Hawaii's Creative Industries

Update Report 2012

Department of Business, Economic Development and Tourism

July 2012

research & economic analysis division

Hawaii Department of Business, Economic Development & Tourism

July 2012

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EXECUTIVE SUMMARY

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

In order to capture and track data on the range of activities that can address the broader relationship between creative industries and emerging markets for technology and entertainment, the Research and Economic Analysis Division teamed with the DBEDT's Creative Industries Division to review more current definitions of creative industries and revise the scope of the activities in Hawaii's creative sector, based in larger part on similar work in Massachusetts. This update has resulted in additional industries being added to the creative sector portfolio, such as advertising and marketing, design services, architecture, and engineering/research and development. Hawaii's creative sectors now show the increased overlaps in elements of the technology sector, providing foundational data to further define Hawaii's innovation industries

Industry Groups in the Creative Sector

The table below provides an overview of the 13 industry groups in the updated creative sector (left side), and their 2011 job count, based on the updated definition of the sector. In total, the creative industries accounted for about 47,264 jobs in Hawaii for 2011. This was up nearly 13.8% from 2001, but down 4.3% from 2007. The earnings average was $46,625.

Creative Industry Production Groups and Markets

Production Side Groups		Market Side Activities	
Industry Group	**2011 Job**	**Market**	**Job Estimate**
Marketing, Photography & Related	9,961	Digital Media Market	NA
Performing and Creative Arts	8,690	Film & TV Market	1,319*
Engineering and Research & Development	5,585	Animation	150+*
Business Consulting	5,037		
Computer and Digital Media Products	4,539		
Cultural Activities	2,381		
Publishing & Information	2,329		
Film, TV, Video Production/Distrib	2,145		
Architecture	1,893		
Design Services	1,842		
Radio and Television Broadcasting	1,236		
Music	922		
Art Education	703		
Creative Industry Total	**47,264**		

*: Estimated by Creative Industries Division.

Source: DBEDT, READ & Creative Industries Division.

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.

NAICS is focused only 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 development shown on the right side of the table. The information available on these markets will be presented in the body of this report.

Performance of the Creative Industries Portfolio

Beyond improving the definition of the creative sector, a primary purpose of this report is to measure performance of the industry groups. 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: jobs growth, change in competitive national industry share, and level of concentration (or specialization) in Hawaii's economy. The first two measures help assess the strength and competitiveness of the activity, while the third identifies likely export industries in the portfolio.

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

Creative Industry Groups Mapped by Performance, 2001-2011					
Total Jobs, 2011: 47,264					
Average Annual Earnings, 2011: $46,625					
Net Change in Jobs, 2001-2011: 13.8%					
Transitioning Group: 44.8% of Jobs			**Base-Growth Group: 9.6% of Jobs**		
Group	Change in Jobs	Average Earnings	Group	Change in Jobs	Average Earnings
Art Education	55.2%	$13,128	Film, TV, Video Production/Distrib	84.9%	$53,974
Design Services	20.5%	$23,189	Cultural Activities	69.6%	$43,127
Performing and Creative Arts	1.6%	$20,507			
Marketing, Photography & Related	1.5%	$31,045			
Declining Group: 13.5% of Jobs			**Emerging Group: 32.1% of Jobs**		
Group	Change in Jobs	Average Earnings	Group	Change in Jobs	Average Earnings
Architecture	-3.9%	$71,100	Business Consulting	77.0%	$52,744
Music	-8.4%	$26,503	Engineering and Research & Development	25.2%	$89,317
Radio and Television Broadcasting	-16.0%	$55,101	Computer and Digital Media Products	21.0%	$72,937
Publishing & Information	-24.6%	$52,852			

Source: DBEDT compilation based on EMSI data.

The highest performing industries in the creative sector for the 2001 to 2011 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 they are gaining in competitiveness. In addition, the *Base-Growth* industries show a higher proportion of jobs in Hawaii's economy than is the case nationally. This suggests they are likely to be exporting some proportion of their output, either directly or indirectly. This also means that while relatively small, these industries are among the economic drivers in the economy. *Emerging* industry groups are not as concentrated in Hawaii's economy, but their otherwise high performance suggests 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 over the period under study. In some cases this may be the result of unusual factors such as the natural volatility of the film industry. In other cases, like information and broadcasting, it may reflect outsourcing of service beyond Hawaii and/or significant increases in productivity, thanks to emerging technology that 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 5,762 jobs to the state's economy between 2001 and 2011. This amounted to a 13.8 percent increase in jobs, well above the 10.3 percent growth in Hawaii's civilian economy as a whole for the period. The leading performers of the overall portfolio were the film/TV production groups, and cultural activities. The earnings average of the creative industry portfolio of $46,625 in 2011 was higher than the statewide average of $46,263.

High Performing Creative Industry Groups

Two creative industry groups, film/TV production and cultural activities, registered as high performing base-growth industries for the 2001 to 2011 period. The film/TV production group was the top performer in job creation among all groups.

The industry groups in the emerging category were composed of business consulting, engineering/Scientific R&D, and computer/digital media. This group performed well in both job creation and earnings growth.

Few appreciate the creative support workers surrounding every filming effort.

Other Creative Industries' Performance

Four of the creative sector industry groups fell into the transitioning category for the 2001 to 2011 period. These ranged from the marketing, photography, which just barely avoided the declining category, to arts education, which grew jobs by 55.2%. However, while these industry groups grew, it was not as vigorous as the same industries nationally. As a result, they lost some ground to the nation in terms of competitive industry share.

Finally, four creative industry groups that lost jobs in the 2001 to 2011 period fell into the declining quadrant of the performance map. Architecture, music, radio & TV broadcasting, and publishing & information all lost jobs for the period. Radio & TV broadcasting, music, and publishing & information also lost national competitive industry share (Figure 3), while architecture in Hawaii was more competitive than the nation.

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 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 activity and emerging technologies in information, communications, entertainment, and the broad range of commercial applications that are being driven by innovation. Learning how creative activity supports and utilizes emerging technology can help clarify the skill sets and educational elements that will help make Hawaii a leader in innovation. An occupational profile of creative industry occupations is currently underway.

Development of Hawaii's key creative activities has become an important focus in the State's economic development efforts in recent years for several reasons. First, Hawaii's cultural diversity and the unique heritage of its Hawaiian host culture are major attractions for the millions of visitors that inject billions of dollars into Hawaii's economy each year. Without this cultural component to the visitor experience, Hawaii is mostly a sun and surf destination like many of its competitors.

Secondly, the depth of Hawaii's creative and cultural talent and unique artistic content helps Hawaii's creative products compete in worldwide 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. In addition, visitors absorb the creative products of Hawaii in context and share their discovery in the many markets from which they have come.

Thirdly, the creative industries and their workforce are key sources of ideas, content and talent for Hawaii's emerging technology sector. Increasingly, science and technology are making possible 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.

Updating the Definition of the Creative Sector

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

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

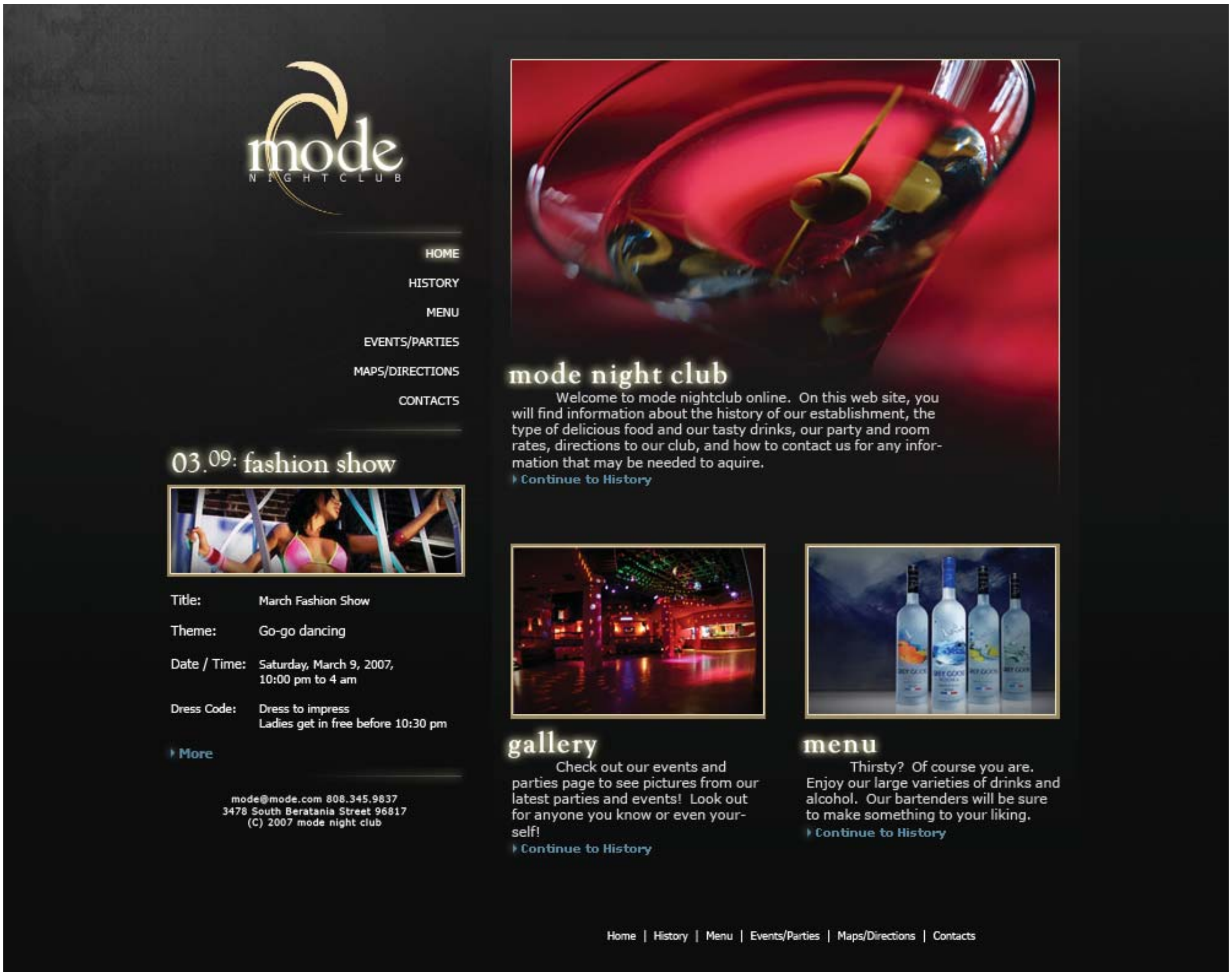
- Film and TV
- Music
- Digital media products (interactive media, games and mobile applications)
- Animation
- Workforce development in these focus activities

To support the evolving development focus, CID and READ determined that a broader definition of the sector was needed. More current definitions of the creative sector were reviewed and the scope of the activities was revised based in large part on a similar study in Massachusetts.[2] In addition to including more technology-based creative activity, 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 and this report is the third in the series.

Hoku award winning artist Anuhea established Hawaii's presence at national music conferences such as ASCAP I Create Music, which positions Hawaii alongside Nashville, Austin, Seattle and other music hubs in America.

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

[2] Specifically the *North Shore Creative Economy, Market Analysis and Action Plan*, ConsultEcon, Inc., Economic Research and Management Consultants. Prepared for: the Enterprise Center at Salem State College, the Salem Partnership, and the Creative Economy Association of the North Shore, April 2008.



Mobile applications, web design and streaming content all have high potential as a development sectors, showcasing the nexus of creative and technology arts as content export products, particularly when paired with products which support marketing of the state's visitor industry.

Creative Industries Development
State Priorities

The State of Hawaii's **Creative Industries Division** (CID) is the lead agency dedicated to advocating for and accelerating the growth of Hawaii's Creative Economy. Through initiatives, program development and strategic partnerships the division and its branches forge strategic partnerships to expand the business development capacity of Hawaii's arts, culture, music, film, literary, publishing, digital and new media industries.

Comprised of the **Hawaii Film Office (HFO)** aka Film Industry Branch (FIB) and the **Arts and Culture Development Branch** (ACDB), CID connects creative communities locally and globally, to increase Hawaii's creative entrepreneur's capacity for export and monetization of their intellectual property creations.

Hawaii's Creative Industries Metrics:

- Creative sectors total 47,264 individuals and 3,260 businesses statewide
- Generated $3.8 billion GDP in 2011 representing 5.6% of state total GDP
- Average annual earnings $46,625 in 2011, higher than the state average
- Job growth rate of 13.8% since 2001

Through establishing these metrics and tracking performance of 13 relevant arts, culture, music, publishing, television, film, digital and new media sectors, CID and DBEDT's Research and Economic Analysis Division have defined the base, emerging, declining and transitioning sectors performance from 2001-2011 to further guide programmatic direction to further sector growth.

The performance of Hawaii's creative portfolio shows the vibrancy of the sectors, which, coupled with multi-export platforms, will position the state to be a leader in the global creative economy movement through the following goals:

- Establish policies to support creative media infrastructure development
- Develop cross platform collaborations with film, music, tech and new media industries to advance sector growth
- Increase sector growth through programs and strategic partnerships that expand creative export
- Expand business development activities around existing events in music, film, culture and new media
- Establish creative lab accelerators to develop creative/tech companies
- Establish a creative media fund to support Hawaii based content development across multiple disciplines and platforms
- Manage statutory programs which support film industry development
- Leverage tourism marketing resources to advance broadcast, web and mobile channels showcasing Hawaii's cultural and creative industries
- Position Hawaii as the hub for cultural creatives in the pacific

Data Sources

A major feature of the 2007, 2010 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 permit the comparison of Hawaii industries against the same activities nationally, allowing better measures of performance.[3] The data for this report were developed for a recent DBEDT study on emerging industries which included the creative sector. They consist primarily of jobs and labor earnings that are available annually for very detailed industries.[4] Other measures such as sales, output and gross product are not available as frequently or in as much detail. More discussion on the data is contained in the following section.

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

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

II. OVERVIEW OF HAWAII'S CREATIVE INDUSTRIES PORTFOLIO

Table 1 provides an overview of the 13 industry groups in the updated creative sector (left side), and their 2011 job count (estimate), based on the updated definition of the sector. In total, the creative industries accounted for about 47,264 jobs in Hawaii for 2011. This was up nearly 13.8% from 2001, but down 4.3% from 2007. The earnings average was $46,625.

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*: Estimated by Creative Industries Division.			
Source: DBEDT, READ & Creative Industries Division.			

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.

The right side of Table 1 shows the two major commercial markets associated with the Creative Sector, digital media and the film/TV market. The available information on these markets will be presented in Section V.

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, the jobs associated with the commercial market activity are contained, for the most part, in the production side industry groups. With the

NAICS data as a base, further efforts can be made to better understand the commercial markets and Hawaii's competitiveness in serving them.

It must 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. Certainly, groups like film/TV, music, cultural activities, performing arts and computer services related to digital media have been of priority interest and efforts.

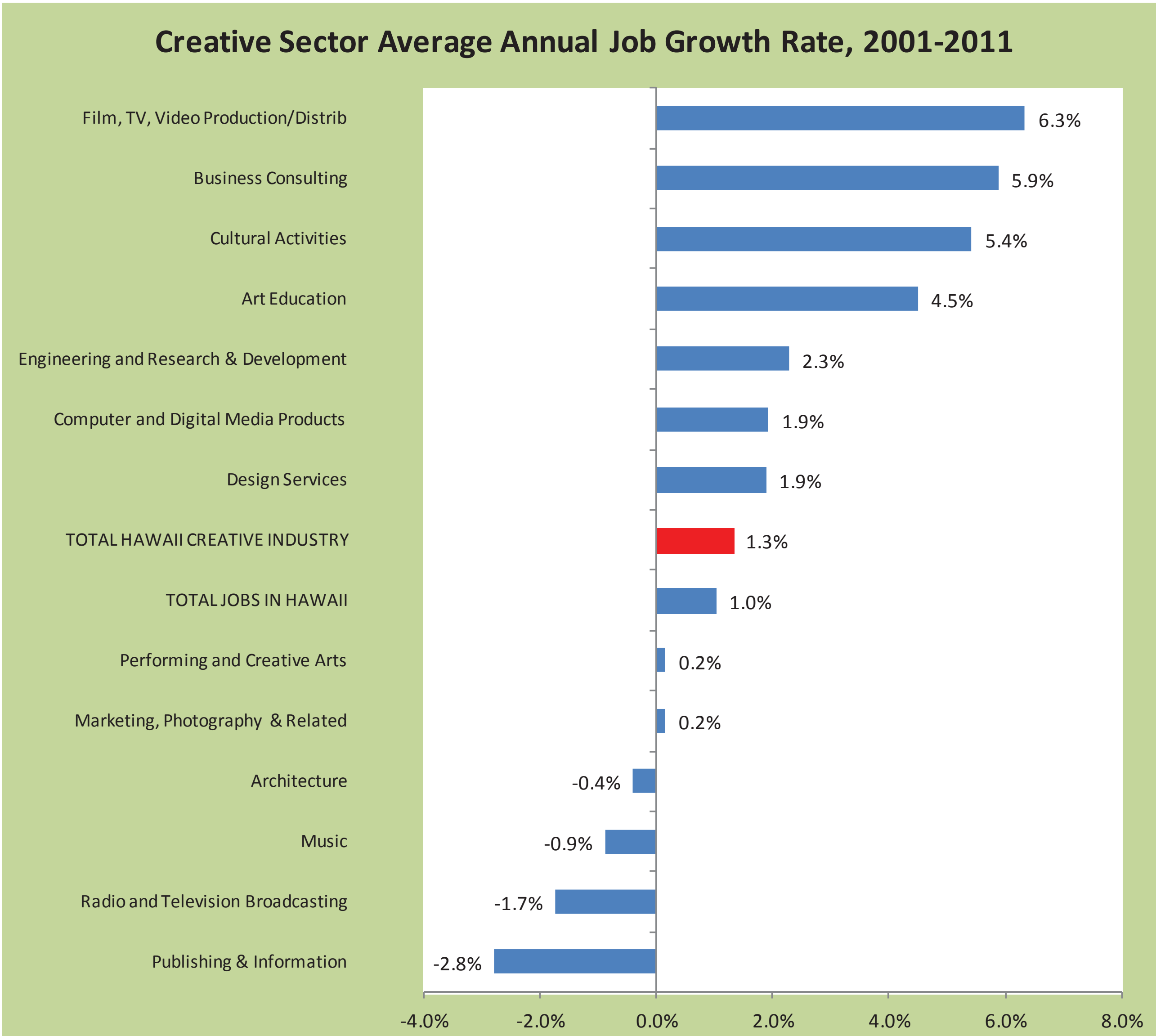
However, other groups like business consulting, publishing and information, broadcasting and architecture, to name a few, have not yet been the focus of development efforts. This is mainly because they have just recently been added to the creative industry portfolio through the adoption of the new, broader 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 Jobs Growth

In terms of jobs growth, the creative industries portfolio seems to have performed well over the 2001 to 2011 period (Figure 1). Nine of the thirteen NAICS-based, target industry groups showed net job growth over the period. Of the targets, they registered as *high growth* industry groups by outperforming the overall state jobs annual growth rate of 1.0%. Film, TV, Video Production/Distrib topped the list with 6.3% annual. This was followed by business consulting, art education and engineering/R&D services.

The four industry groups losing jobs over the period were Radio/TV broadcasting, publishing & information, architecture and music.

FIGURE 1



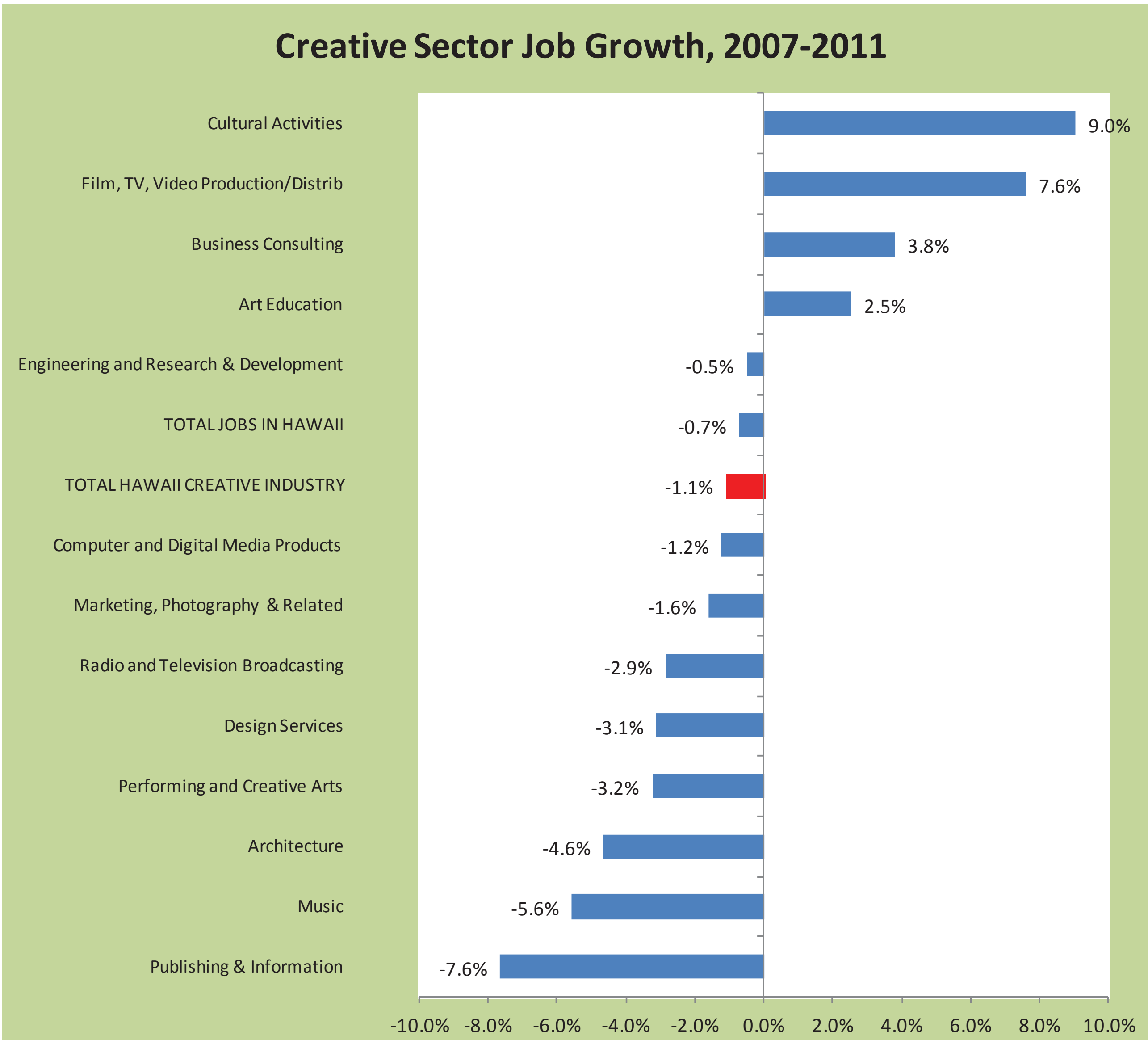
Source: DBEDT compilation based on EMSI data.

While this study is focused more on the longer term trends in the creative sector, it is of interest to look at how jobs in the sector have been impacted so far by the current economic downturn. Figure 2 shows how the creative industry groups performed in terms of job change in the latest year for data, 2007 to 2011.

The creative sector, like nearly all of Hawaii's industries, has experienced setbacks due to the very severe national recession that began in late 2007. Only four creative groups managed positive growth during 2007-2011 period, with five industry groups performing better than the state average of a -1.1% job loss. The strongest performers in terms of job growth during 2007-2011 period were cultural activities, Film, TV, Video Production/Distrib, and business consulting.

Publishing and information experienced the most significant jobs loss in this period, followed closely by music, and architecture. Industries like music, performing arts and cultural activities that are tied more closely to the visitor industry tended to be impacted greater than industries with more independent markets, like engineering, computer services and business consulting.

FIGURE 2



Source: DBEDT compilation based on EMSI data.

National Competitiveness of the Creative Sector

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

Figure 3 shows how much more or less Hawaii's creative industries grew per year on average than the same industries nationally. For instance, over the 2001 to 2011 period, jobs in the Film, TV, Video Production/Distrib industry group grew an average of 8.3% more annually in Hawaii than the same industry nationwide. Thus, Film, TV, Video Production/Distrib industry group gained competitive national industry share. On the other hand, even though the Art Education industry group grew jobs over the period, it lost national industry share (an average -1.1% per year below national industry growth).

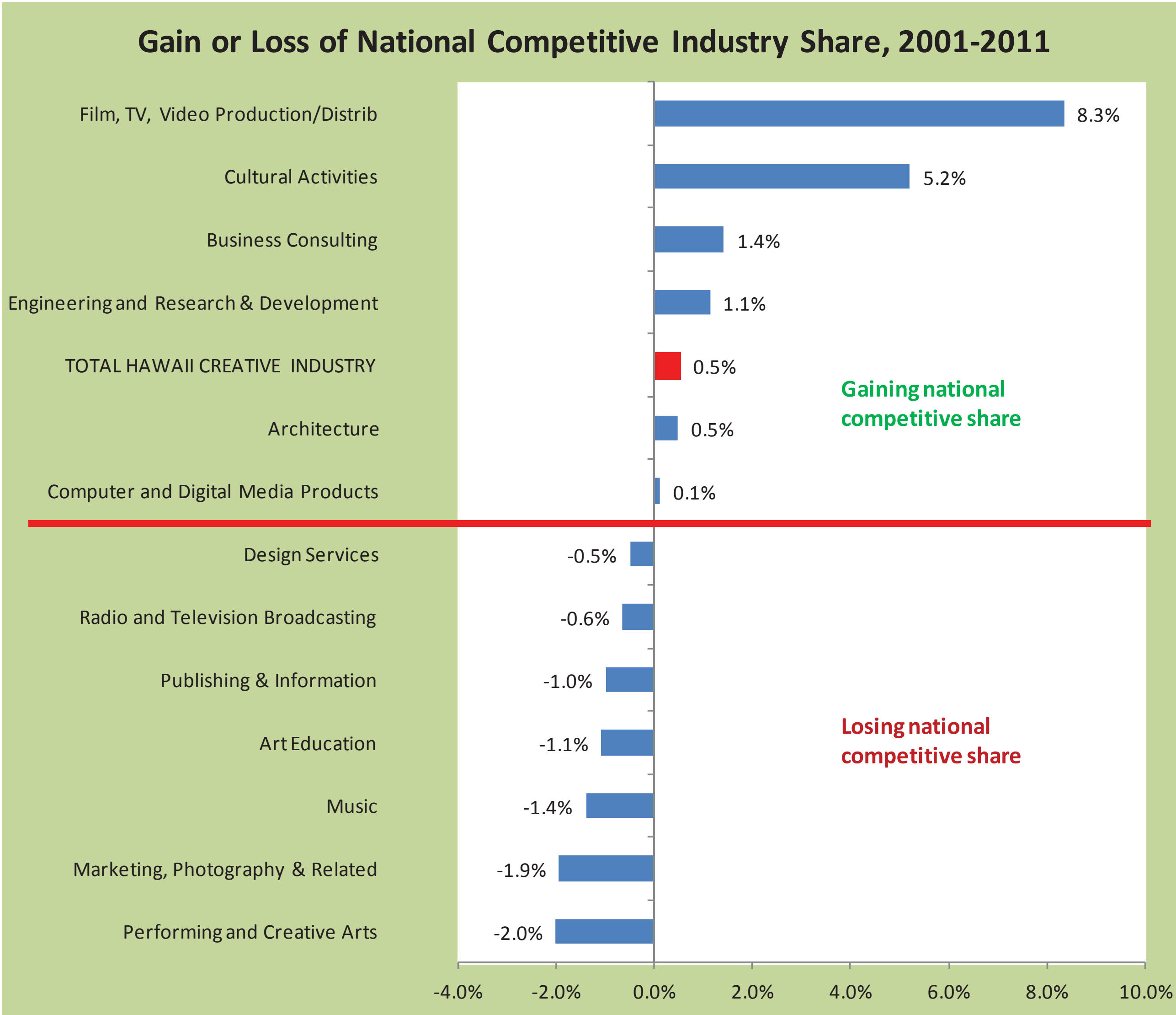
Industries like Performing and Creative Arts, and Marketing, Photography & Related also lost competitive national market share even though they increased their statewide job counts.

Industries that have both a positive job growth and increase in competitive national industry share, represent the best performing industry groups over a period of time. Industry groups with the more positive competitive share metric are probably showing a higher comparative advantage over most of the national industry.

Broad ethnic diversity gives Hawaii a unique range of a broad range of cultural presentations.

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

FIGURE 3



Source: DBEDT compilation based on EMSI data.

Industry Concentration – Hawaii's Creative Specialties

A third performance metric that helps in the evaluation of the creative industry portfolio is industry job concentration (Figure 4). This is a measure of how much Hawaii specializes in the industry and it 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, if any.

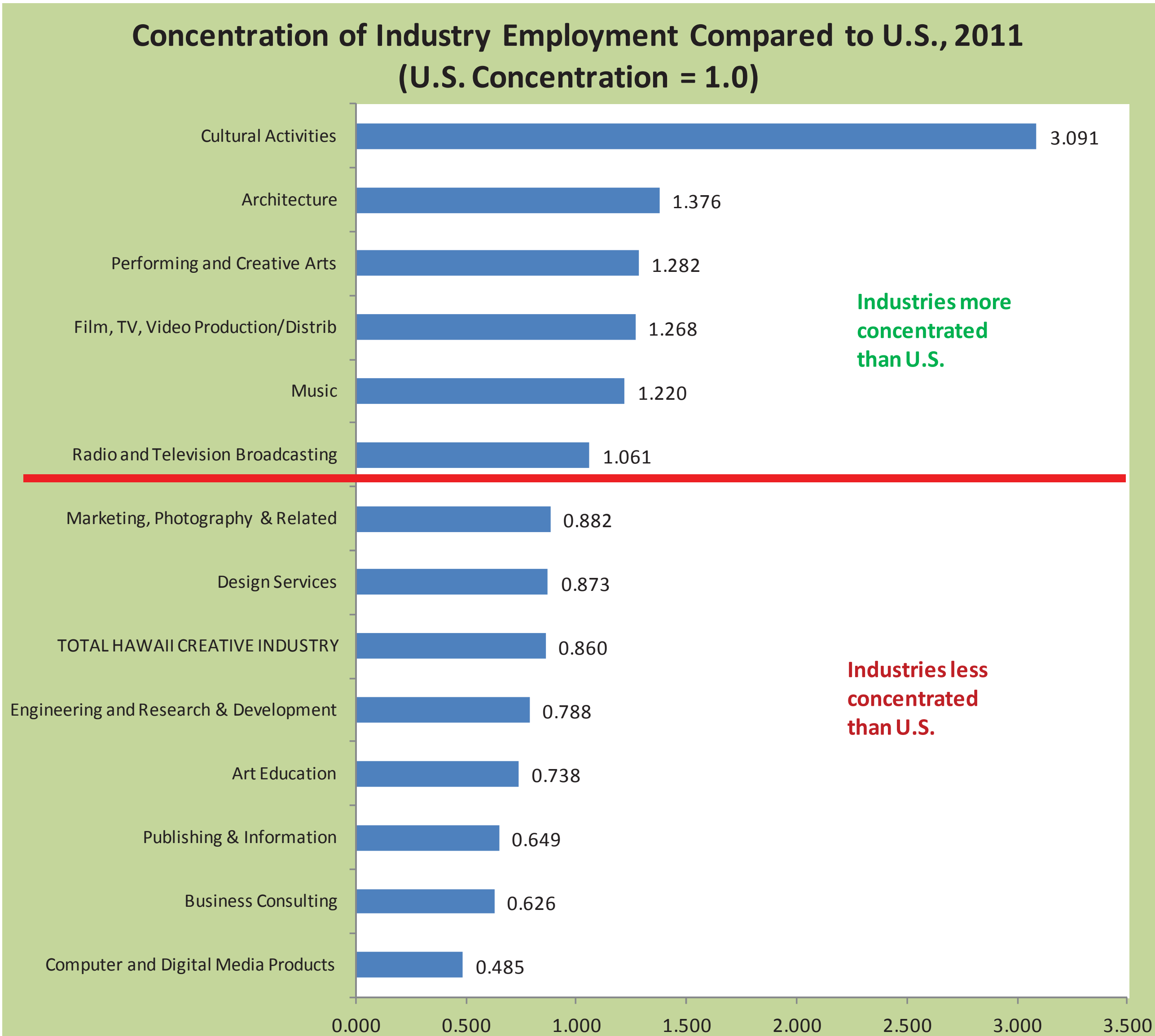
However, it is possible to identify *likely* export industries by measuring the concentration of their employment in the state's economy. An industry that employs a significantly higher proportion of jobs in Hawaii than does the same industry nationally is relatively more concentrated and is likely to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

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

For instance, the measure for cultural activities in Figure 4 means that employment in Hawaii's cultural industry group is 3.0 times more concentrated than for the U.S. as a whole. This suggests that cultural activities are relatively more important to Hawaii and that the state may be exporting a significant amount of the industry's output. On the other hand, business consulting in Hawaii with, an LQ of just 0.6, has only about half the employment concentration of the same U.S. industry group. It is possible that business consulting may be exporting some of its output. But 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, architecture, film, TV, video production/distribution, music, performing/creative arts and radio/TV broadcasting had concentrations in Hawaii's economy that were higher than the same industries nationally. These more concentrated industries are probably helping to drive Hawaii's economy. Industries that are not as concentrated in Hawaii as they are nationally may also be exporting some of their output. However, they are probably serving mainly local demand.

FIGURE 4



Source: DBEDT compilation based on EMSI data.

The 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 three performance metrics from Figures 1, 3 and 4, the creative industry groups can be placed into one of four life-cycle quadrants according to the criteria shown in Table 2.

TABLE 2. PERFORMANCE MAP CRITERIA

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

Emerging Quadrant: These are industries that are potentially in the early, take-off stage. They have been performing well by showing both job growth and an increase in their competitive share of the national industry. However, these industries have yet to achieve a concentration in the state's economy equal to the same industry nationally. An *emerging* creative industry is one that has apparently 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 likely 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 Industry Criteria: 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 2001 and 2011. Most industries that are losing jobs are also losing competitive national industry share. But while they are declining in jobs for the period, these industries are not necessarily dying industries. A number of temporary circumstances may have put some of Hawaii's creative industries into the declining quadrant for the period studied. Their appearance in the declining quadrant is a red flag that warrants more careful analysis to understand the problem.

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

III. CREATIVE INDUSTRY PORTFOLIO PERFORMANCE

Figure 5 shows how the individual, NAICS-measurable creative industry groups fell on the performance map based on the 2001 to 2011 performance measures. Combined, the NAICS-measureable creative industry groups accounted for about 47,264 jobs in Hawaii's economy during 2011.

FIGURE 5

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Overall, the creative industry groups added about 5,762 jobs to the state's economy between 2001 and 2011. This amounted to a 13.8 percent increase in jobs, well above the 10.3 percent growth in Hawaii's civilian economy as a whole for the period. Based on job growth alone, the leading performers of the overall portfolio were the film/TV production groups, business consulting, and art education. The earnings average of the creative industry portfolio of $46,625 in 2011 was lower than the statewide average of $48,474.

High Performing Creative Industry Groups

Two creative industry groups, film/TV production and cultural activities, registered as high performing base-growth industries for the 2001 to 2011 period. The film/TV production group was the top performer in job creation among all groups.

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Four of the creative sector industry groups fell into the transitioning category for the 2001 to 2011 period. These ranged from the marketing, photography, which just barely avoided the declining category, to arts education, which grew jobs by 55.2%. However, while these industry groups grew, it was not as vigorous as the same industries nationally. As a result, they lost some ground to the nation in terms of competitive industry share.

Finally, four creative industry groups that lost jobs in the 2001 to 2011 period fell into the declining quadrant of the performance map. Architecture, music, radio and TV broadcasting, information all lost jobs for the period. Broadcasting and film/TV also lost national competitive industry share (Figure 3), while architecture in Hawaii was more competitive than the nation.

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 (for example, architecture is also affected by construction industry's growth).

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.

IV. CREATIVE INDUSTRY PERFORMANCE BY COUNTY

The following tables summarize the 2001 to 2011 county performance of the statewide creative industries with 100 or more jobs (paid employment and self-employed/sole proprietors). The performance of industry groups below 100 jobs tends to be volatile and affected by statistical factors.[6] Performance has been organized by *Best Performing Targets* (registering as base-growth & emerging industry groups) and *Other Targeted Industry Performance* (those that fell into the transitioning and declining categories).

City & County of Honolulu

Honolulu accounted for 34,373 of the state's creative industry jobs in 2011, a 1.2% annual increase from 2001. The annual job growth was 2.5% from 2001 to 2007. After experiencing severe setbacks due to the national economic recession that began in late 2007, the average annual growth rate was down to negative 0.8% during 2007-2011. As shown in Table 3, four creative industry groups were high performing in Honolulu County in the 2001 to 2011 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. They included: Business Consulting, Engineering and R&D, Cultural Activities, and Film, TV, Video Production/Distrib. Six creative industry groups lost jobs in Honolulu County over the 2001 to 2011 period. They were: Architecture, Marketing, Photography & Related, Music, Publishing & Information, Radio and Television Broadcasting, and Performing and Creative Arts.

TABLE 3. Creative Industry Jobs, Honolulu

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2001	2007	2010	2011	2001-2007	2007-2011	2010-2011	2001-2011
Film, TV, Video Production/Distrib	Base-Growth	976	1,380	2,173	1,865	5.9%	7.8%	-14.2%	6.7%
Engineering and R & D	Base-Growth	3,576	4,484	4,585	4,496	3.8%	0.1%	-1.9%	2.3%
Cultural Activities	Base-Growth	1,192	1,480	1,531	2,135	3.7%	9.6%	39.5%	6.0%
Business Consulting	Base-Growth	2,176	3,331	3,833	3,997	7.4%	4.7%	4.3%	6.3%
Design Services	Transitioning	1,068	1,408	1,282	1,227	4.7%	-3.4%	-4.3%	1.4%
Art Education	Transitioning	357	470	451	540	4.7%	3.5%	19.7%	4.2%
Computer and Digital Media Prod.	Transitioning	3,227	4,136	4,019	3,829	4.2%	-1.9%	-4.7%	1.7%
Publishing & Information	Declining	2,406	2,433	1,688	1,638	0.2%	-9.4%	-3.0%	-3.8%
Music	Declining	782	564	440	441	-5.3%	-6.0%	0.2%	-5.6%
Marketing, Photography & Related	Declining	7,151	7,519	7,251	6,924	0.8%	-2.0%	-4.5%	-0.3%
Radio and Television Broadcasting	Declining	1,245	1,131	952	1,032	-1.6%	-2.3%	8.4%	-1.9%
Architecture	Declining	1,598	1,794	1,567	1,492	1.9%	-4.5%	-4.8%	-0.7%
Performing and Creative Arts	Declining	4,797	5,327	5,009	4,764	1.8%	-2.8%	-4.9%	-0.1%
CREATIVE INDUSTRY, Total	Transitioning	30,562	35,454	34,788	34,373	2.5%	-0.8%	-1.2%	1.2%

Source: DBEDT compilation based on EMSI data.

[6] Such as a single firm changing its NAICS reporting category.

The comparisons of Honolulu County creative industry's job and earnings growth with the state and nation are listed in Table 4. For job growth, Honolulu County's 1.2% annual growth rate was lower than the state's 1.3%, and also the national average of 1.8%. For average earnings, Honolulu County was higher than the state, but much lower than the national average.

TABLE 4. Honolulu County Creative Industry Performance Compared with Nation and State, 2001-2011

Industry Group	Performance Class	Job Change 2001-2011	Average Annual Job Growth (%)			Ave. Annual Earnings (2011)		
			County	State	U.S.	County	State	U.S.
Film, TV, Video Production/Distrib	Base-Growth	889	6.7%	6.3%	0.1%	49,205	53,974	92,941
Engineering and R & D	Base-Growth	920	2.3%	2.3%	1.3%	91,504	89,317	98,022
Cultural Activities	Base-Growth	943	6.0%	5.4%	1.6%	44,551	43,127	45,574
Business Consulting	Base-Growth	1,821	6.3%	5.9%	5.0%	58,069	52,744	72,221
Design Services	Transitioning	159	1.4%	1.9%	2.3%	23,348	23,189	36,087
Art Education	Transitioning	183	4.2%	4.5%	5.2%	12,270	13,128	10,117
Computer and Digital Media Prod.	Transitioning	602	1.7%	1.9%	1.8%	76,380	72,937	101,960
Publishing & Information	Declining	-768	-3.8%	-2.8%	-1.6%	58,033	52,852	70,272
Music	Declining	-341	-5.6%	-0.9%	0.5%	26,840	26,503	38,861
Marketing, Photography & Related	Declining	-227	-0.3%	0.2%	1.9%	34,232	31,045	46,355
Radio and Television Broadcasting	Declining	-213	-1.9%	-1.7%	-1.0%	59,014	55,101	71,754
Architecture	Declining	-106	-0.7%	-0.4%	-0.9%	78,277	71,100	63,372
Performing and Creative Arts	Declining	-33	-0.1%	0.2%	2.0%	22,099	20,507	24,809
CREATIVE INDUSTRY, Total	Transitioning	3,811	1.2%	1.3%	1.8%	51,923	46,625	66,436

Source: DBEDT compilation based on EMSI data.

Hawaii County

Hawaii County accounted for 4,862 of the state's creative industry jobs in 2011, a 2.7% annual increase from 2001. The annual job growth was 4.5% from 2001 to 2007, but it has declined from the 2007 level for the last 4 years since the national economic recession started. As shown in Table 5, nine creative industry groups were high performing in Hawaii County in the 2001 to 2011 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. They included: Architecture, Art Education, Business Consulting, Computer and Digital Media Prod., Design Services, Marketing, Photography & Related, Publishing & Information, Film, TV, Video Production/Distrib., and Music. Only one creative industry group lost jobs in Hawaii County over the 2001 to 2011 period. That was Radio and Television Broadcasting.

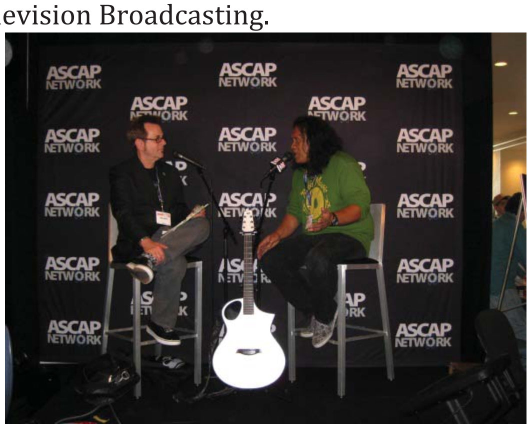

TABLE 5. Creative Industry Jobs, Hawaii County

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2001	2007	2010	2011	2001-2007	2007-2011	2010-2011	2001-2011
Architecture	Emerging	114	156	150	146	5.4%	-1.6%	-2.7%	2.5%
Art Education	Emerging	24	49	48	52	12.6%	1.5%	8.3%	8.0%
Computer and Digital Media Prod.	Emerging	178	241	221	218	5.2%	-2.5%	-1.4%	2.0%
Film, TV, Video Production/Distrib	Emerging	51	89	255	187	9.7%	20.4%	-26.7%	13.9%
Marketing, Photography & Related	Emerging	894	1,128	1,123	1,108	4.0%	-0.4%	-1.3%	2.2%
Design Services	Base-Growth	177	282	258	253	8.1%	-2.7%	-1.9%	3.6%
Music	Base-Growth	110	166	152	140	7.1%	-4.2%	-7.9%	2.4%
Performing and Creative Arts	Base-Growth	1,087	1,233	1,337	1,260	2.1%	0.5%	-5.8%	1.5%
Publishing & Information	Base-Growth	222	302	300	307	5.3%	0.4%	2.3%	3.3%
Business Consulting	Transitioning	281	476	482	497	9.2%	1.1%	3.1%	5.9%
Cultural Activities	Transitioning	99	118	108	110	3.0%	-1.7%	1.9%	1.1%
Engineering and R & D	Transitioning	469	551	548	537	2.7%	-0.6%	-2.0%	1.4%
Radio and Television Broadcasting	Declining	70	86	53	44	3.5%	-15.4%	-17.0%	-4.5%
CREATIVE INDUSTRY, Total	Emerging	3,725	4,862	5,021	4,840	4.5%	-0.1%	-3.6%	2.7%

Source: DBEDT compilation based on EMSI data.

The comparisons of Hawaii County creative industry's job and earnings growth with the state and nation are listed in Table 6. For job growth, Hawaii County's 2.7% annual growth rate was much higher than the state's 1.3% and the national average of 1.8%. For average earnings, Hawaii County was lower than the state, and much lower than the national average.

TABLE 6. Hawaii County Creative Industry Performance Compared with Nation and State, 2001-2011

Industry Group	Performance Class	Job Change 2001-2011	Average Annual Job Growth (%)			Ave. Annual Earnings (2011)		
			County	State	U.S.	County	State	U.S.
Architecture	Emerging	32	2.5%	-0.4%	-0.9%	50,745	71,100	63,372
Art Education	Emerging	28	8.0%	4.5%	5.2%	13,623	13,128	10,117
Computer and Digital Media Prod.	Emerging	40	2.0%	1.9%	1.8%	43,470	72,937	101,960
Film, TV, Video Production/Distrib	Emerging	136	13.9%	6.3%	0.1%	109,504	53,974	92,941
Marketing, Photography & Related	Emerging	214	2.2%	0.2%	1.9%	21,855	31,045	46,355
Design Services	Base-Growth	76	3.6%	1.9%	2.3%	19,980	23,189	36,087
Music	Base-Growth	30	2.4%	-0.9%	0.5%	14,243	26,503	38,861
Performing and Creative Arts	Base-Growth	173	1.5%	0.2%	2.0%	16,959	20,507	24,809
Publishing & Information	Base-Growth	85	3.3%	-2.8%	-1.6%	35,864	52,852	70,272
Business Consulting	Transitioning	216	5.9%	5.9%	5.0%	32,828	52,744	72,221
Cultural Activities	Transitioning	11	1.1%	5.4%	1.6%	23,647	43,127	45,574
Engineering and R & D	Transitioning	68	1.4%	2.3%	1.3%	80,112	89,317	98,022
Radio and Television Broadcasting	Declining	-26	-4.5%	-1.7%	-1.0%	16,539	55,101	71,754
CREATIVE INDUSTRY, Total	Emerging	1,115	2.7%	1.3%	1.8%	33,899	46,625	66,436

Source: DBEDT compilation based on EMSI data.

Maui County

Maui County accounted for 6,699 of the state's creative industry jobs in 2011, a 1.0% annual increase from 2001. The annual job growth was 4.3% from 2001 to 2007. After experiencing severe setbacks due to the national economic recession that began in late 2007, the average annual growth rate was down to negative 3.9% during 2007-2011. As shown in Table 7, six creative industry groups were high performing in Maui County in the 2001 to 2011 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. They included: Computer and Digital Media Prod., Marketing, Photography & Related, Radio and Television Broadcasting, Design Services, Engineering and R&D, and Music. Four creative industry groups lost jobs in Maui County over the 2001 to 2011 period. They were: Architecture, Film, TV, Video Production/Distrib., Performing and Creative Arts, and Publishing & Information.

TABLE 7. Creative Industry Jobs, Maui County

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2001	2007	2010	2011	2001-2007	2007-2011	2010-2011	2001-2011
Architecture	Emerging	185	222	183	182	3.1%	-4.8%	-0.5%	-0.2%
Computer and Digital Media Prod.	Emerging	228	242	311	320	1.0%	7.2%	2.9%	3.4%
Radio and Television Broadcasting	Emerging	110	108	123	117	-0.3%	2.0%	-4.9%	0.6%
Design Services	Base-Growth	208	289	277	267	5.6%	-2.0%	-3.6%	2.5%
Marketing, Photography & Related	Base-Growth	1,212	1,377	1,344	1,327	2.2%	-0.9%	-1.3%	0.9%
Music	Base-Growth	84	423	329	295	30.9%	-8.6%	-10.3%	13.4%
Art Education	Transitioning	53	94	70	74	10.0%	-5.8%	5.7%	3.4%
Business Consulting	Transitioning	280	379	369	376	5.2%	-0.2%	1.9%	3.0%
Cultural Activities	Transitioning	58	36	66	69	-7.6%	17.7%	4.5%	1.8%
Engineering and R & D	Transitioning	328	453	372	378	5.5%	-4.4%	1.6%	1.4%
Film, TV, Video Production/Distrib	Declining	70	76	56	47	1.4%	-11.3%	-16.1%	-3.9%
Publishing & Information	Declining	335	352	281	267	0.8%	-6.7%	-5.0%	-2.2%
Performing and Creative Arts	Declining	2,073	2,664	2,196	2,005	4.3%	-6.9%	-8.7%	-0.3%
CREATIVE INDUSTRY, Total	Transitioning	5,192	6,699	5,963	5,710	4.3%	-3.9%	-4.2%	1.0%

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 8. For job growth, Maui County's 1.0% annual growth rate was lower than the state's 1.3% 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 8. Maui County Creative Industry Performance Compared with Nation and State, 2001-2011

Industry Group	Performance Class	Job Change 2001-2011	Average Annual Job Growth (%)			Ave. Annual Earnings (2011)		
			County	State	U.S.	County	State	U.S.
Architecture	Emerging	-3	-0.2%	-0.4%	-0.9%	44,028	71,100	63,372
Computer and Digital Media Prod.	Emerging	92	3.4%	1.9%	1.8%	62,027	72,937	101,960
Radio and Television Broadcasting	Emerging	7	0.6%	-1.7%	-1.0%	39,363	55,101	71,754
Design Services	Base-Growth	59	2.5%	1.9%	2.3%	27,400	23,189	36,087
Marketing, Photography & Related	Base-Growth	115	0.9%	0.2%	1.9%	23,907	31,045	46,355
Music	Base-Growth	211	13.4%	-0.9%	0.5%	33,338	26,503	38,861
Art Education	Transitioning	21	3.4%	4.5%	5.2%	18,092	13,128	10,117
Business Consulting	Transitioning	96	3.0%	5.9%	5.0%	30,447	52,744	72,221
Cultural Activities	Transitioning	11	1.8%	5.4%	1.6%	51,007	43,127	45,574
Engineering and R & D	Transitioning	50	1.4%	2.3%	1.3%	76,139	89,317	98,022
Film, TV, Video Production/Distrib	Declining	-23	-3.9%	6.3%	0.1%	27,145	53,974	92,941
Publishing & Information	Declining	-68	-2.2%	-2.8%	-1.6%	48,183	52,852	70,272
Performing and Creative Arts	Declining	-68	-0.3%	0.2%	2.0%	19,444	20,507	24,809
CREATIVE INDUSTRY, Total	Transitioning	518	1.0%	1.3%	1.8%	31,463	46,625	66,436

Source: DBEDT compilation based on EMSI data.

Kauai County

Kauai County accounted for 2,315 of the state's creative industry jobs in 2011, a 1.6% annual increase from 2001. The annual job growth was 3.0% from 2001 to 2007. After experiencing setbacks due to the national economic recession that began in late 2007, the average annual growth rate was down to negative 0.4% during 2007-2011. As shown in Table 9, eight creative industry groups were high performing in Kauai County in the 2001 to 2011 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. They included: Art Education, Computer and Digital Media Prod., Design Services, Marketing, Photography & Related, Engineering and R&D, Architecture, Performing and Creative Arts, and Music. Four creative industry groups lost jobs in Kauai County over the 2001 to 2011 period. They were: Cultural Activities, Film, TV, Video Production/Distrib, Publishing & Information, and Radio and Television Broadcasting.

TABLE 9. Creative Industry Jobs, Kauai County

Industry Group	Performance Class	Jobs				Average Annual Job Growth (%)			
		2001	2007	2010	2011	2001-2007	2007-2011	2010-2011	2001-2011
Architecture	Emerging	72	118	83	73	8.6%	-11.3%	-12.0%	0.1%
Computer and Digital Media Prod.	Emerging	96	146	163	160	7.2%	2.3%	-1.8%	5.2%
Engineering and R & D	Emerging	71	181	163	163	16.9%	-2.6%	0.0%	8.7%
Art Education	Base-Growth	20	24	33	38	3.1%	12.2%	15.2%	6.6%
Design Services	Base-Growth	86	127	118	109	6.7%	-3.7%	-7.6%	2.4%
Marketing, Photography & Related	Base-Growth	527	602	627	618	2.2%	0.7%	-1.4%	1.6%
Music	Base-Growth	46	35	62	58	-4.5%	13.5%	-6.5%	2.3%
Performing and Creative Arts	Base-Growth	611	686	695	663	1.9%	-0.8%	-4.6%	0.8%
Business Consulting	Transitioning	99	149	141	146	7.1%	-0.5%	3.5%	4.0%
Cultural Activities	Declining	71	56	65	69	-3.9%	5.4%	6.2%	-0.3%
Film, TV, Video Production/Distrib	Declining	99	69	67	69	-5.8%	0.0%	3.0%	-3.5%
Publishing & Information	Declining	149	114	117	117	-4.4%	0.7%	0.0%	-2.4%
Radio and Television Broadcasting	Declining	48	66	43	44	5.5%	-9.6%	2.3%	-0.9%
CREATIVE INDUSTRY, Total	Emerging	1,941	2,315	2,321	2,276	3.0%	-0.4%	-1.9%	1.6%

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 10. For job growth, Kauai County's 1.6 annual growth rate was higher than the state's 1.3% but 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 10. Kauai County Creative Industry Performance Compared with Nation and State, 2001-2011

Industry Group	Performance Class	Job Change 2001-2011	Average Annual Job Growth (%)			Ave. Annual Earnings (2011)		
			County	State	U.S.	County	State	U.S.
Architecture	Emerging	1	0.1%	-0.4%	-0.9%	32,371	71,100	63,372
Computer and Digital Media Prod.	Emerging	64	5.2%	1.9%	1.8%	49,712	72,937	101,960
Engineering and R & D	Emerging	92	8.7%	2.3%	1.3%	79,104	89,317	98,022
Art Education	Base-Growth	18	6.6%	4.5%	5.2%	15,038	13,128	10,117
Design Services	Base-Growth	23	2.4%	1.9%	2.3%	18,160	23,189	36,087
Marketing, Photography & Related	Base-Growth	91	1.6%	0.2%	1.9%	26,119	31,045	46,355
Music	Base-Growth	12	2.3%	-0.9%	0.5%	9,142	26,503	38,861
Performing and Creative Arts	Base-Growth	52	0.8%	0.2%	2.0%	16,512	20,507	24,809
Business Consulting	Transitioning	47	4.0%	5.9%	5.0%	31,537	52,744	72,221
Cultural Activities	Declining	-2	-0.3%	5.4%	1.6%	19,132	43,127	45,574
Film, TV, Video Production/Distrib	Declining	-30	-3.5%	6.3%	0.1%	43,220	53,974	92,941
Publishing & Information	Declining	-32	-2.4%	-2.8%	-1.6%	30,864	52,852	70,272
Radio and Television Broadcasting	Declining	-4	-0.9%	-1.7%	-1.0%	40,650	55,101	71,754
CREATIVE INDUSTRY, Total	Emerging	335	1.6%	1.3%	1.8%	29,330	46,625	66,436

Source: DBEDT compilation based on EMSI data.

V. CREATIVE INDUSTRY PERFORMANCE BY MAJOR GROUPS

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

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

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

Table 11 shows the major industry groups of the redefined creative sector and their primary performance metrics.

TABLE 11. EMPLOYMENT AND GROWTH IN HAWAII'S CREATIVE INDUSTRY

Group & Industry	Hawaii Jobs		Ave. Job Growth Rate, 2001-2011		Annual Earnings, 2011		Performance Metrics		
	2001	2,011	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2001-2011	Location Quotient (LQ), 2011	Change in LQ, 2001-2011
TOTAL HAWAII CREATIVE INDUSTRY	**41,522**	**47,264**	**1.3%**	**1.8%**	**46,625**	**66,436**	**0.5%**	**0.86**	**-0.07**
Marketing, Photography & Related	9,812	9,961	0.2%	1.9%	31,045	46,355	-1.9%	0.88	-0.21
Performing and Creative Arts	8,557	8,690	0.2%	2.0%	20,507	24,809	-2.0%	1.28	-0.31
Engineering and Research & Development	4,460	5,585	2.3%	1.3%	89,317	98,022	1.1%	0.79	0.04
Business Consulting	2,846	5,037	5.9%	5.0%	52,744	72,221	1.4%	0.63	0.03
Computer and Digital Media Products	3,751	4,539	1.9%	1.8%	72,937	101,960	0.1%	0.48	-0.01
Cultural Activities	1,404	2,381	5.4%	1.6%	43,127	45,574	5.2%	3.09	0.87
Publishing & Information	3,089	2,329	-2.8%	-1.6%	52,852	70,272	-1.0%	0.65	-0.11
Film, TV, Video Production/Distrib	1,160	2,145	6.3%	0.1%	53,974	92,941	8.3%	1.27	0.55
Architecture	1,970	1,893	-0.4%	-0.9%	71,100	63,372	0.5%	1.38	0.02
Design Services	1,529	1,842	1.9%	2.3%	23,189	36,087	-0.5%	0.87	-0.07
Radio and Television Broadcasting	1,472	1,236	-1.7%	-1.0%	55,101	71,754	-0.6%	1.06	-0.12
Music	1,007	922	-0.9%	0.5%	26,503	38,861	-1.4%	1.22	-0.24
Art Education	453	703	4.5%	5.2%	13,128	10,117	-1.1%	0.74	-0.08

Source: DBEDT compilation based on EMSI data.

As discussed in Section III, the creative sector includes about 47,264 jobs in 13 industry groups. The annual earnings average for the sector was $46,625 in 2011. Most of the 13 industry groups are composed of several smaller industries that are shown in more detail in the following subsections.

Performing and Creative Arts

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

Performing and creative arts is the largest single industry group in the creative sector with about 8,690 employees and self employed in 2011. Declines in jobs were centered among agents and managers, art dealers and theater groups. Gains in jobs over the period were made in dance companies, promoters and independent artists, writers and performers. The earnings average for workers in the performing and creative arts group was only $20,507 in 2011. Since many of the jobs in this group are part time, the average earnings do not represent a full-time labor force.

The performing and creative arts group is very concentrated in Hawaii, with about 30% more jobs proportionately than for the industry nationally. This probably reflects the interdependence between Hawaii's rich artistic and cultural resources and the tourism sector. That interdependence probably also explains part of the under-performance of the industry group in the last several years during which the tourism cycle peaked and began to decline. Beyond tourism, this sector also provides a channel for the input of artistic creativity to a range of other innovation activity, including film, various forms of digital media, architecture and applied design.

Engineering/Scientific Research and Development

One of the leading components of Hawaii's creative sector is engineering and scientific research and development, with about 5,585 jobs. 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.

As in the technology sector, engineering/R&D as a creative group performed very well over the 2001 to 2011 period. Jobs increased by nearly 2.3% annually and the group gained in competitive national market share. The only lagging activity in the industry group was social science and humanities research, in which jobs declined. The average annual earnings of this group was $89,317, 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 12 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 12. COMPUTER AND DIGITAL MEDIA INDUSTRY GROUP EMPLOYMENT

Group & Industry	Hawaii Jobs		Ave. Job Growth Rate, 2001-2011		Annual Earnings, 2011		Performance Metrics		
	2001	2011	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2001-2011	Location Quotient (LQ), 2011	Change in LQ, 2001-2011
Computer and Digital Media Products	3,751	4,539	1.9%	1.8%	72,937	101,960	1.1%	0.48	-0.01
Software Publishers	396	120	-11.3%	-0.2%	77,462	139,221	-68.0%	0.08	-0.20
Custom Computer Programming Services	1,779	1,668	-0.6%	1.5%	76,803	95,767	-22.5%	0.40	-0.11
Computer Systems Design Services	1,576	2,751	5.7%	3.0%	70,396	95,517	40.8%	0.64	0.13

Source: DBEDT compilation based on EMSI data.

As a whole, the sector job grew 1.9% annually over the 2001 to 2011 period. Overall, the group gained slightly in terms of competitive national market share. However, declines in computer programming, and software publishing jobs were the main reason for the overall underperformance. Both other computer related and systems design showed exceptional strength in job growth throughout the period and increased in competitive share.

The average earnings in the sector were relatively high, at $72,937 in 2011. The lowest paying activity, computer system design, averaged $70,396, while the highest, software publishers, averaged $77,462.

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 13.

TABLE 13.

Examples of Digital Media Products	
Video games and interactive virtual worlds	Blogs and social websites
Multimedia CD-ROM publishing	Email and attachments
Digital music publishing and distribution	Podcasting New media
Mobile devices and content	Internet Art
Software for the various devices and content	Interactive television
Web sites including 'brochureware'	Hypertext fiction
Electronic books	Mashups (combining bits and pieces of existing digital content into original content.)

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 and Related Activities

Marketing and related activities in Hawaii play an important role in bringing Hawaii's goods and services to the attention of national and international markets. Marketing, advertising, public relations and media specialists account for most of this sector's workforce of about 9,961. This represented about a 0.2% annual increase from 2001 and compares to a 1.9% annual increase in the national workforce of this industry group. Jobs in some areas such as public relations firms, display advertising, and media specialists grew faster than their national counterparts and faster than Hawaii's economy as a whole. However, losses of jobs in advertising, (especially direct mail) marketing research/polling and commercial photography brought the overall growth rate down.

The slower growth for Hawaii's marketing and related activities compared with the same activities nationally resulted in a decline in overall competitive national industry share. However, thanks to their higher growth, public relations, media specialists and display advertising showed gains in national industry share.

The annual earnings average for the industry group was $31,045, below the state average. Earnings ranged from an average $55,589 in public relations to $19,547 in the other service related advertising.

The marketing and related activities group is a very competitive business from both a creative and business development perspective. Since geography is less of an advantage in these activities, Hawaii companies in the marketing and related group must continuously show that their creativity and knowledge of the Hawaii 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 2001 to 2011 period with 5,037 jobs in 2011, up 5.9% annually from 2001. This was more than twice the growth rate of Hawaii's overall job count and exceeded the growth rate for business consulting nationally.

Management and environmental consulting are the two largest components of the business consulting industry group, accounting for about two-thirds of the group's jobs. Management consulting was one of the fastest growing activities in the group, with job growth of nearly 7.3% for the period. Technical consulting services grew 8.4% annually in jobs over the period, while process and logistical consulting showed slight decline in its workforce over the period. The reason for this decline is not clear and it is possible that the decline may have resulted from some companies changing their NAICS classification over the period to another consulting specialty.

The annual earnings average for business consulting was $52,744. This ranged from $58,357 among management consulting to $37,236 for logistics consulting.

Publishing and Information

As a whole, publishing and information showed a 2.8% annual decline in jobs from 2001 to 2011, below the national level. The industry group is dominated by newspaper publishing, which accounted for one-half of the industry group's jobs in 2011. Newspaper publishing showed a 5.6% annual decline in jobs over the period, and this was below the 4.4% annual decline nationally. The rise of the internet as a source of information is certainly a major factor in the decline of traditional publishing. In Hawaii, internet publishing and broadcasting increased jobs by 13.8% annually from 2001 to 2011, with 255 employees in 2011.

The annual earnings average for publishing and information in Hawaii was $52,852 in 2011. This ranged from $72,424 for directory and mailing list publishing firms, to $24,550 for jobs among news syndicates. The newspaper publishing earnings average was $63,242 in 2011, while the average for internet broadcasting was $39,701.

Cultural Activities

The cultural activities industry group accounted for 2,381 jobs in 2011 and included museums, historical sites, zoos, botanical gardens and grant making foundations. As a group, cultural activities registered a 5.4% annual increase in jobs over the 2001 to 2011 period, better than the state's economy as a whole and the same set of activities nationally. As a result the cultural industry group gained some competitive national industry share. The annual earnings average for the cultural activities group was $43,127 in 2011. This ranged from $24,196 for historical sites, to $79,674 for grant making establishments.


The Hawaii State Art Museum

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 Hawaii 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 alternate energy sources in Hawaii's residential and commercial structures.

Architecture employed an estimate 1,893 people in 2011, a 0.4% annual decline from 2001. This is below the average growth for the state's workforce as a whole , but better than the growth rate for the architecture industry nationally. Most of the industry group's jobs were among structural architectural services, while the remainder of the jobs was in landscape architecture. Landscape architecture registered a 1.1% annual job growth in the 2001 to 2011.

The annual earnings average in architecture was $71,100 in 2011 with structural architecture at $75,501 and landscape architecture averaging $52,571; both activities were better than the statewide earnings average.

Design Services

Design Services employed about 1,894 people in 2011. About two-third of these jobs were among graphic design firms, while another one-third were in interior design. Overall, jobs grew by 1.9% annually in the design industry group. Interior design jobs grew 3.8% while graphic design jobs grew 2.2%.

The annual earnings average for the design group was $23,189 in 2011. Graphic design had the lowest average at $20,292, followed by industrial design at $22,484, and interior design at an average of $27,002.

Radio & TV Broadcasting

Like publishing, broadcasting has been impacted by the rise of the internet as an information and entertainment alternative. Radio and TV broadcasting shrank by 1.7% annually to about 1,236 jobs over the 2001 to 2011 period. Nationally, the industry group did only marginally better, managing a 1.0% annual decline in jobs. Television broadcasting lost nearly 1.6% of its workforce annually over the period to just 583 jobs in 2011. Radio stations stayed about the same over the period with about 543 jobs. Radio networks, the only other activity in the industry group also stayed the same at just under 110 jobs. The annual earnings average for broadcasting was about $55,101 in 2011. This ranged from $73,154 for radio networks, to $36,449 for radio stations.

Film, TV, and Video Production

Film and television production in Hawaii has been an important contributor to both jobs and income in the state, as well as to the visitor industry through the worldwide exposure these productions have enjoyed. As Table 14 shows, the film industry generated $394 million in Hawaii-based production expenditures for 2010 by preliminary estimate. This was a big jump from the previous years. Now, more than ever before, filmmakers from Hollywood and around the world are discovering Hawai`i is an exciting place for film, television, commercial, and digital media production.

The industry is growing, thanks to some new and globally competitive state tax incentives. These incentives have already lured a wave of major feature films to the Islands in 2007, including Disney's "Pirates of the Caribbean: At World's End," Universal's "Forgetting Sarah Marshall" and DreamWorks' "Tropic Thunder." Producers for the "Indiana Jones" movies returned to shoot another sequel Paramount's fourth installment of the successful franchise, "Indiana Jones and the Kingdom of the Crystal Skull." Hawai`i now ranks among the top ten film destinations in the United States.

For decades, Hawaii's natural beauty has been the backdrop for popular films such as "From Here to Eternity," "South Pacific" and "Jurassic Park." Millions have also been captivated by iconic television shows like the original "Hawaii Five-O" and "Magnum P.I.," and more recently, the hit drama "Lost," and the fresh retake of "Hawaii Five-O", all of which were shot entirely in the Islands.

TABLE 14. Hawaii Film, TV and Video Production Employment and Expenditures, 2002-2011

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Employment	1,500	1,188	1,635	1,605	1,352	3,013	1,875	1,933	4,194	1,946
Expenditures (million$)	147	84	164	117	107	224	168	173	384	184

Sources: Expenditures; Hawaii Film Office. Employment; DBEDT Research & Economic Analysis Division.

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, those data do not differentiate film/TV project jobs from other activity. (Many jobs may be short in duration as some projects require only a few weeks of production in the islands. Based on shoot days and number of reported hires the Creative Industries Division estimates full-time equivalent production jobs in 2011 at 2,559). Jobs recorded for the industry in the NAICS-based statistics are shown in Table 15.

TABLE 15. FILM & TV PRODUCTION INDUSTRY PERFORMANCE, 2001 TO 2011

Group & Industry	Hawaii Jobs		Ave. Job Growth Rate, 2001-2011		Annual Earnings, 2011		Performance Metrics		
	2001	2011	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2001-2011	Location Quotient (LQ), 2011	Change in LQ, 2001-2011
Film, TV, Video Production/Distrib	1,160	2,145	6.3%	0.1%	53,974	92,941	83.4%	1.27	0.55
Prerecorded Compact Disc (except Software), Tape, and Record Reproducing	5	15	11.6%	-7.9%	11,535	60,432	256.2%	0.25	0.00
Motion Picture and Video Production	1,043	1,936	6.4%	1.8%	54,055	91,282	65.9%	1.64	0.55
Motion Picture and Video Distribution	38	18	-7.2%	-4.6%	40,172	115,600	-15.2%	0.47	-0.17
Teleproduction and Other Postproduction Services	35	76	8.1%	0.2%	58,361	92,638	114.9%	0.69	0.36
Cable and Other Subscription Programming	39	100	9.9%	-1.6%	57,923	100,532	171.4%	0.25	0.16

Source: DBEDT compilation based on EMSI data.

These represent jobs among Hawaii companies and enterprises involved in the direct production of Hawaii film and TV products. Direct film and TV production activity involved about 2,145 jobs in 2011, enjoyed a 6.3% annual growth from 2001. Some gains were made over the period in the development of programming for cable and subscription distribution and in teleproductions and post production services. Nationally, this group of industries showed only a 0.1% annual increase in jobs over the period, with motion picture and TV production showing a 1.8% gain.

However, volatility in year to year film production employment is a major factor clouding the long term trend. The combination of limited data and exceptional volatility from year to year make this a very difficult industry to assess over a short period of time.

Music

Students at the University of Hawaii MELE program learn the art of sound recording and production.

Hawaii has always had a unique music arts culture based on Hawaiian heritage, but it has expanded to embrace trends in music worldwide. The range of talented musicians in Hawaii has been an important attraction for visitors as well as a staple of the island's culture. Until the digital age, the problem of taking Hawaii's unique music to the world at large had been the difficulties of breaking into a national recording industry that was mainstream-oriented and the high investment cost of producing and distributing recorded music without the backing of major music labels. The dynamics changed with the digital age, which has made production of high quality recording 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 922 employed and self-employed workers in Hawaii's music industry in 2011, most of them performers. As Table 16 shows, employment in Hawaii's music industry showed modest decline over the 2001 to 2011 period, shrank by 0.9% annually. By contrast, jobs in this industry group nationally grew by 0.5%.

TABLE 16. EMPLOYMENT IN MUSIC INDUSTRY GROUP

Group & Industry	Hawaii Jobs		Ave. Job Growth Rate, 2001-2011		Annual Earnings, 2011		Performance Metrics		
	2001	2011	Hawaii	U.S.	Hawaii	U.S.	Competitive Share 2001-2011	Location Quotient (LQ), 2011	Change in LQ, 2001-2011
Music	1,007	922	-0.9%	0.5%	26,503	38,861	-14.0%	1.22	-0.24
Musical Instrument and Supplies Stores	166	148	-1.1%	-1.1%	33,998	30,581	-0.8%	0.72	-0.03
Record Production	5	26	17.9%	-1.0%	20,865	60,505	430.0%	1.55	0.00
Integrated Record Production/Distributio	37	5	-18.1%	-3.4%	26,284	101,993	-57.5%	0.00	0.00
Music Publishers	5	0	-100.0%	0.4%	0	65,827	-103.9%	0.00	0.00
Sound Recording Studios	32	53	5.2%	-1.2%	15,521	31,495	76.6%	0.72	0.33
Other Sound Recording Industries	5	15	11.6%	-4.3%	8,481	52,792	235.7%	0.68	0.00
Musical Groups and Artists	757	675	-1.1%	2.7%	26,341	36,613	-41.1%	1.61	-0.82

Source: DBEDT compilation based on EMSI data.

The centerpiece of this industry group — musical groups and artists — declined by about 1.3%. Sound recording studios showed some increase, although the small size of the activity means that changes in that industry difficult to interpret. Retail activity devoted to musical instruments and supplies showed a small decline in jobs.

Annual earnings in the music industry reflect generally part-time professions. The average for the industry group as a whole was $26,503 in 2011. Earnings for the same industry groups nationally were higher than in Hawaii, but generally below the average for the economy, except for record production, and music publishers.

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 more than 40 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 nearly 703 in 2011, up about 4.5% annually from 2001. These activities grew faster (5.2%) at the national level for the period. Average annual earnings amounted to only $13,128 for Hawaii in 2011 and just $10,117 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.

VI. CONCLUSIONS AND NEXT STEPS

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

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

Six industry groups ranked as emerging and base-growth activities in the creative sector, including: film/TV production, cultural activities, design services, business consulting, computer & digital media, and engineering/R&D activity.

Three other industry groups ranked as transitioning, meaning that while they have been growing jobs, there could be performance issues that are affecting the competitiveness of the activities. These groups were: art education, marketing, and performing/creative arts.

Finally, four industry groups lost jobs over the 2001-2011 period and consequently fell into the declining quadrant for this time period. These were broadcasting, publishing/ information, music, and architecture. 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.

Work should continue to flesh out 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 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 utilizes and supports emerging technology can help clarify the skill sets and educational elements that will help make Hawaii a leader in innovation.

DBEDT Research is currently compiling information on the occupations and skill sets of Hawaii's targeted industry portfolio including the creative sector. This should help better identify opportunities and barriers for growth among the industries that are related to workforce training.

APPENDIX: DETAILED INDUSTRY DATA

NAICS Code	Group & Industry	Hawaii Jobs and Earnings				Performance Metrics			US Comparable	
		2001	2011	Ave. Job Growth Rate, 01-11	Annual Earnings, 2011	Compet. Share 01-11	Location Quotient (LQ)	Change in LQ, 01-11	Ave. Job Growth Rate, 01-11	Annual Earnings, 2011
	TOTAL HAWAII CREATIVE INDUSTRY	41,522	47,264	1.3%	46,625	0.05	0.86	-0.07	1.8%	66,436
	Architecture	1,970	1,893	-0.4%	71,100	-0.05	1.38	0.02	-0.9%	63,372
541310	Architectural Services	1,660	1,536	-0.8%	75,406	0.04	1.45	0.02	-1.2%	72,142
541320	Landscape Architectural Services	310	357	1.4%	52,571	0.16	0.91	0.10	-0.1%	39,696
	Art Education	453	703	4.5%	13,128	-0.11	0.74	-0.08	5.2%	10,117
611610	Fine Arts Schools (Private)	453	703	4.5%	13,128	-0.11	0.70	-0.07	5.2%	10,117
	Business Consulting	2,846	5,037	5.9%	52,744	0.14	0.63	0.03	5.0%	72,221
541611	Administrative Management and General Managemer	1,229	2,484	7.3%	54,335	0.31	0.59	0.07	5.5%	76,833
541612	Human Resources Consulting Services	230	423	6.3%	56,588	0.98	0.76	0.39	-1.6%	76,224
541614	Process, Physical Distribution, and Logistics Consultin	280	251	-1.1%	37,236	-0.64	0.37	-0.29	4.4%	68,088
541618	Other Management Consulting Services	88	240	10.6%	58,357	1.59	0.34	0.19	1.3%	77,274
541620	Environmental Consulting Services	625	760	2.0%	57,654	-0.23	1.11	-0.25	3.8%	61,007
541690	Other Scientific and Technical Consulting Services	394	879	8.4%	45,047	-0.63	0.52	-0.17	11.1%	63,536
	Computer and Digital Media Products	3,751	4,539	1.9%	72,937	0.01	0.48	-0.01	1.8%	101,960
511210	Software Publishers	396	120	-11.3%	77,462	-0.68	0.08	-0.20	-0.2%	139,221
541511	Custom Computer Programming Services	1,779	1,668	-0.6%	76,803	-0.23	0.40	-0.11	1.5%	95,767
541512	Computer Systems Design Services	1,576	2,751	5.7%	70,396	0.41	0.64	0.13	3.0%	95,517
	Cultural Activities	1,404	2,381	5.4%	43,127	0.52	3.09	0.87	1.6%	45,574
712110	Museums	626	1,351	8.0%	26,756	1.04	3.45	1.61	1.1%	37,203
712120	Historical Sites	175	257	3.9%	24,196	0.38	3.54	0.81	0.9%	35,092
712190	Nature Parks and Other Similar Institutions	5	27	18.4%	32,670	4.22	0.64	0.00	1.7%	30,913
813211	Grantmaking Foundations	598	746	2.2%	79,674	-0.04	2.42	-0.15	2.5%	60,688
	Design Services	1,529	1,842	1.9%	23,189	-0.05	0.87	-0.07	2.3%	36,087
541340	Drafting Services	322	349	0.8%	25,359	0.24	1.94	0.38	-1.7%	27,296
541410	Interior Design Services	341	495	3.8%	27,002	0.04	0.69	0.00	3.5%	29,738
541420	Industrial Design Services	15	5	-10.4%	22,484	-1.16	0.00		4.1%	62,194
541430	Graphic Design Services	789	982	2.2%	20,292	0.03	0.93	-0.01	1.9%	37,297
541490	Other Specialized Design Services	62	11	-15.9%	41,680	-1.30	0.08	-0.61	4.0%	45,778
	Engineering and Research & Development	4,460	5,585	2.3%	89,317	0.11	0.79	0.04	1.3%	98,022
541330	Engineering Services	3,064	3,680	1.8%	91,248	0.10	0.75	0.04	1.0%	92,935
541712	Research and Development in the Physical, Engineerir	918	1,626	5.9%	91,784	0.49	0.71	0.18	2.5%	112,636
541720	Research and Development in the Social Sciences and	478	279	-5.2%	49,472	-0.29	0.87	-0.49	-1.3%	71,327
	Film, TV, Video Production/Distrib	1,160	2,145	6.3%	53,974	0.83	1.27	0.55	0.1%	92,941
334612	Prerecorded Compact Disc (except Software), Tape, an	5	15	11.6%	11,535	2.56	0.25	0.00	-7.9%	60,432
512110	Motion Picture and Video Production	1,043	1,936	6.4%	54,055	0.66	1.64	0.55	1.8%	91,282
512120	Motion Picture and Video Distribution	38	18	-7.2%	40,172	-0.15	0.47	-0.17	-4.6%	115,600
512191	Teleproduction and Other Postproduction Services	35	76	8.1%	58,361	1.15	0.69	0.36	0.2%	92,638
515210	Cable and Other Subscription Programming	39	100	9.9%	57,923	1.71	0.25	0.16	-1.6%	100,532
	Marketing, Photography & Related	9,812	9,961	0.2%	31,045	-0.19	0.88	-0.21	1.9%	46,355
541613	Marketing Consulting Services	623	912	3.9%	34,439	-0.44	0.54	-0.19	6.7%	57,611
541810	Advertising Agencies	921	598	-4.2%	52,037	-0.35	0.48	-0.29	0.0%	84,175
541820	Public Relations Agencies	291	414	3.6%	55,587	0.27	0.89	0.15	1.4%	78,806
541830	Media Buying Agencies	21	35	5.2%	40,399	0.33	0.44	0.07	2.9%	96,542
541840	Media Representatives	102	107	0.5%	38,592	0.23	0.59	0.11	-1.9%	87,183
541850	Display Advertising	68	70	0.3%	38,110	-0.15	0.30	-0.06	1.7%	51,875
541860	Direct Mail Advertising	112	51	-7.6%	28,748	-0.21	0.15	-0.08	-4.0%	53,611
541870	Advertising Material Distribution Services	62	39	-4.5%	38,435	-0.30	0.39	-0.20	-0.7%	48,374
541890	Other Services Related to Advertising	619	527	-1.6%	19,547	-0.24	1.00	-0.33	0.9%	33,451
541910	Marketing Research and Public Opinion Polling	455	378	-1.8%	24,166	-0.21	0.53	-0.15	0.4%	55,384
541921	Photography Studios, Portrait	1,256	1,346	0.7%	21,325	-0.31	1.39	-0.46	3.3%	16,843
541922	Commercial Photography	267	416	4.5%	23,649	0.11	1.64	0.06	3.8%	30,195
541990	All Other Professional, Scientific, and Technical Service	5,015	5,068	0.1%	30,495	-0.21	0.98	-0.25	2.0%	34,081
	Music	1,007	922	-0.9%	26,503	-0.14	1.22	-0.24	0.5%	38,861
451140	Musical Instrument and Supplies Stores	166	148	-1.1%	33,998	-0.01	0.72	-0.03	-1.1%	30,581
512210	Record Production	5	26	17.9%	20,865	4.30	1.55	0.00	-1.0%	60,505
512220	Integrated Record Production/Distribution	37	5	-18.1%	26,284	-0.58	0.00	0.00	-3.4%	101,993
512230	Music Publishers	5	0	-100.0%	0	-1.04	0.00	0.00	0.4%	65,827
512240	Sound Recording Studios	32	53	5.2%	15,521	0.77	0.72	0.33	-1.2%	31,495
512290	Other Sound Recording Industries	5	15	11.6%	8,481	2.36	0.68	0.00	-4.3%	52,792
711130	Musical Groups and Artists	757	675	-1.1%	26,341	-0.41	1.61	-0.82	2.7%	36,613
	Performing and Creative Arts	8,557	8,690	0.2%	20,507	-0.20	1.28	-0.31	2.0%	24,809
453920	Art Dealers	963	784	-2.0%	27,446	-0.22	2.52	-0.81	0.4%	26,509
711110	Theater Companies and Dinner Theaters	474	417	-1.3%	22,636	-0.19	0.98	-0.24	0.6%	28,263
711120	Dance Companies	178	153	-1.5%	19,453	-0.71	1.94	-1.74	4.6%	28,308
711190	Other Performing Arts Companies	25	5	-14.9%	30,481	-1.53	0.00	0.00	5.6%	35,920
711310	Promoters of Performing Arts, Sports, and Similar Even	188	246	2.7%	22,189	-0.23	0.55	-0.12	4.4%	34,052
711320	Promoters of Performing Arts, Sports, and Similar Even	362	556	4.4%	33,116	0.27	1.72	0.26	2.4%	37,098
711410	Agents and Managers for Artists, Athletes, Entertainer	443	320	-3.2%	19,923	-0.49	0.91	-0.67	1.9%	53,190
711510	Independent Artists, Writers, and Performers	5,924	6,209	0.5%	18,340	-0.16	1.20	-0.23	1.9%	20,762
	Publishing & Information	3,089	2,329	-2.8%	52,852	-0.10	0.65	-0.11	-1.6%	70,272
511110	Newspaper Publishers	1,917	1,076	-5.6%	63,242	-0.08	0.80	-0.15	-4.4%	47,929
511120	Periodical Publishers	615	646	0.5%	40,918	0.21	0.83	0.15	-1.8%	71,083
511130	Book Publishers	136	84	-4.7%	37,397	-0.26	0.20	-0.09	-1.3%	68,778
511140	Directory and Mailing List Publishers	126	168	2.9%	72,424	0.67	0.85	0.41	-4.1%	70,443
511191	Greeting Card Publishers	32	5	-16.9%	42,214	-0.38	0.00	0.00	-6.0%	74,239
511199	All Other Publishers	132	19	-17.6%	54,598	-0.63	0.21	-0.97	-2.6%	46,452
519110	News Syndicates	35	41	1.6%	24,550	-0.11	0.52	-0.08	2.5%	93,897
519130	Internet Publishing and Broadcasting and Web Search	70	255	13.8%	39,701	1.36	0.33	0.11	8.6%	111,148
519190	All Other Information Services	26	35	3.0%	26,400	-0.30	0.44	-0.13	5.1%	53,411
	Radio and Television Broadcasting	1,472	1,236	-1.7%	55,101	-0.06	1.06	-0.12	-1.0%	71,754
515111	Radio Networks	156	110	-3.4%	73,154	-0.35	0.75	-0.40	0.5%	58,678
515112	Radio Stations	629	543	-1.5%	36,449	0.00	1.16	-0.04	-1.5%	52,459
515120	Television Broadcasting	687	583	-1.6%	69,067	-0.06	0.94	-0.11	-0.9%	89,440

Source: DBEDT compilation based on EMSI data.