

Spring 3-2019

Producer Services: A Hub for STEM and an Engine for Job Growth

Eric Thompson

University of Nebraska-Lincoln, ethompson2@unl.edu

Uyen Tran

UNL, uyenltran09@gmail.com

Follow this and additional works at: <http://digitalcommons.unl.edu/bbrbin>

 Part of the [Economic Theory Commons](#), [Growth and Development Commons](#), [Labor Economics Commons](#), [Other Economics Commons](#), and the [Regional Economics Commons](#)

Thompson, Eric and Tran, Uyen, "Producer Services: A Hub for STEM and an Engine for Job Growth" (2019). *Business in Nebraska*. 172.

<http://digitalcommons.unl.edu/bbrbin/172>

This Article is brought to you for free and open access by the Bureau of Business Research at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Business in Nebraska by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.



Business in Nebraska

VOLUME 73 NO. 724

PRESENTED BY THE UNL BUREAU OF BUSINESS RESEARCH (BBR)

MARCH 2019

PRODUCER SERVICES: A HUB FOR STEM AND AN ENGINE FOR JOB GROWTH

By Uyen Tran, Eric Thompson

Introduction

Producer services providers are firms that sell services primarily to the business community rather than to individuals and households. Many producer services businesses are classified in the Professional, Scientific and Technical Service industry. Accounting firms, consultants, and computer design services are prominent examples of producer services businesses which are worth studying for three reasons:

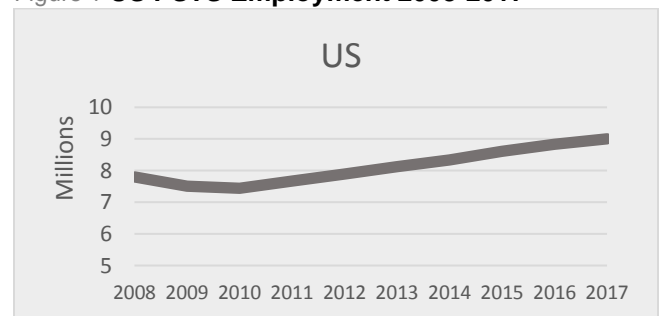
- 1. SUPPORT OF OTHER INDUSTRIES:** Producer services supply the broader business community, making them a critical segment of the economy.
- 2. RAPID HIGH WAGE JOB GROWTH:** Many producer services industries are rapidly growing and pay high wages. The producer services sector, in fact, is the principal source of high wage job growth in our evolving service economy.
- 3. STEM ASSOCIATION:** Producer service industries employ high numbers of STEM workers, itself a critical segment of the economy. By 2022 over 40% of the jobs in top STEM occupations are expected to be in producer service industries¹.

This report highlights the performance of the producer services sector in the nation and Nebraska over the last decade and explores whether the state of Nebraska has captured a significant share of employment in producer services. This report updates of 2015 and 2017 reports on the same topic authored by Brock Thompson, Eric Thompson, and Kalana Jayanetti.

Nationwide Growth

Figure 1 shows the national employment in the PSTS industries from 2008 to 2017. The United States PSTS industries lost jobs during the Great Recession period, but now expand steadily. Between 2008 and 2017, the PSTS sector had the third highest growth rate among other US sectors at 15.44%, exceeded in growth only by the Education and Health Services and Leisure and Hospitality sectors.

Figure 1 **US PSTS Employment 2008-2017**



Source: CES, US Bureau of Labor Statistics

¹ Data from the Employment Projections program, U.S. Department of Labor, U.S. Bureau of Labor Statistics (BLS). The list of top STEM occupations come from the May 2010 BLS Occupational Employment Statistics chart book (figures 7 and 8).

Figure 2 **US Industries 2008-2017**

Industry	2008 Employment (thousands)	2017 Employment (thousands)	'08-'17 % Employment Growth	'13-'17 % Employment Growth	Mean Weekly Wage 2017*
Education and Health Services	19,228	23,186	20.58%	9.96%	\$946
Leisure and Hospitality	13,436	16,052	19.47%	12.61%	\$446
Professional and Technical Services	7,799.4	9,003.8	15.44%	10.87%	\$1,802
Transportation and Warehousing	4,508.3	5,166.2	14.59%	14.86%	\$995
Administrative and Waste Services	8,031.5	9,169.7	14.17%	10.60%	\$762
Total Nonfarm	137,241	146,624	6.84%	7.51%	\$1,093
Other Services	5,515	5,776	4.73%	5.34%	\$718
Retail Trade	15,283	15,869.3	3.84%	5.24%	\$600
Financial Activities	8,206	8,455	3.03%	7.22%	\$1,787
Wholesale Trade	5,942.7	5,904	-0.65%	2.98%	\$1,460
Utilities	558.9	554.8	-0.73%	0.53%	\$2,061
Government	22,509	22,322	-0.83%	2.15%	\$1,270**
Construction	7,162	6,955	-2.89%	18.77%	\$1,168
Information	2,984	2,795	-6.33%	3.29%	\$2,033
Manufacturing	13,406	12,444	-7.18%	3.53%	\$1,285
Mining and Logging	767	678	-11.60%	-21.44%	\$1,093

*Wage data represents Mean Weekly Wage of workers in the private sector

**Government mean weekly wage calculated as a simple average of Federal, State and Local Government wages

Employment Source: CES, US Bureau of Labor Statistics

Wage Source: QCEW, US Bureau of Labor Statistics

Figure 2 shows the strong job growth and higher wages paid nationwide in the Professional, Scientific and Technical Services sector. In 2017 the PSTS sector paid the third highest mean wage among BLS supersectors at around \$1,800 per week. These wages were paid to workers in a variety of high skill occupations including lawyers, accountants and tax preparers, engineers, computer programmers, technical consultants, veterinarians, market researchers and scientific researchers, just to name a few.

A natural question is: where are these higher paying jobs being created? As it turns out, many of the producer services businesses in the PSTS sector are concentrated in larger cities. This can be seen in Figure 3, which shows how select major cities in the United States compare in terms of the share of 2017 employment in the PSTS sector. Washington, D.C. is a city that stands out as having the highest share of employment in the PSTS sector at 15.87%.

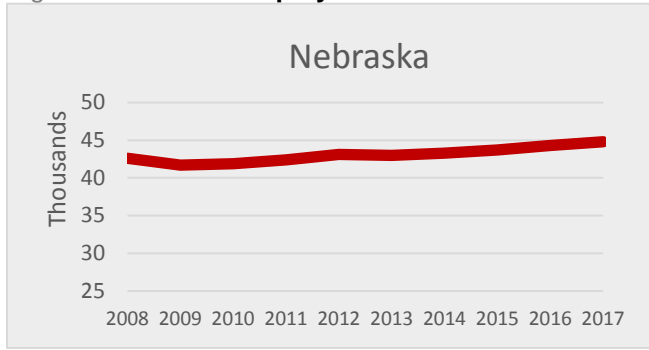
This high share may result from a large number of consultants and attorneys who work with the federal government. However, all of these major cities, except for Phoenix, exhibit greater shares of employment in the Professional and Technical Services sector than the national average of 6.14%. PSTS businesses are drawn to large metropolitan areas by factors such as a concentration of potential clients and an abundance of skilled labor.

Figure 3 **Major US regions PSTS Share of Employment**

Major Metropolitan Area	PSTS Concentration (2017)
Phoenix	5.71%
Los Angeles	6.41%
Philadelphia	6.80%
Dallas	7.12%
Houston	7.34%
Detroit	7.71%
Atlanta	7.92%
Washington D.C.	15.87%

Source: CES, US Bureau of Labor Statistics

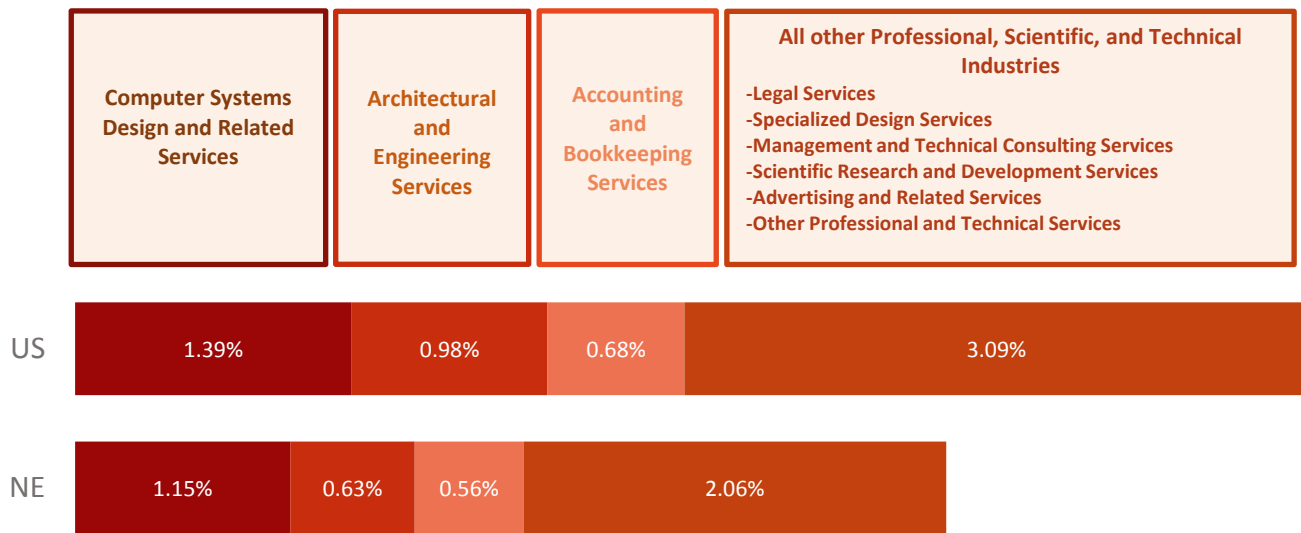
Figure 5 NE PSTS Employment 2008-2017



Source: CES, US Bureau of Labor Statistics

Nebraska also lost jobs in the PSTS sector during the Great Recession but the industry is now growing (Figure 5). Furthermore, the PSTS sector is so diverse, it is helpful to understand the distribution of employment among PSTS subindustries, as shown in Figure 6. As a share of nonfarm employment, we can see that Nebraska lags the nation in employment concentration for all PSTS subindustries.

Figure 6 PSTS Subindustry Shares (as a percentage of total nonfarm employment) 2017



Source: CES, US Bureau of Labor Statistics

Producer Services in Nebraska

Nebraska does not have cities as large as those featured in Figure 3. This raises the question: are producer services as large a part of the economy in Nebraska as nationwide? The answer can be found in Figure 4, which compares the share of employment by industry sector for the state of Nebraska.

PSTS accounted for just 4.40% of nonfarm employment in Nebraska in 2017 compared to 6.14% nationally. This was one of the largest differences in the employment structure of Nebraska and the nation, as seen in Figure 4. The other major difference was the financial activities sector, where Nebraska had a much larger share.

Figure 4 US / NE Industry Employment Shares (2017)

Industry	US	Nebraska
Government	15.22%	16.97%
Education and Health Services	15.81%	15.17%
Retail Trade	10.82%	10.73%
Manufacturing	8.49%	9.64%
Leisure and Hospitality	10.95%	9.01%
Financial Activities	5.77%	7.27%
Transportation and Warehousing	3.52%	5.07%
Administrative and Waste Services	6.25%	5.01%
Construction	4.74%	4.99%
Professional and Technical Services	6.14%	4.40%
Wholesale Trade	4.03%	4.02%
Other Services	3.94%	3.61%
Information	1.91%	1.79%
Utilities	0.38%	0.11%
Mining and Logging	0.46%	0.11%

Source: CES, US Bureau of Labor Statistics

If Nebraska has a lower share of PSTS employment, is the state at least closing the gap? In other words, is PSTS employment growing faster in Nebraska than nationwide?

Figure 7 shows the recent growth of PSTS employment in Nebraska. Even though Nebraska PSTS employment grew by 5.16% between 2008

and 2017, it did not keep pace with national PSTS employment growth of 15.44%. Further, Nebraska did not close the gap for the 2013 to 2017 period. Nebraska PSTS employment grew 4.19% from 2013 to 2017 compared to 10.87% nationwide. Finally, Nebraska’s PSTS sector only paid 63.21% of the weekly wage of the national PSTS sector.

Figure 7 **Nebraska Industries 2008-2017**

Industry	2008 Employment (thousands)	2017 Employment (thousands)	'08-'17 % Growth	'13-'17 % Growth	Mean Weekly Wage 2017 ²	Percent of National Wage
Education and Health Services	137.4	154.4	12.37%	5.03%	\$857	90.59%
Administrative and Waste Services	45.5	51	12.09%	8.51%	\$723	94.88%
Leisure and Hospitality	82.7	91.7	10.88%	6.88%	\$313	70.18%
Mining and Logging	1.0	1.1	10.00%	0.00%	\$760	69.53%
Financial Activities	69.2	74	6.94%	3.21%	\$1,221	68.33%
Government	163.9	172.7	5.37%	2.25%	\$1,117**	87.90%
Professional and Technical Services	42.6	44.8	5.16%	4.19%	\$1,139	63.21%
Total Nonfarm	969.4	1017.6	4.97%	3.80%	\$854	78.13%
Other Services	35.3	36.7	3.97%	-0.27%	\$602	83.84%
Construction	49.1	50.8	3.46%	14.93%	\$955	81.76%
Retail Trade	107.0	109.2	2.06%	2.73%	\$521	86.83%
Wholesale Trade	42.0	40.9	-2.62%	-2.62%	\$1,173	80.34%
Manufacturing	101.4	98.1	-3.25%	1.66%	\$953	74.16%
Information	19.1	18.2	-4.71%	2.82%	\$1,180	58.04%
Transportation and Warehousing	54.2	51.6	-4.80%	-0.19%	\$866	87.04%
Utilities	1.9	1.1	-42.11%	-15.38%	\$1,856	90.05%

¹Wage data represents Mean Weekly Wage of workers in the private sector

²Government Mean Weekly Wage calculated as a simple average of Federal, State and Local Government wages

Employment Source: CES, US Bureau of Labor Statistics

Wage Source: QCEW, US Bureau of Labor Statistics

Source: CES, US Bureau of Labor Statistics

Producer Services in Nebraska Cities

Nebraska has fewer jobs, and relatively slow job growth, in high-wage producer services sectors. This may occur because Nebraska has a large non-metropolitan population and mid-size rather than large cities.

This expectation is confirmed in Figure 8, 9 and 10, which compare the concentration of PSTS employment in Omaha, Lincoln and Grand Island to a set of peer metros. The peer metros were

chosen based upon similar characteristics of population and geographic location.³

Omaha is behind its peer metros in the share of PSTS employment. Omaha is ranked 6th out of 9, and its 5.28% share is below the 6.29% average. Grand Island also finds itself in a similar position and its PSTS share of employment is well behind its peer metros, 1.76% below the peer average. However, the Lincoln metro PSTS concentration is 4.78%, slightly above its peer average.

³ “Peer” and “aspirational” cities for Omaha and Lincoln were selected largely from studies produced by the UNL Bureau of Business Research for the Greater Omaha and Lincoln Chambers of Commerce. A different selection of peer regions might show the Nebraska metros in a different light.

Figure 8 Omaha Comparison Cities

PEER COMPARISONS	PSTS Concentration (2017)
Louisville	4.68%
Milwaukee	4.88%
Oklahoma City	5.23%
Omaha	5.28%
Des Moines	5.46%
Boise	5.53%
Salt Lake City	7.41%
Colorado Springs	8.37%
Kansas City	8.78%
Peer average	6.29%

Source: CES, US Bureau of Labor Statistics

Looking at Figures 8 through 10, Nebraska metro areas, except for Lincoln, tend to have a slightly lower average concentration of PSTS employment. Nebraska also has a significant share of its population living in rural areas, and these areas also have a smaller concentration of PSTS jobs.

Figure 9 Grand Island Comparison Cities

PEER COMPARISONS	PSTS Concentration (2017)
Grand Island	2.48%
St. Joseph	3.33%
Grand Forks	3.68%
Dubuque	4.45%
Cheyenne	5.50%
Peer average	4.24%

Source: QCEW, US Bureau of Labor Statistics
Grand Island Source: QCES, Nebraska Department of Labor's NEWorks

Figure 10 Lincoln Comparison Cities

PEER COMPARISONS	PSTS Concentration (2017)
Lansing	3.79%
Lafayette	4.67%
Louisville	4.68%
Lincoln	4.78%
Fargo	4.95%
Lexington	5.06%
Des Moines	5.46%
Peer average	4.77%

Source: CES, US Bureau of Labor Statistics

Figure 11 illustrates the extent to which Nebraska producer services employment is concentrated in Nebraska's micropolitan areas (regions centered on a city with a population between 10,000 and

50,000). Micropolitan areas tend to have a relatively low concentration of employment in PSTS industries. The micropolitan areas of Nebraska listed in Figure 11 have less than 4% of employment in the PSTS sector except for Kearney. Kearney is closing the gap with Lincoln and Omaha. Overall the highest shares appear to be found in the western regions of Nebraska, away from competitors in Omaha and Lincoln. PSTS employment share is 4.05% in Kearney, 3.42% in North Platte and 3.14% in Scottsbluff.

Figure 11 Nebraska PSTS Employment by Micropolitan Area (2017)

Area	Average Weekly Wages	PSTS Concentration
Fremont	\$968	1.69%
Beatrice	\$774	2.04%
Lexington	\$783	2.11%
Columbus	\$1002	2.53%
All Non-Metro	\$864	2.62%
Hastings	\$994	2.65%
Scottsbluff	\$877	3.14%
Norfolk	\$814	3.21%
North Platte	\$856	3.42%
Kearney	\$934	4.05%

Source: QCEW, US Bureau of Labor Statistics via Nebraska Department of Labor's NEWorks

Summary

The PSTS sector is comprised of businesses which primarily provide services to other businesses (i.e., producer services). The PSTS sector is a fast-growing, high-wage sector in the nation. However, Nebraska lags the nation in terms of the PSTS sector. PSTS employment made up 4.40% of Nebraska employment compared to 6.14% nationwide and grew 5.16% in Nebraska between 2008 and 2017 compared to 15.44% nationwide. This pattern is partly the result of Nebraska's urban structure, characterized by small and mid-size metropolitan areas and a large non-metropolitan population. Nonetheless, there are policies which may be able to grow PSTS employment. These are increased training of STEM workers, an improved tax environment for small business, and improvements in quality of life which make the state even more attractive to college graduates.