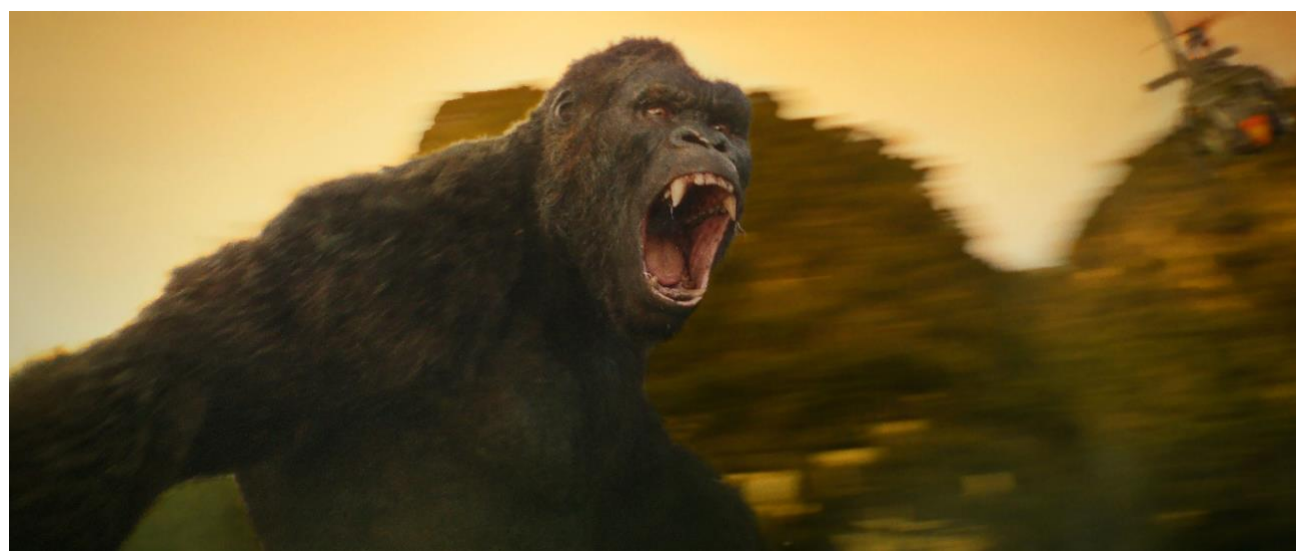
These jobs represented here are attributed to Hawai'i companies and enterprises involved in the direct production of Hawai'i film and TV products. Direct film and TV production activities involved about 2,318 jobs in 2018 and increased 4.6% annually from 2008. Nationally, jobs in this group increased 0.6% 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, both issued and administered by the Hawai'i Film Office and additional data from DBEDT's Research and Economic Analysis Division, , Table 16 shows the estimated jobs generated, as well as economic impacts of the industry from 2008 to 2018.

**TABLE 16. ESTIMATED FILM AND TELEVISION PRODUCTION: ECONOMIC IMPACT 2008 TO 2018**  
[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	364.1	419.4
Expenditures qualified for tax credit	81.2	86.2	292.1	127.7	189.1	163.7	162.3	199.6	217.6	312.8	368.2
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	51.2
Economic Impact											
Output	291.6	300.3	665.9	320.6	425.8	396.2	384.0	422.2	456.3	629.9	725.6
Earnings	67.4	69.4	153.9	74.1	98.4	91.6	88.8	97.6	105.5	145.6	167.8
State taxes	18.4	19.0	42.1	20.3	26.9	25.1	24.3	26.7	28.9	39.3	45.3
Employment	2,308	2,301	4,942	2,304	2,963	2,670	2,506	2,668	2,793	3,750	4,194

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



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

## Music

Hawai'i 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 Hawai'i 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 Hawai'i'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.



*Hawai'i Songwriting Festival attracts artists, musicians, songwriters and music supervisors from around the world to Hawai'i Island, and hosted the first Creative Lab Music Immersive, June 2017.*

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 1,385 employed and self-employed workers in Hawai'i's music industry in 2018, most of them performers. As Table 17 shows, employment in Hawai'i's music industry increased 1.8% per year on average over the 2008 to 2018 period. By contrast, jobs in this industry group nationally grew by 2.3%.



*Singer/Songwriters Evan Khay and Faith Rivera record an original song at the Creative Lab Hawai'i Music Immersive (CLMI). A song that Faith co-wrote during the CLMI was licensed and placed in the online trailer for the Fox television series "Empire".*

**TABLE 17. EMPLOYMENT IN MUSIC INDUSTRY GROUP**

Group & Industry	Hawaii Jobs		Avg. Job Growth Rate, 2008-2018		Annual Earnings 2018		Performance Metrics		
	2008	2018	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2008-2018	Location Quotient (LQ), 2018	Change in LQ, 2008-2018
Music	1,155	1,385	1.8%	2.3%	41,538	44,298	-0.4%	1.41	-0.02
Musical Instrument and Supplies Stores	149	184	2.2%	0.5%	39,676	32,755	1.7%	0.83	0.15
Record Production	34	38	1.2%	1.1%	45,487	99,069	0.0%	0.76	0.02
Music Publishers	16	25	4.4%	1.3%	19,419	69,445	3.1%	0.59	0.17
Sound Recording Studios	62	34	-5.8%	1.2%	22,542	32,499	-7.0%	0.39	-0.39
Other Sound Recording Industries	13	7	-6.6%	1.5%	23,072	50,654	-8.1%	0.23	-0.28
Musical Groups and Artists	881	1,097	2.2%	3.6%	42,914	43,609	-1.3%	1.99	-0.21

Source: DBEDT compilation based on EMSI data.

The centerpiece of this industry group — musical groups and artists — increased by about 2.2%. Musical instrument and supplies stores and music publishers showed some increase, although the small size of these activities means that changes in these industries are difficult to interpret. Sound recording studios and record production, and other sound recording industries showed some decline in jobs.



Annual earnings in the music industry generally reflect part-time professions. The average for the industry group as a whole was \$41,538 in 2018. Earnings for the same industry groups nationally were higher than in Hawai'i, and generally below the average for the economy as a whole.



*Opening day at the 2019 Creative Lab Music Immersive. This five-day Immersive program, which takes place on the Big Island of Hawai'i provides participants with the opportunity to co-write and produce music for specific film or TV projects with a team of professional mentors.*

## 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 831 in 2017, up about 2.7% annually from 2008. Nationally, this group of industries showed a 4.0% annual growth in jobs for the period. Average annual earnings amounted to only \$11,403 for Hawai'i in 2018 and \$12,813 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.



## HAWAII

STATE FOUNDATION on  
CULTURE and the ARTS

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

*Turnaround Arts Hawai'i students performing at the 2018 John F. Kennedy Center Talent Show in Washington, D.C. with Turnaround Artist Paula Fuga. Turnaround Artists have worked with Kalihi Kai Elementary School, Kamaile Academy, and Waianae Elementary School.  
Photo courtesy of the Hawai'i Arts Alliance.*



*CID/DBEDT developed a relationship with Pixar and set up a program with DOE teachers to field test the new Pixar in a Box curriculum which showcases the mathematics, science and engineering and storytelling behind Pixar's characters and award-winning films.*

*Photo courtesy of Pixar/Disney*



## VI. CONCLUSIONS AND NEXT STEPS

Development of Hawai'i's key creative sectors is a valuable economic development strategy. The uniqueness of Hawai'i's creative, artistic and cultural content helps Hawai'i's creative products compete in worldwide markets. Hawai'i's cultural diversity supported by its Hawaiian host culture serves to strengthen our global appeal. Additionally, the creative industries and their workforce are key sources of ideas, content and talent for Hawai'i'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.

Two industry groups ranked as base-growth activities in the creative sector. These growth industries included cultural activities and film, TV, video production/distribution.

Seven other industry groups were ranked as transitioning. These groups have been growing jobs but at a slower rate than the nation. This indicates there could be performance issues hindering the competitiveness of these activities. The transitioning groups were design services, marketing, photography & related, music, business consulting, art education, performing and creative arts, and computer and digital media products.

Finally, four industry groups lost jobs over the 2008-2018 period and consequently fell into the declining quadrant for this time period. These were engineering and research & development, architecture, 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 Hawai'i a leader in innovation.



# INNOVATION — is — CREATIVITY WITH A JOB TO DO

John Emmerling

*Hawai'i's Creative Industries, comprised of film, television, digital media production; music, fashion and fine arts exports, are the key to Hawai'i's future. With continued support for the Hawaii Film Office and Creative Lab Hawai'i programs , we can build a continuum of talent, infrastructure and investment to transform Hawai'i's economy to one based on innovation and creativity.*

## APPENDIX: DETAILED INDUSTRY DATA

NAICS Code	Group & Industry	Hawaii Jobs and Earnings				Performance Metrics			US Comparable	
		2008	2018	Avg. Job Growth Rate, 08-18	Annual Earnings, 2018	Compet. Share 08-18	Location Quotient (LQ)	Change in LQ, 08-18	Avg. Job Growth Rate, 08-18	Annual Earnings, 2018
	TOTAL HAWAII CREATIVE INDUSTRY	48,603	53,464	1.0%	55,868	-0.01	0.80	-0.04	1.8%	84,246
	Architecture	2,318	1,996	-1.5%	85,645	-0.01	1.25	-0.07	-0.6%	79,286
541310	Architectural Services	1,876	1,587	-1.7%	91,795	-0.01	1.32	-0.09	-0.7%	89,251
541320	Landscape Architectural Services	442	409	-0.8%	61,767	0.00	1.02	-0.01	-0.4%	49,393
	Art Education	634	831	2.7%	11,403	-0.01	0.64	-0.06	4.0%	12,813
611610	Fine Arts Schools	634	831	2.7%	11,403	-0.01	0.64	-0.06	4.0%	12,813
	Business Consulting	4,443	5,426	2.0%	69,319	0.00	0.56	-0.01	2.5%	90,445
541611	Administrative Management and General Manager	2,260	2,752	2.0%	75,604	-0.02	0.53	-0.07	3.6%	98,441
541612	Human Resources Consulting Services	373	331	-1.2%	56,777	-0.02	0.56	-0.08	0.5%	88,737
541614	Process, Physical Distribution, and Logistics Consultin	233	295	2.4%	46,813	-0.01	0.35	-0.01	3.0%	74,803
541618	Other Management Consulting Services	119	136	1.3%	70,508	0.00	0.18	0.00	1.7%	88,684
541620	Environmental Consulting Services	717	808	1.2%	65,042	0.01	1.23	0.14	0.3%	70,627
541690	Other Scientific and Technical Consulting Services	741	1,104	4.1%	66,420	0.03	0.68	0.18	1.3%	82,462
	Computer and Digital Media Products	4,810	5,190	0.8%	94,571	-0.03	0.40	-0.11	3.5%	130,810
511210	Software Publishers	121	327	10.5%	82,705	0.06	0.15	0.07	4.6%	174,007
541511	Custom Computer Programming Services	1,953	1,733	-1.2%	93,524	-0.04	0.33	-0.16	3.2%	125,394
541512	Computer Systems Design Services	2,737	3,130	1.4%	96,391	-0.02	0.57	-0.11	3.5%	118,948
	Cultural Activities	1,732	3,616	7.6%	52,666	0.05	3.62	1.44	2.6%	57,536
712110	Museums	745	2,141	11.1%	30,712	0.09	4.44	2.55	2.4%	45,118
712120	Historical Sites	232	354	4.3%	44,991	0.04	4.69	1.51	0.6%	36,484
712190	Nature Parks and Other Similar Institutions	16	41	10.0%	64,031	0.07	0.77	0.38	3.2%	37,662
813211	Grantmaking Foundations	740	1,080	3.9%	98,282	0.01	2.78	0.22	3.3%	79,837
	Design Services	2,020	2,113	0.5%	36,436	0.00	0.90	0.01	0.7%	47,489
541340	Drafting Services	408	314	-2.6%	39,216	-0.01	1.85	-0.06	-2.0%	38,760
541410	Interior Design Services	533	660	2.2%	40,741	0.01	0.82	0.09	1.3%	43,334
541420	Industrial Design Services	21	2	-21.0%	56,708	-0.23	0.01	-0.15	2.1%	77,340
541430	Graphic Design Services	1,036	1,036	0.0%	33,039	0.00	1.02	0.01	0.2%	45,977
541490	Other Specialized Design Services	21	101	16.9%	34,058	0.14	0.53	0.39	2.8%	56,754
	Engineering and Research & Development	5,616	5,429	-0.3%	104,854	-0.01	0.72	-0.03	0.4%	115,066
541330	Engineering Services	3,707	4,291	1.5%	108,441	0.01	0.84	0.11	0.4%	107,985
541715	Research and Development in the Physical, Engineerir	1,424	991	-3.6%	97,750	-0.04	0.47	-0.23	0.6%	137,350
541720	Research and Development in the Social Sciences and	485	147	-11.3%	48,056	-0.11	0.44	-0.97	0.0%	81,775
	Film, TV, Video Production/Distrib	1,482	2,318	4.6%	91,302	0.04	1.25	0.42	0.6%	109,552
334613	Blank Magnetic and Optical Recording Media Manufac	0	0		0	0.04	0.00	0.00	-3.7%	174,118
512110	Motion Picture and Video Production	1,375	2,202	4.8%	93,246	0.03	1.58	0.43	1.9%	104,379
512120	Motion Picture and Video Distribution	29	7	-13.7%	91,449	-0.13	0.16	-0.49	-0.5%	139,494
512191	Teleproduction and Other Postproduction Services	49	72	4.0%	54,118	0.02	0.55	0.12	1.8%	86,173
515210	Cable and Other Subscription Programming	29	37	2.6%	47,676	0.06	0.13	0.07	-3.9%	137,749
	Marketing, Photography & Related	10,517	12,588	1.8%	32,443	0.00	0.92	0.03	1.8%	54,997
541613	Marketing Consulting Services	854	1,441	5.4%	38,229	0.01	0.61	0.06	4.6%	67,665
541810	Advertising Agencies	707	486	-3.7%	60,084	-0.05	0.36	-0.20	0.9%	98,722
541820	Public Relations Agencies	390	318	-2.0%	66,579	-0.04	0.60	-0.27	2.0%	91,730
541830	Media Buying Agencies	31	14	-7.8%	37,090	-0.11	0.13	-0.28	3.7%	108,784
541840	Media Representatives	137	109	-2.3%	55,095	0.01	0.75	0.08	-3.2%	95,478
541850	Outdoor Advertising	93	497	18.3%	32,929	0.18	2.01	1.63	0.5%	64,670
541860	Direct Mail Advertising	66	45	-3.7%	44,887	0.00	0.17	0.00	-3.5%	64,160
541870	Advertising Material Distribution Services	38	17	-8.0%	53,531	-0.06	0.20	-0.17	-1.9%	57,823
541890	Other Services Related to Advertising	556	691	2.2%	24,334	0.00	1.03	0.00	2.5%	41,511
541910	Marketing Research and Public Opinion Polling	424	337	-2.3%	38,124	-0.02	0.50	-0.07	-0.7%	74,503
541921	Photography Studios, Portrait	1,465	1,955	2.9%	28,865	0.02	1.94	0.36	1.1%	21,958
541922	Commercial Photography	322	460	3.6%	27,464	-0.01	1.24	-0.12	4.9%	35,551
541990	All Other Professional, Scientific, and Technical Service	5,434	6,219	1.4%	28,693	-0.01	1.06	-0.02	1.9%	40,054
	Music	1,155	1,385	1.8%	41,538	0.00	1.41	-0.02	2.3%	44,298
451140	Musical Instrument and Supplies Stores	149	184	2.2%	39,676	0.02	0.83	0.15	0.5%	32,755
512250	Record Production and Distribution	34	38	1.2%	45,487	0.00	0.76	0.02	1.1%	99,069
512230	Music Publishers	16	25	4.4%	19,419	0.03	0.59	0.17	1.3%	69,445
512240	Sound Recording Studios	62	34	-5.8%	22,542	-0.07	0.39	-0.39	1.2%	32,499
512290	Other Sound Recording Industries	13	7	-6.6%	23,072	-0.08	0.23	-0.28	1.5%	50,654
711130	Musical Groups and Artists	881	1,097	2.2%	42,914	-0.01	1.99	-0.21	3.6%	43,609
	Performing and Creative Arts	9,525	9,687	0.2%	25,887	-0.02	1.12	-0.22	2.3%	30,911
453920	Art Dealers	855	883	0.3%	42,672	-0.01	2.60	-0.11	1.1%	38,997
711110	Theater Companies and Dinner Theaters	539	489	-1.0%	36,710	-0.03	0.92	-0.34	2.5%	32,339
711120	Dance Companies	189	342	6.1%	21,375	0.02	3.20	0.70	3.9%	33,320
711190	Other Performing Arts Companies	9	23	10.2%	19,267	0.08	0.35	0.18	2.6%	37,620
711310	Promoters of Performing Arts, Sports, and Similar Even	231	306	2.8%	23,739	-0.02	0.46	-0.09	5.1%	38,728
711320	Promoters of Performing Arts, Sports, and Similar Even	544	477	-1.3%	35,097	-0.06	1.06	-0.75	4.4%	43,262
711410	Agents and Managers for Artists, Athletes, Entertainer	379	353	-0.7%	20,301	-0.03	0.91	-0.22	1.8%	60,651
711510	Independent Artists, Writers, and Performers	6,780	6,813	0.0%	22,923	-0.02	1.11	-0.19	2.0%	26,590
	Publishing & Information	2,957	1,822	-4.7%	53,821	-0.03	0.51	-0.19	-1.3%	128,776
511110	Newspaper Publishers	1,713	793	-7.4%	63,382	-0.01	0.92	-0.08	-6.4%	53,415
511120	Periodical Publishers	647	538	-1.8%	45,127	0.02	0.92	0.20	-4.0%	91,757
511130	Book Publishers	96	102	0.6%	42,498	0.03	0.28	0.08	-2.5%	82,668
511140	Directory and Mailing List Publishers	191	59	-11.1%	79,509	-0.03	0.57	-0.18	-8.3%	76,265
511191	Greeting Card Publishers	0	18	43.3%	62,177	0.52	0.76	0.75	-9.0%	70,174
511199	All Other Publishers	26	12	-7.9%	65,733	-0.04	0.17	-0.09	-3.7%	55,280
519110	News Syndicates	38	13	-10.4%	152,221	-0.08	0.20	-0.25	-2.6%	118,591
519130	Internet Publishing and Broadcasting and Web Search	200	259	2.6%	36,959	-0.07	0.19	-0.17	9.9%	214,789
519190	All Other Information Services	45	30	-4.0%	39,755	-0.10	0.20	-0.31	5.9%	103,610
	Radio and TV Broadcasting	1,394	1,064	-2.7%	71,938	-0.02	0.86	-0.18	-0.5%	90,607
515111	Radio Networks	162	89	-5.8%	87,458	-0.04	0.70	-0.35	-1.6%	79,659
515112	Radio Stations	583	474	-2.0%	49,655	0.00	1.13	0.02	-1.9%	63,411
515120	Television Broadcasting	649	501	-2.6%	90,290	-0.03	0.73	-0.25	0.7%	109,226

Source: DBEDT compilation based on EMSI data.