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6-29-1905

Digital Media Industry in Albuquerque and New Mexico

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DIGITAL MEDIA INDUSTRY IN ALBUQUERQUE AND NEW MEXICO

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Digital media plays a central role in a number of emerging industries, including motion picture and sound recording industries, software publishing, computer systems design, advertising, and others. By all measures, the field of digital media is posed for significant growth and represents a promising avenue for economic development for New Mexico.

1. *Employment in digital media is expected to grow rapidly in the US[1].*

Table 1 provides the details of projections by the Bureau of Labor Statistics (BLS) of growth of employment in motion picture and sound recording industries, by occupation, for the period 2004-2014[2]. As this table indicates, employment in the motion picture and sound recording industries is expected to increase by 17.1 percent during the period 2004-2014, well above the economy-wide rate of 13 percent. Of the 28 occupations that comprise the motion picture and sound recording industries, multimedia artists and animators are expected to experience the highest rate of growth of employment, with a projected increase of 39.5 percent during the ten-year period[3].

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[1] Economic analysis of digital media is complicated by the fact that it is new, and standard systems of industrial classifications do not yet capture it independently. The most effective method to measure and analyze the field is to examine the occupation most closely identified with digital media: multimedia artists and animators (Standard Occupational Classification, SOC 27-1014). According to SOC definitions multimedia artists and animators “create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials.”

The Bureau of Labor Statistics (BLS) Occupation Employment Statistics (OES) locate multimedia artists and animators primarily in four industrial subsectors. Total employment of multimedia artists and animators in 2005 was 23,790. Motion picture and sound recording industries employed the greatest number (5,640), followed by advertisers (4,950), computer systems designers (3,050) and software publishers (1,360). For the purposes of this brief study of digital media in New Mexico, employment of multimedia artists and animators in the motion picture and sound recording industries is most relevant.

[2] Bureau of Labor Statistics, 2006-2007 Career Guides to Industries, Bulletin 2601.

[3] BLS projects that the number of multimedia artists and animators employed by Advertisers will grow by 39.8 percent during the 2004-2014 percent, compared to an industry-wide increase of 22.4 percent; by Software Publishers by 84.7 percent, compared to 67.7 percent for the industry; and by Computer System Designers by 35.6 percent, compared to a 39.5 percent growth for the industry. The projected rate of growth of employment by multimedia artists and animators for all four industries is 45.4 percent.

2. *Wages in digital media are high.*

Multimedia artists and animators employed in motion picture and sound recording industries earned an average hourly wage of $34.46 in 2005 – more than any other occupation in the Industries, with the exception of General and Operations Managers and Producers and Directors[4]. The hourly rate is nearly twice the industry-wide average. Although the BLS does not project changes in earnings by occupation, one might reasonably anticipate that, given projections of rapid growth of employment of multimedia artists and animators in all industries, wage growth for multimedia artists and animators will continue to outpace those of most other occupations, both within and outside the motion picture and sound recording industries.

3. *Opportunities to attract digital media Industries are promising.*

To date, no one region or city has staked claim as the principal employment center for the now rapidly growing field of digital media. Of the 23,790 employed nationally and in all industries as multimedia artists and animators, the greatest concentrations are in California (6,530) and New York (2,780), but the vast majority of these workers are employed in small numbers across the country[5].

Average earnings of multimedia artists and animators across all industries vary widely. In California, the average hourly wage is $36.30 ($75,510 annually); in New York, $31.05 ($64,680 annual); in Massachusetts, $24.30 ($50,540 annual); in Michigan, $19.59 ($40,740 annual); in New Mexico, $18.19 ($37,830 annual); and in Louisiana, $14.56 ($30,280)[6].

These patterns offer promise to areas working to establish a place in emerging field of digital media. Technologies have developed beyond the early trial stages, and thus employment in application is less bounded to locations with the greatest technical advantage. As the field grows and

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[4] Multimedia artists and animators earn, on average, more in motion picture and sound recording industries than in other industries. In advertising, they earn an average hourly wage of $25.51; in computer systems design, $29.03 per hour; and in software publishing, $27.76 per hour.

[5] In California, 3,870 work in Los Angeles MSA and 1,050 work in the San Francisco MSA; in New York, 2,300 work in New York City. Other MSAs with significant employment of multimedia artists and animators are Boston (850) and Seattle (580).

Data provided by the BLS does not allow for cross tabulations of employment for this occupation by industry and location, so it is not possible to estimate the number of multimedia artists and animators working in the motion picture and sound recording industries in any given location.

[6] Among MSAs, multimedia artists and animators earn the highest wages in Los Angeles ($80,870 per year); San Francisco ($74,350); and New York City ($66,470).

application becomes more common in the relevant industries (motion pictures, software, advertising and so on), cost differentials are likely to emerge as a decisive factor. As creative field, applications of digital media will grow increasingly interested in incorporating new ideas rooted in diverse cultural settings. This bodes well for development in New Mexico.

TABLE 1: OCCUPATIONS IN MOTION PICTURE AND SOUND RECORDING INDUSTRIES, U.S., MAY 2005

	Employment, 2004		Employment, 2014		Percent change, 2004-14	Hourly Mean Wage
	Number	Percent	Number	Percent		
All occupations	**368**	**100.0**	**431**	**100.0**	**17.1**	**18.88**
Management, business, and financial occupations	**27**	**7.4**	**34**	**7.8**	**24.2**	**51.77**
General and operations managers	9	2.6	11	2.5	17.6	53.09
Operations specialties managers	4	1.0	5	1.2	27.1	24.77
Accountants and auditors	2	0.6	3	0.6	26.3	28.59
Professional and related occupations	**148**	**40.3**	**188**	**43.5**	**26.7**	**27.51**
Computer specialists	6	1.7	8	1.9	38.1	31.89
Multi-media artists and animators	7	2.0	10	2.3	39.5	34.46
Graphic designers	2	0.6	3	0.6	26.7	24.81
Actors	30	8.0	36	8.3	19.1	24.92
Producers and directors	13	3.6	16	3.8	26.5	43.45
Entertainers and performers, sports and related workers, all other	43	11.8	55	12.7	27.3	18.25
Audio and video equipment technicians	8	2.2	10	2.4	27.7	18.51
Sound engineering technicians	4	1.0	5	1.2	28.2	25.04
Camera operators, television, video, and motion picture	7	1.9	9	2.1	26.4	26.03
Film and video editors	10	2.7	13	3.0	27.3	29
Service occupations	**107**	**29.2**	**116**	**26.9**	**8.5**	**8.91**
First-line supervisors/managers of food preparation and serving	3	0.8	3	0.7	5.2	
Combined food preparation and serving workers	7	1.8	7	1.7	4.7	7.54
Counter attendants, cafeteria, food concession, and coffee shop	33	8.9	41	9.4	23.0	7.09
Janitors and cleaners, except maids and housekeeping cleaners	4	1.2	4	1.0	9.7	9.63
First-line supervisors/managers of personal service workers	4	1.2	4	1.0	4.4	14.04
Motion picture projectionists	9	2.5	8	1.7	-16.4	9.21
Ushers, lobby attendants, and ticket takers	42	11.3	44	10.2	4.2	7.03
Sales and related occupations	**36**	**9.9**	**37**	**8.5**	**2.3**	**13.55**
First-line supervisors/managers of retail sales workers	3	0.8	3	0.7	-2.7	15.15
Cashiers, except gaming	22	6.1	21	4.8	-5.7	7.71
Office and administrative support occupations	**34**	**9.1**	**39**	**9.0**	**13.6**	**16.02**
Bookkeeping, accounting, and auditing clerks	4	1.2	5	1.0	12.7	
Customer service representatives	4	1.1	5	1.2	29.3	
Shipping, receiving, and traffic clerks	3	0.7	3	0.8	15.2	
Executive secretaries and administrative assistants	5	1.3	6	1.4	19.3	
Office clerks, general	5	1.3	6	1.3	10.0	
Production occupations	**5**	**1.2**	**5**	**1.2**	**7.1**	**14.95**
Transportation and material moving occupations	**8**	**2.1**	**9**	**2.2**	**16.5**	**12.12**
Laborers and freight, stock, and material movers, hand	6	1.6	7	1.6	14.6	

Note: May not add to totals due to omission of occupations with small employment

SOURCE: Bureau of Labor Statistics, 2006-2007 Career Guides to Industries, Bulletin 2601; Calculations by UNM-BBER.

4. *The potential economic impact of digital media in New Mexico.*

The development of digital media, at least initially, is tied to the growth of the motion picture and sound recording industries. Other industries in which digital media is applied nationally (i.e. advertising, computer design and software publishing) have only a small presence in the State.

Table 2 provides a guide for estimating the economic impact of film and multimedia-animation industries in New Mexico. The numbers serve as a model rather than any attempt to provide definitive forecast – no attempt is made to project the number of jobs that may be created within the industries; instead, the model estimates the indirect and induced employment and fiscal impacts of a given number of jobs. The table has two parts. The top half estimates the impacts of the creation of 100 jobs in the film industry, and the lower half makes corresponding estimates for the creation of 100 jobs in digital media (multimedia artists and animators). Because of the scarcity of data at this level of geographical and industrial disaggregation, and to provide conservative estimates, the coefficients and multipliers are held constant for the two cases; only wage rates vary from the top to the bottom[7].

The difference in average wage rates between the film industry ($19,310 per year) and the digital media industry ($37,830 per year for multimedia artists and animators) results in a significantly greater impact for the digital media sector. Higher wages are associated with a higher value of output (essentially, revenues) and greater indirect and induced impacts (except for employment). Higher wages and output, finally, translate into higher gross receipt and personal income tax revenues. For every 100 jobs created per sector, the State of New Mexico can expect to receive about $940 thousand per year more in revenues from the digital media Industry than the film industry; Albuquerque can expect to receive about $300 thousand more.

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[7] The source of all coefficients used in this model, including multipliers, is Implan Pro2, a widely used software package used to estimate regional economic impacts. Implan estimates are derived from Bureau of Economic Statistics Input-Output tables.

The methodology used to generate these impact estimates is as follows. For the film industry, the labor income/employment and output/employment ratios are for Bernalillo County for the year 2004; the input-output tables used to generate the indirect and induced impacts are also for Bernalillo County for 2004. Because comparable data are not available for digital media, the same multipliers were used to estimate indirect and induced impacts for this subsector. For this reason, the employment impacts are same for the two cases. The key variable in the model – wages for multimedia artists and animators ($37,830) – are for New Mexico; data is not available for Bernalillo County or the Albuquerque MSA for this occupation. The output/employment ratio for digital media is adjusted for differences in wage rates. Wage data is from May 2005. Fiscal impacts are the product of total output values (for gross receipts) and a normal distribution of wages around the mean (for Personal Income Taxes).

TABLE 2: ESTIMATED ECONOMIC IMPACT OF FILM AND DIGITAL MEDIA PER 100 JOBS, IN ALBUQUERQUE

Film Industry

	Direct	Indirect	Induced	TOTAL
Output (Thousands $)	$8,774	$5,201	$2,190	$16,165
Employment	100	63	29	192
Labor Income (Thousands $)	$1,931	$1,629	$754	$4,315
Fiscal Impacts (Thousands $)				
State (GRT and PIT)				$881
Local (GRT)				$323

Digital Media Industry

	Direct	Indirect	Induced	TOTAL
Output (Thousands $)	$17,185	$10,186	$4,289	$31,660
Employment	100	63	29	192
Labor Income (Thousands $)	$3,783	$3,191	$1,478	$8,451
Fiscal Impacts (Thousands $)				
State (GRT and PIT)				$1,827
Local (GRT)				$632

UNM BBER, 2007.

5. *Concluding comments regarding the future geography of the digital media Industry.*

Digital media is an emerging industry with very strong prospects for growth. The details that lie beyond this are speculative, but insights can be gleaned from the experiences of other recently emergent industries such as semiconductors, software publication, internet-related businesses, as well as the film industry established nearly one hundred years ago. It is likely that growth will continue to be driven by technological advances; yet, with time, as technical benchmarks are established, segments of the industry also will likely migrate toward locations that offer lower costs. As a creative field, the industry will all but certainly require a flow of new ideas and inspiration, though the implications of this for the location of the industry is uncertain (will the creative element of the industry look outward for new ideas or turn inward to generate its own ideas?). Locations that establish an early beachhead will likely remain vital to the industry as sites of creativity and innovation, and somewhat less vulnerable to ongoing search for lower costs. These locations will feature institutions that provide research and highly specialized training, an advanced communication infrastructure and a creative and technically capable workforce. Finally, with the development of the industry, these locations will likely realize secondary benefits, as the digital media helps to foster conditions that enable related industries to take root.