

Using Data and Information to Align Economic and Workforce Development in the Business Information Technology Ecosystems Sector



Nevada Governor's Office of
ECONOMIC DEVELOPMENT

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Nevada's Economic Development Sectors

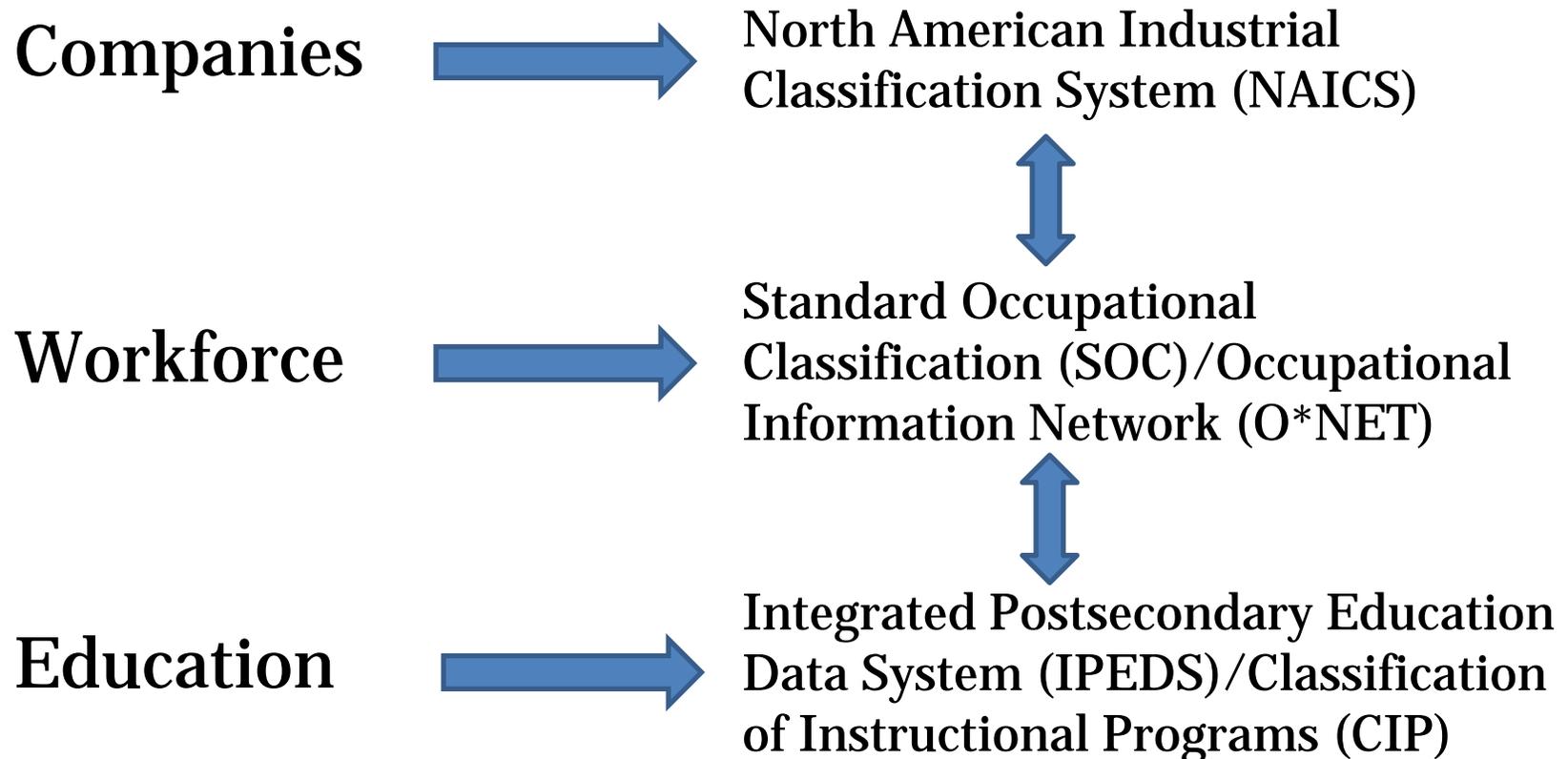
Sector	Number of Jobs	Percent of All Nevada Jobs	Average Annual Wage*	Jobs Multiplier	Location Quotient	Percent above or below National Concentration
Aerospace and Defense	13,110	1.0%	\$96,207	2.04	0.67	-33%
Business Information Technology Ecosystems	59,367	4.5%	\$55,949	2.11	0.67	-33%
Health and Medical Services	106,222	8.1%	\$65,123	1.81	0.66	-34%
Manufacturing and Logistics	116,631	8.9%	\$69,497	2.68	0.59	-41%
Natural Resources	49,052	3.8%	\$76,333	2.69	0.63	-37%
Mining	14,028	1.1%	\$107,221	2.29	2.35	135%
Tourism, Gaming, and Entertainment	408,856	31.3%	\$37,047	1.82	2.45	145%

*The average earnings per worker in the region. Includes wages, salaries, supplements (additional employee benefits), and proprietor income.

Strategic Location Drivers

- Availability of a Qualified Workforce
- Competitive Cost Environment
 - Labor, Utilities, Real Estate, Transportation, Taxes
- Favorable Logistics/Accessibility
 - Air, Highway, Rail, Port
- Favorable Business Environment
 - Taxes, Incentives, Permitting
- Quality of place
 - Ability to recruit/relocate key workforce

The Economic and Workforce Information and Data Pipeline



Tying Economic and Workforce Development Together

Identifying high demand occupations

- Employment Projections
- Burning Glass Technologies
- Target Sector approach
- Job Openings
- Brookings STEM Score

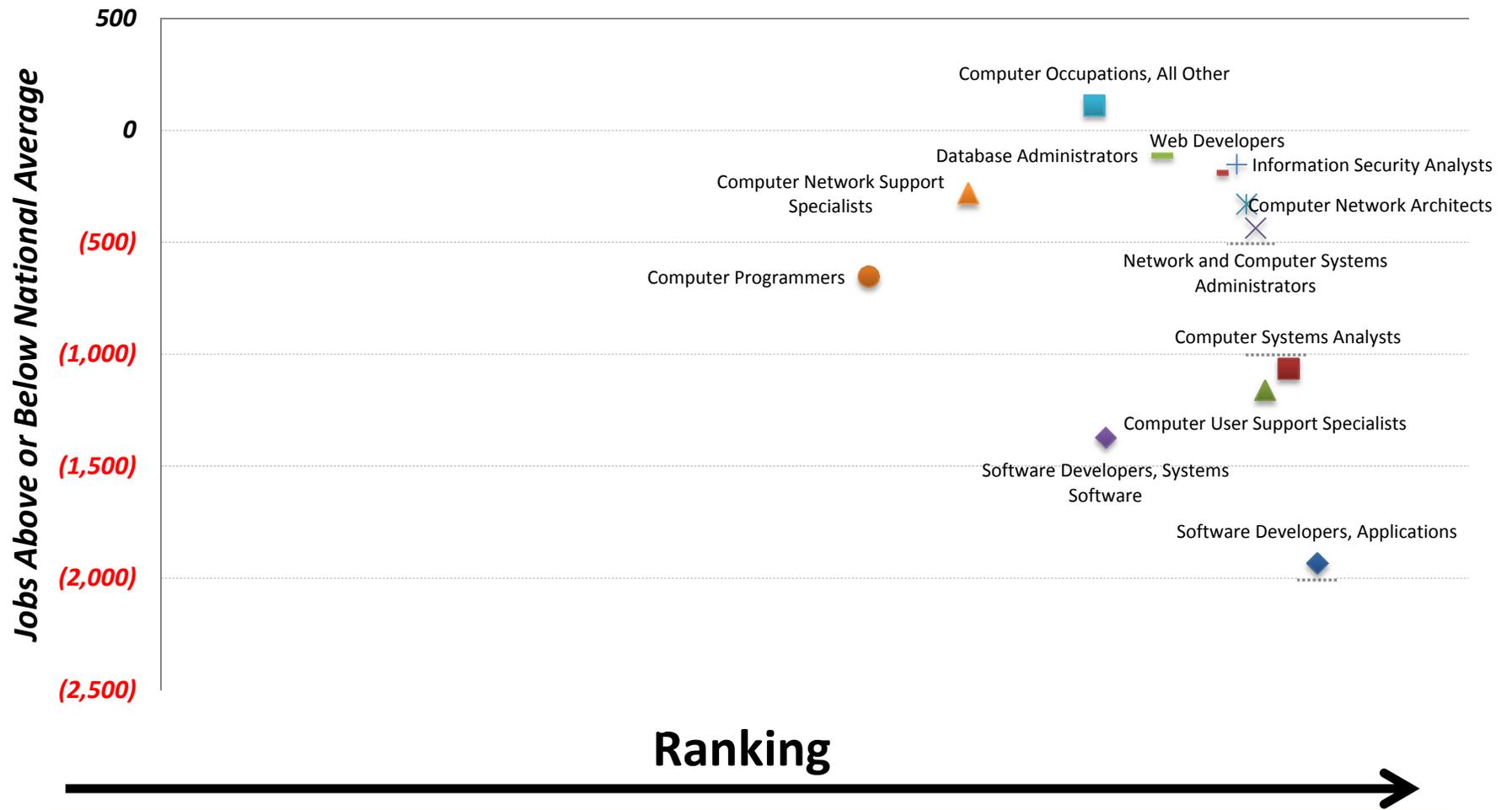
Top 20 High Demand Information Technology Occupation Groups

Typical Entry Level Education/On-The-Job Training

Bachelor's degree
Associate's degree/Postsecondary non-degree award
High school diploma/Postsecondary non-degree award with OJT
High school diploma/Less than high school with OJT

Occupation Group Description	Consensus Rank	2016 Jobs	Jobs Above or Below National Average	Median Hourly Earnings	
Computer Occupations	1	6,451	(6,581)	\$34.54	←
Business Operations Specialists	2	2,496	(1,065)	\$27.40	←
Information and Record Clerks	3	8,969	512	\$14.65	
Operations Specialties Managers	4	934	(282)	\$41.66	←
Engineers	5	509	(622)	\$40.73	
Other Production Occupations	6	1,636	(1,554)	\$15.74	
Other Office and Administrative Support Workers	7	4,341	332	\$14.50	
Material Recording, Scheduling, Dispatching, and Distributing Workers	8	1,833	137	\$15.10	
Construction Trades Workers	9	605	121	\$22.26	
Health Technologists and Technicians	10	462	(196)	\$24.60	
Financial Clerks	11	2,343	(144)	\$16.49	
Metal Workers and Plastic Workers	12	474	(731)	\$17.30	
Material Moving Workers	13	4,971	(415)	\$13.12	
Other Sales and Related Workers	14	3,181	616	\$17.96	
Financial Specialists	15	1,024	(404)	\$27.83	
Retail Sales Workers	16	937	152	\$10.98	
Health Diagnosing and Treating Practitioners	17	683	(190)	\$47.39	
Assemblers and Fabricators	18	2,069	(2,376)	\$12.48	←
Other Management Occupations	19	385	33	\$37.29	
Sales Representatives, Wholesale and Manufacturing	20	471	(255)	\$28.01	

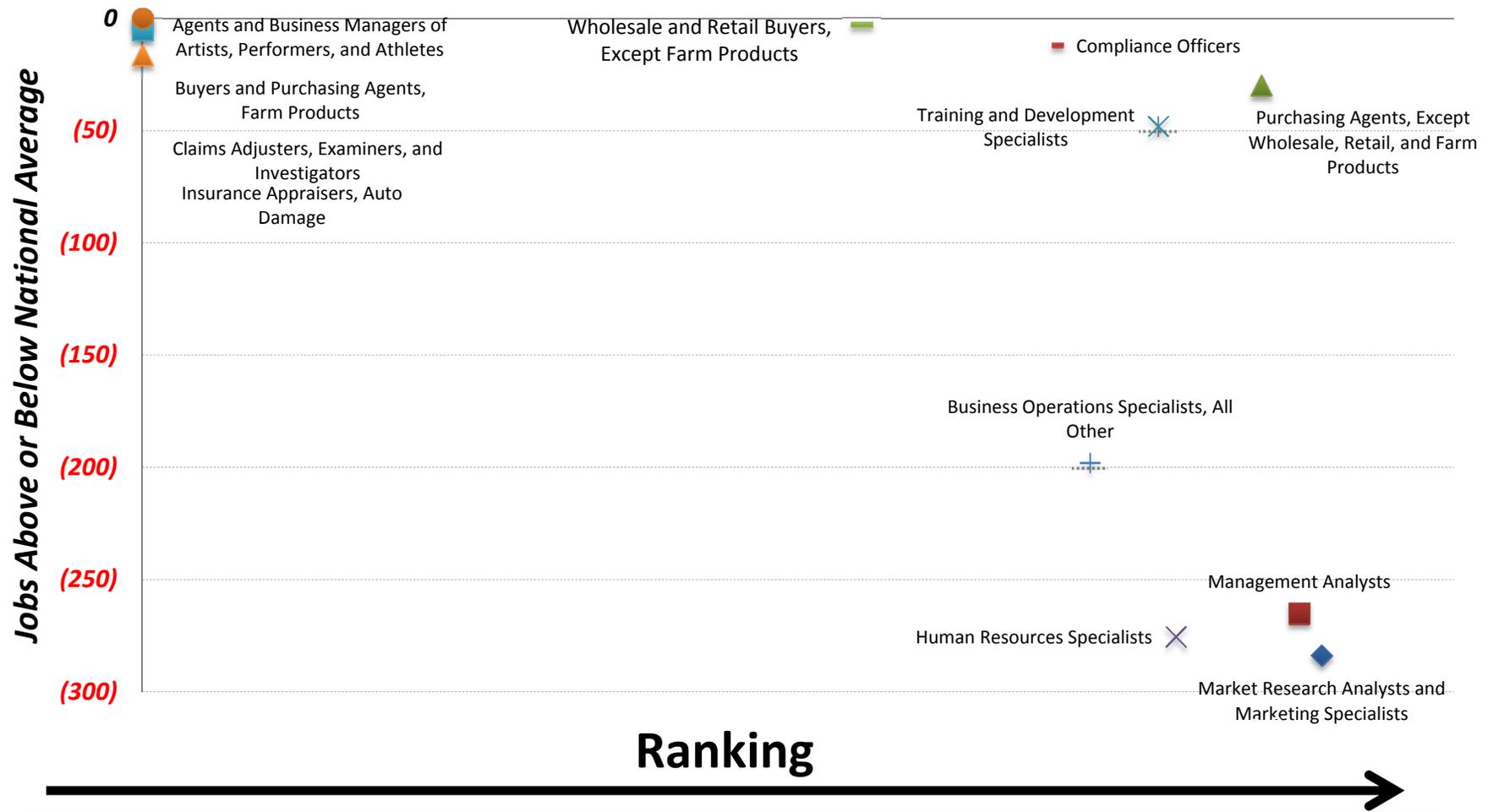
Drilling Down into the Detail: Computer Occupations



Drilling Down into the Detail: Computer Occupations

Occupation Description	Consensus Rank	Jobs	Median Hourly Earnings	Jobs Above or Below National Average	Typical Entry Level Education	Typical On-The-Job Training
Software Developers, Applications	1	1,511	\$42.81	(1,932)	Bachelor's degree	None
Computer Systems Analysts	2	766	\$37.95	(1,065)	Bachelor's degree	None
Computer User Support Specialists	3	899	\$21.37	(1,161)	Some college, no degree	None
Network and Computer Systems Administrators	4	489	\$37.45	(436)	Bachelor's degree	None
Computer Network Architects	6	207	\$44.61	(330)	Bachelor's degree	None
Information Security Analysts	9	112	\$33.13	(151)	Bachelor's degree	None
Web Developers	10	293	\$27.14	(188)	Associate's degree	None
Database Administrators	18	173	\$38.25	(113)	Bachelor's degree	None
Software Developers, Systems Software	30	481	\$41.02	(1,372)	Bachelor's degree	None
Computer Occupations, All Other	33	446	\$31.07	112	Bachelor's degree	None
Computer Network Support Specialists	65	319	\$25.67	(281)	Associate's degree	None
Computer Programmers	89	744	\$38.50	(653)	Bachelor's degree	None

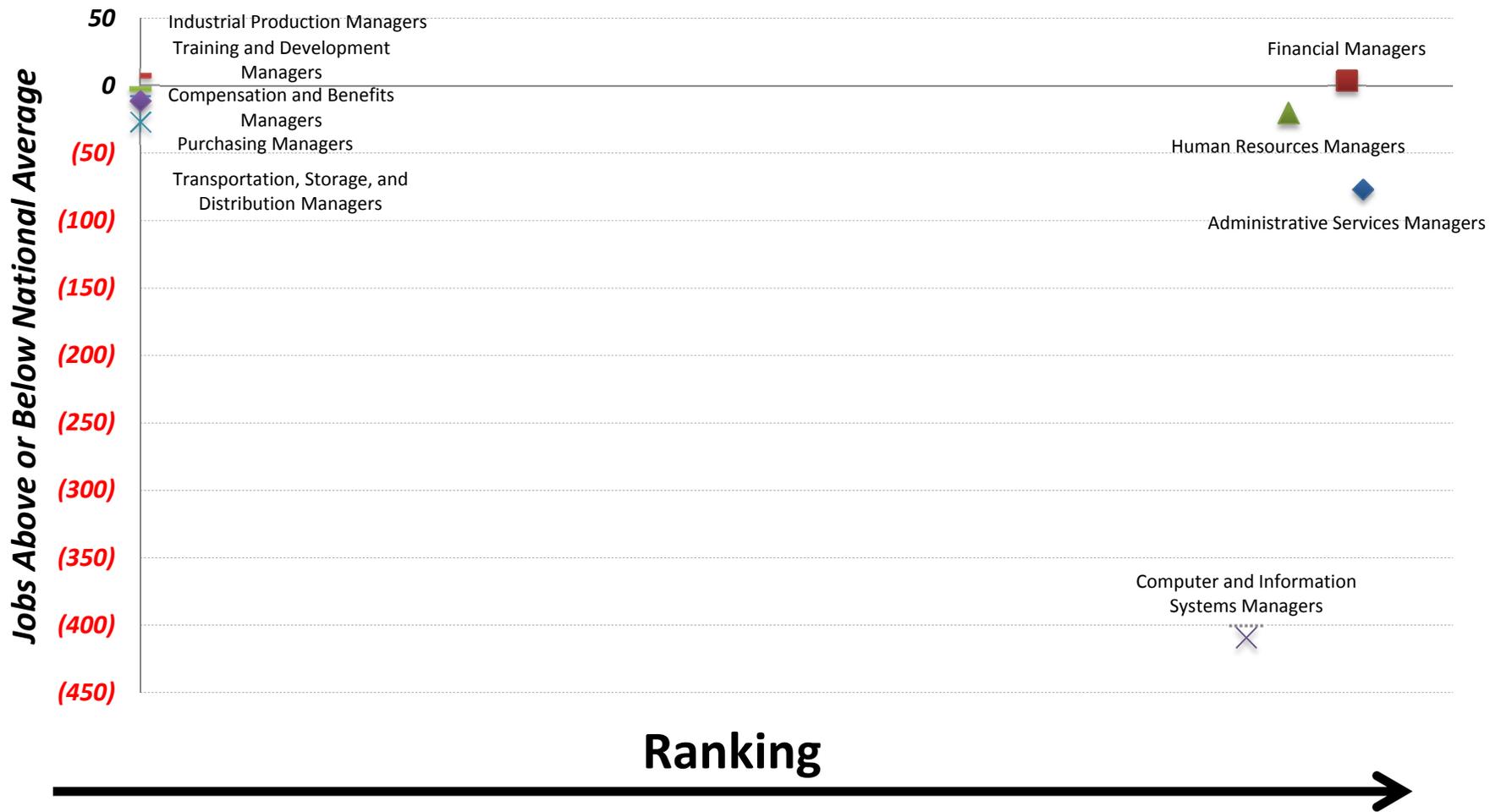
Drilling Down into the Detail: Business Operations Specialists



Drilling Down into the Detail: Business Operations Specialists

Occupation Description	Consensus Rank	Jobs	Median Hourly Earnings	Jobs Above or Below National Average	Typical Entry Level Education	Typical On-The-Job Training
Market Research Analysts and Marketing Specialists	14	254	\$25.71	(284)	Bachelor's degree	None
Management Analysts	15	367	\$35.32	(265)	Bachelor's degree	None
Purchasing Agents, Except Wholesale, Retail, and Farm Products	21	138	\$25.28	(30)	Bachelor's degree	Long-term on-the-job training
Human Resources Specialists	44	624	\$24.21	(275)	Bachelor's degree	None
Training and Development Specialists	50	304	\$25.20	(48)	Bachelor's degree	None
Business Operations Specialists, All Other	62	529	\$27.66	(198)	Bachelor's degree	None
Compliance Officers	71	73	\$28.83	(12)	Bachelor's degree	Moderate-term on-the-job training
Wholesale and Retail Buyers, Except Farm Products	107	73	\$21.76	(3)	Bachelor's degree	Long-term on-the-job training
Agents and Business Managers of Artists, Performers, and Athletes	133	5	\$34.66	(4)	Bachelor's degree	None
Buyers and Purchasing Agents, Farm Products	133	5	\$28.77	(5)	Bachelor's degree	Long-term on-the-job training
Claims Adjusters, Examiners, and Investigators	133	26	\$31.01	(16)	High school diploma or equivalent	Long-term on-the-job training
Insurance Appraisers, Auto Damage	133	0	\$27.81	0	Postsecondary nondegree award	Moderate-term on-the-job training

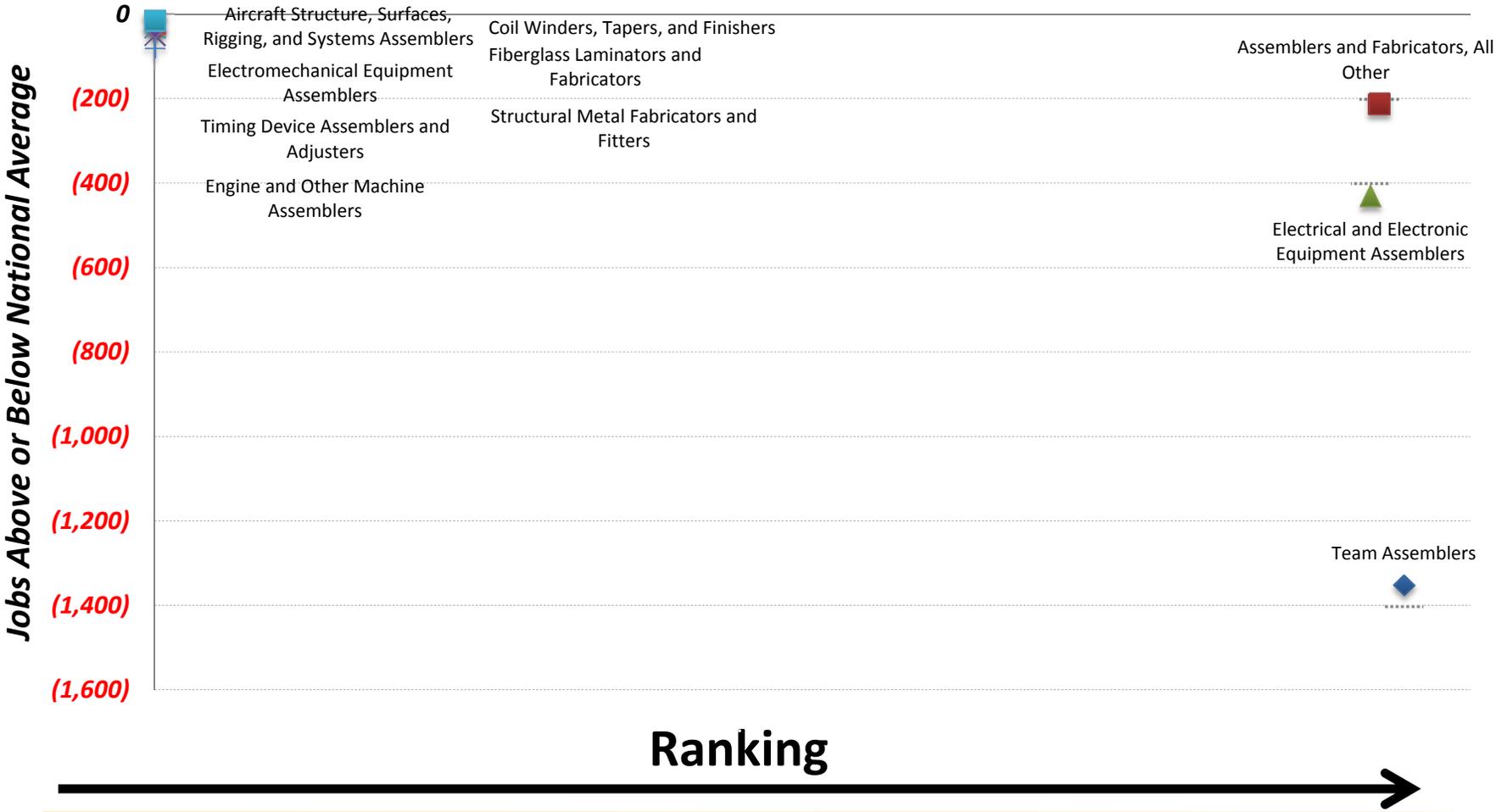
Drilling Down into the Detail: Operations Specialties Managers



Drilling Down into the Detail: Operations Specialties Managers

Occupation Description	Consensus Rank	Jobs	Median Hourly Earnings	Jobs Above or Below National Average	Typical Entry Level Education	Typical On-The-Job Training
Administrative Services Managers	38	101	\$35.84	(77)	Bachelor's degree	None
Financial Managers	45	239	\$41.59	4	Bachelor's degree	None
Human Resources Managers	53	74	\$46.61	(20)	Bachelor's degree	None
Computer and Information Systems Managers	63	406	\$53.46	(409)	Bachelor's degree	None
Industrial Production Managers	133	29	\$38.09	(27)	Bachelor's degree	None
Purchasing Managers	133	28	\$42.44	(8)	Bachelor's degree	None
Transportation, Storage, and Distribution Managers	133	30	\$33.23	7	High school diploma or equivalent	None
Compensation and Benefits Managers	133	5	\$41.82	(2)	Bachelor's degree	None
Training and Development Managers	133	22	\$40.50	(11)	Bachelor's degree	None

Drilling Down into the Detail: Assemblers and Fabricators



Drilling Down into the Detail: Assemblers and Fabricators

Occupation Description	Consensus Rank	Jobs	Median Hourly Earnings	Jobs Above or Below National Average	Typical Entry Level Education	Typical On-The-Job Training
Team Assemblers	91	1,187	\$11.84	(1,352)	High school diploma or equivalent	Moderate-term on-the-job training
Assemblers and Fabricators, All Other	94	528	\$11.29	(213)	High school diploma or equivalent	Moderate-term on-the-job training
Electrical and Electronic Equipment Assemblers	98	324	\$15.50	(430)	High school diploma or equivalent	Moderate-term on-the-job training
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	133	5	\$19.94	(50)	High school diploma or equivalent	Moderate-term on-the-job training
Coil Winders, Tapers, and Finishers	133	5	\$16.38	(31)	High school diploma or equivalent	Moderate-term on-the-job training
Electromechanical Equipment Assemblers	133	11	\$16.78	(79)	High school diploma or equivalent	Moderate-term on-the-job training
Engine and Other Machine Assemblers	133	5	\$18.75	(41)	High school diploma or equivalent	Moderate-term on-the-job training
Structural Metal Fabricators and Fitters	133	5	\$18.58	(5)	High school diploma or equivalent	Moderate-term on-the-job training
Fiberglass Laminators and Fabricators	133	5	\$12.53	(32)	High school diploma or equivalent	Moderate-term on-the-job training
Timing Device Assemblers and Adjusters	133	5	\$15.31	(14)	High school diploma or equivalent	Moderate-term on-the-job training

Top 25 High Demand Occupations in the Business IT Ecosystems Sector by Consensus Rank

Description	Consensus Rank	2016 Jobs	Median Hourly Earnings	Jobs Above or Below National Average	Typical Entry Level Education	Typical On-The-Job Training
Software Developers, Applications	1	1,511	\$42.81	(1,932)	Bachelor's degree	None
Computer Systems Analysts	2	766	\$37.95	(1,065)	Bachelor's degree	None
Computer User Support Specialists	3	899	\$21.37	(1,161)	Some college, no degree	None
Network and Computer Systems Administrators	4	489	\$37.45	(436)	Bachelor's degree	None
Sales Representatives, Wholesale and Manufacturing, ' .	5	217	\$34.83	(276)	Bachelor's degree	Moderate-term on-the-job training
Computer Network Architects	6	207	\$44.61	(330)	Bachelor's degree	None
Architectural and Engineering Managers	7	63	\$56.37	(51)	Bachelor's degree	None
Licensed Practical and Licensed Vocational Nurses	8	137	\$25.17	(209)	Postsecondary nondegree award	None
Information Security Analysts	9	112	\$33.13	(151)	Bachelor's degree	None
Web Developers	10	293	\$27.14	(188)	Associate's degree	None
Engineers, All Other	11	68	\$48.15	(41)	Bachelor's degree	None
Pharmacists	12	87	\$60.38	(24)	Doctoral or professional degree	None
Registered Nurses	13	461	\$38.24	(115)	Bachelor's degree	None
Market Research Analysts and Marketing Specialists	14	254	\$25.71	(284)	Bachelor's degree	None
Management Analysts	15	367	\$35.32	(265)	Bachelor's degree	None
General and Operations Managers	16	1,125	\$40.00	(36)	Bachelor's degree	None
Production Workers, All Other	17	367	\$19.37	(390)	High school diploma or equivalent	Moderate-term on-the-job training
Database Administrators	18	173	\$38.25	(113)	Bachelor's degree	None
First-Line Supervisors of Non-Retail Sales Workers	19	190	\$24.58	(160)	High school diploma or equivalent	None
Managers, All Other	20	260	\$44.32	92	Bachelor's degree	None
Purchasing Agents, Except Wholesale, Retail, and Far	21	138	\$25.28	(30)	Bachelor's degree	Long-term on-the-job training
First-Line Supervisors of Production and Operating Wor	22	76	\$27.55	(77)	High school diploma or equivalent	None
Inspectors, Testers, Sorters, Samplers, and Weighers	23	269	\$14.91	(239)	High school diploma or equivalent	Moderate-term on-the-job training
Financial Analysts	24	100	\$33.59	(121)	Bachelor's degree	None
Technical Writers	25	82	\$31.19	(69)	Bachelor's degree	Short-term on-the-job training

Top 25 High Demand Business IT Ecosystem Occupations Sorted by Jobs Below National Average

Description	Consensus Rank	2016 Jobs	Median Hourly Earnings	Jobs Above or Below National Average	Typical Entry Level Education	Typical On-The-Job Training
Software Developers, Applications	1	1,511	\$42.81	(1,932)	Bachelor's degree	None
Software Developers, Systems Software	30	481	\$41.02	(1,372)	Bachelor's degree	None
Team Assemblers	91	1,187	\$11.84	(1,352)	High school diploma or equivalent	Moderate-term on-the-job training
Computer User Support Specialists	3	899	\$21.37	(1,161)	Some college, no degree	None
Computer Systems Analysts	2	766	\$37.95	(1,065)	Bachelor's degree	None
Computer Programmers	89	744	\$38.50	(653)	Bachelor's degree	None
Helpers--Production Workers	105	606	\$11.51	(551)	No formal educational credential	Short-term on-the-job training
Network and Computer Systems Administrators	4	489	\$37.45	(436)	Bachelor's degree	None
Customer Service Representatives	64	7,436	\$14.44	(434)	High school diploma or equivalent	Short-term on-the-job training
Electrical and Electronic Equipment Assemblers	98	324	\$15.50	(430)	High school diploma or equivalent	Moderate-term on-the-job training
Packaging and Filling Machine Operators and Tenders	92	258	\$13.24	(425)	High school diploma or equivalent	Moderate-term on-the-job training
Computer and Information Systems Managers	63	406	\$53.46	(409)	Bachelor's degree	None
Secretaries and Administrative Assistants, Except Leg	37	817	\$17.21	(397)	High school diploma or equivalent	Short-term on-the-job training
Production Workers, All Other	17	367	\$19.37	(390)	High school diploma or equivalent	Moderate-term on-the-job training
Packers and Packagers, Hand	102	861	\$9.96	(348)	No formal educational credential	Short-term on-the-job training
Computer Network Architects	6	207	\$44.61	(330)	Bachelor's degree	None
Market Research Analysts and Marketing Specialists	14	254	\$25.71	(284)	Bachelor's degree	None
Computer Network Support Specialists	65	319	\$25.67	(281)	Associate's degree	None
Sales Representatives, Wholesale and Manufacturing, '	5	217	\$34.83	(276)	Bachelor's degree	Moderate-term on-the-job training
Human Resources Specialists	44	624	\$24.21	(275)	Bachelor's degree	None
Nursing Assistants	41	199	\$15.36	(274)	Postsecondary nondegree award	None
Management Analysts	15	367	\$35.32	(265)	Bachelor's degree	None
Computer Hardware Engineers	36	76	\$37.90	(248)	Bachelor's degree	None
Machinists	52	104	\$17.17	(241)	High school diploma or equivalent	Long-term on-the-job training
Inspectors, Testers, Sorters, Samplers, and Weighers	23	269	\$14.91	(239)	High school diploma or equivalent	Moderate-term on-the-job training

Questions for Sector Council Members

In your experience:

1. Which of the discussed occupations do you find most difficult to fill?
2. Which of these occupations do you believe will increase in demand because of new and emerging industry trends?
 - Please share your rationale.
3. Do you believe the typical entry education and experience levels identified by the Bureau of Labor Statistics are correct?
 - If not, please share the specific education (i.e., certification program, degree, etc.) and experience you typically look for when sourcing talent within your sector.

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