

11-17-2017

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

Eric Thompson  
*University of Nebraska-Lincoln*, [ethompson2@unl.edu](mailto:ethompson2@unl.edu)

Kalana Jayanetti  
*UNL*

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

 Part of the [Economics Commons](#)

---

Thompson, Eric and Jayanetti, Kalana, "PRODUCER SERVICES: A HUB FOR STEM AND AN ENGINE FOR JOB GROWTH" (2017). *Business in Nebraska*. 167.  
<http://digitalcommons.unl.edu/bbrbin/167>

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 72 NO. 720

PRESENTED BY THE UNL BUREAU OF BUSINESS RESEARCH (BBR)

NOVEMBER 2017

## PRODUCER SERVICES:

### A HUB FOR STEM AND AN ENGINE FOR JOB GROWTH

By Kalana Jayanetti, Eric Thompson

#### Introduction

**P**roducer services providers are firms that sell services primarily to the business community rather than to individuals and households. Accounting firms, consultants, and computer design services are prominent examples of producer services businesses. Producer service industries 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 sectors, in fact, are 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 industries<sup>1</sup>.

This report highlights the performance of the producer services sector in Nebraska. In particular, we examine the growth in producer services in the

nation and in Nebraska over the last decade, and explore whether the state of Nebraska has captured a significant share of employment in producer services. This report updates a 2015 report on the same topic coauthored by Brock Thompson and Eric Thompson.

Most high wage producer services businesses are found in the Professional, Scientific, and Technical Services (PSTS) sector. The PSTS sector includes legal services, accounting, architecture, engineering, design services, computer systems design, management, scientific and technical consulting, and advertising.

Because the PSTS sector is so diverse, it is helpful to understand the distribution of employment among PSTS subindustries, as shown in Figure 1. As a share of nonfarm employment we can see that Nebraska lags the nation in employment concentration for all PSTS subindustries delineated here.

#### Nationwide Growth

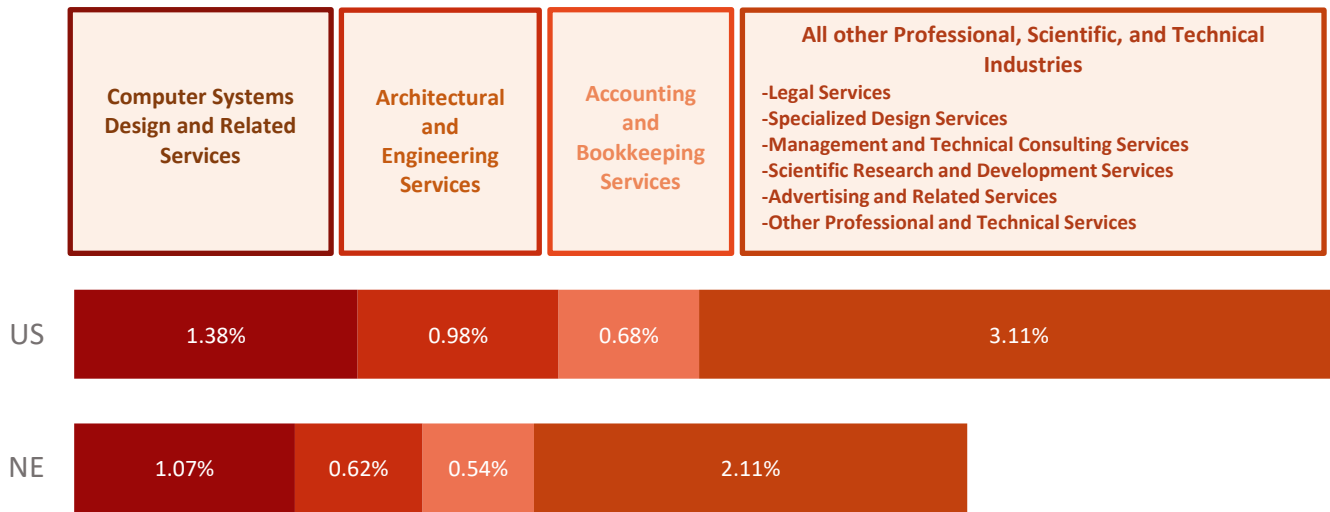
Figure 4 shows the strong growth and higher wages paid nationwide in the key producer services sector. Though the PSTS growth of the last decade (in real and percentage terms) was dampened during the Great Recession (Figure 2), expansion of PSTS industries continues in the United States. Between 2007 and 2016, the PSTS sector grew by 15.9%,

<sup>1</sup> 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).

exceeded in growth only by the Education and Health Services and Leisure and Hospitality sectors. PSTS also continues to grow in terms of its share of non-

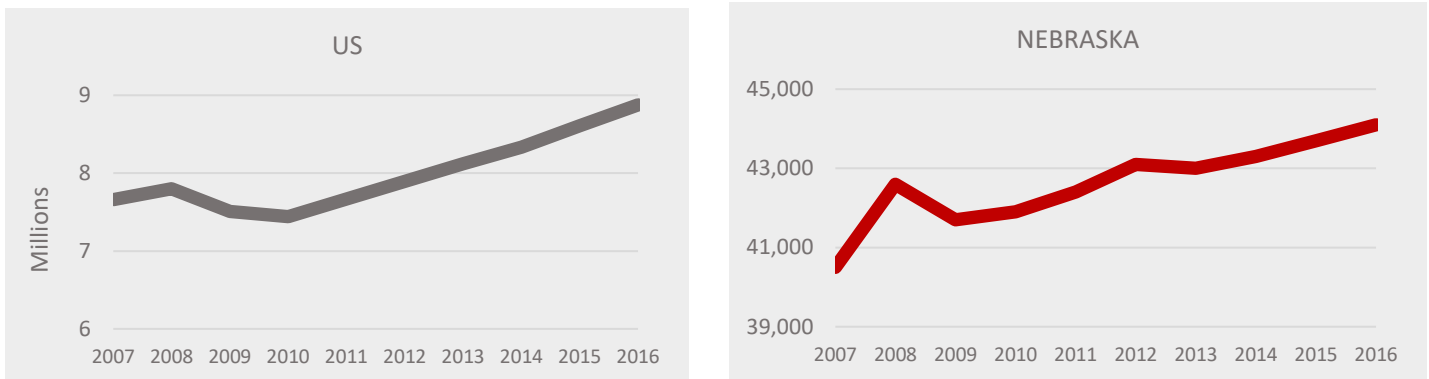
farm employment. The share grew by 0.6% over the 2007 to 2016 period (Figure 3).

Figure 1 **PSTS Subindustry Shares (as a percentage of total nonfarm employment) 2016**



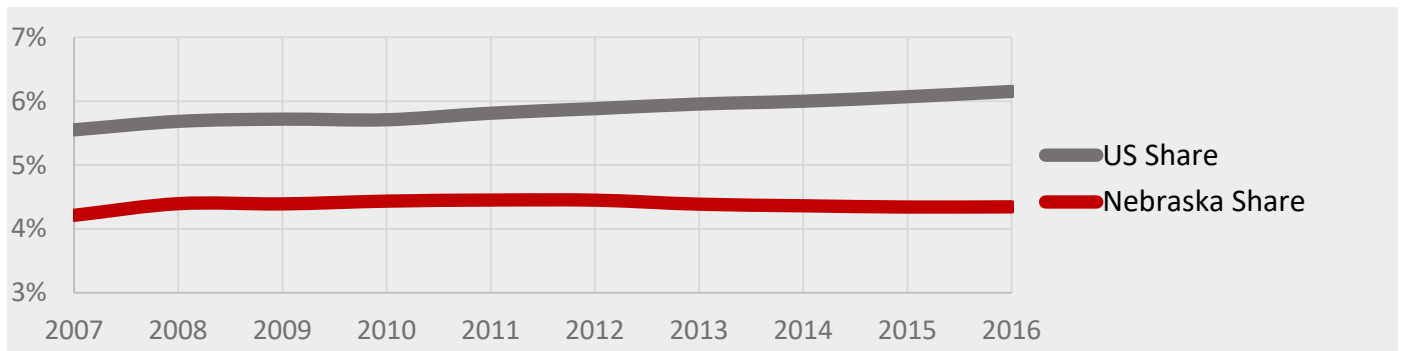
Source: CES, US Bureau of Labor Statistics

Figure 2 **PSTS Employment 2007-2016**



Source: CES, US Bureau of Labor Statistics

Figure 3 **PSTS Share of Nonfarm Employment 2007-2016**



Source: CES, US Bureau of Labor Statistics

Figure 4 US Industries 2007-2016

Industry	2007 Employment (thousands)	2016 Employment (thousands)	'07-'16 % Employment Growth	'12-'16 % Employment Growth	Mean Weekly Wage 2016*
Education and Health Services	18676	22616	21.1%	8.9%	\$924
Leisure and Hospitality	13427	15620	16.3%	13.5%	\$432
Professional and Technical Services	7659.5	8876.7	15.9%	12.5%	\$1,749
Transportation and Warehousing	4540.9	4989.4	9.9%	13.0%	\$970
Administrative and Waste Services	8416.3	9018.2	7.2%	12.5%	\$731
Total Nonfarm	137999	144306	4.6%	7.6%	\$1,029
Other Services	5494	5685	3.5%	4.7%	\$691
Retail Trade	15520	15820.2	1.9%	6.6%	\$583
Utilities	553.4	556.1	0.5%	0.6%	\$1,978
Government	22218	22223	0.0%	1.4%	\$1,233**
Financial Activities	8348	8285	-0.8%	6.4%	\$1,708
Wholesale Trade	6015.2	5866.8	-2.5%	3.5%	\$1,418
Mining and Logging	724	677	-6.5%	-20.2%	\$1,079
Information	3032	2772	-8.6%	3.6%	\$1,893
Manufacturing	13879	12348	-11.0%	3.5%	\$1,248
Construction	7630	6711	-12.0%	18.9%	\$1,128

\*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

In 2016 the Professional, Scientific, and Technical Services sector paid the third highest mean wage among BLS supersectors at around \$1,750 per week (Figure 4). 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, 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 5, which shows how major cities in the United States compare in terms of the share of 2016 employment in the PSTS sector. Washington, D.C. is a city that stands out as having the greatest share of employment in the PSTS sector at 15.9%. This high share may result from the 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 6.2%. PSTS businesses are drawn to large metropolitan areas by factors such as a concentration of potential clients and an abundance of skilled labor.

Figure 5 Major US Regions PSTS Share of Employment

Major Metropolitan Area	PSTS Concentration (2016)
Phoenix	5.7%
Los Angeles	6.3%
Philadelphia	6.7%
Dallas	7.1%
Houston	7.3%
Atlanta	7.6%
Detroit	7.9%
Washington D.C.	15.9%

Source: CES, US Bureau of Labor Statistics

### Producer Services in Nebraska

Nebraska does not have cities as large as those featured in Figure 5. 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 6, which compares the share of employment by industry sector for the state of Nebraska.

PSTS accounted for just 4.3% of nonfarm employment in Nebraska in 2016 compared to 6.2% nationally. This was one of the largest differences in the employment structure of Nebraska and the nation, as seen in Figure 6. The other major difference was the financial activities sector, where Nebraska had a much larger share.

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? Data on recent growth in Nebraska is provided in Figure 7 below.

Even though Nebraska PSTS employment grew by 8.9% between 2007 and 2016, it did not keep pace with national PSTS employment growth of 15.9%. The difference is even starker for the 2012 to 2016 time period. Nebraska PSTS employment grew by just 2.3% from 2012 to 2016 compared to 12.5% nationwide. Finally, Nebraska’s PSTS sector only paid 63% of the weekly wage of the national PSTS sector (Figure 7).

Figure 6  
US / Nebraska Industry Employment Shares (2016)

Industry	US	Nebraska
Government	15.4%	17.0%
Education and Health Services	15.7%	15.0%
Retail Trade	11.0%	10.9%
Manufacturing	8.6%	9.5%
Leisure and Hospitality	10.8%	8.9%
Financial Activities	5.7%	7.2%
Transportation and Warehousing	6.2%	7.2%
Administrative and Waste Services	3.5%	5.2%
Construction	4.7%	5.0%
Professional and Technical Services	6.2%	4.3%
Wholesale Trade	4.1%	4.1%
Other Services	3.9%	3.6%
Information	1.9%	1.8%
Utilities	0.4%	0.1%
Mining and Logging	0.5%	0.1%

Source: CES, US Bureau of Labor Statistics

Figure 7 Nebraska Industries 2007-2016

Industry	2007 Employment (thousands)	2016 Employment (thousands)	'07-'16 % Growth	'12-'16 % Growth	Mean Weekly Wage 2016*	Percent of National Wage
Education and Health Services	133.2	152.6	14.6%	4.6%	\$838	91%
Administrative and Waste Services	46.1	52.4	13.7%	15.9%	\$690	94%
Mining and Logging	0.9	1.0	11.1%	-16.7%	\$752	70%
Leisure and Hospitality	82.3	90.3	9.7%	7.2%	\$304	70%
Professional and Technical Services	40.5	44.1	8.9%	2.3%	\$1,103	63%
Financial Activities	68.7	73.4	6.8%	3.4%	\$1,176	69%
Government	162.4	172.1	6.0%	2.2%	\$1,111*	90%
Other Services	34.8	36.8	5.7%	0.3%	\$586	85%
Total Nonfarm	961.6	1015.0	5.6%	4.8%	\$829	81%
Retail Trade	107.5	110.8	3.1%	5.1%	\$507	87%
Wholesale Trade	41.1	42.0	2.2%	1.7%	\$1,146	81%
Construction	49.6	50.6	2.0%	19.9%	\$929	82%
Manufacturing	101.4	96.8	-4.5%	1.9%	\$913	73%
Transportation and Warehousing	54.5	51.1	-6.2%	-0.8%	\$839	86%
Information	19.8	18.5	-6.6%	3.9%	\$1,160	61%
Utilities	1.7	1.1	-35.3%	-26.7%	\$1,798	91%

\*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

## Producer Services in Nebraska Cities

Nebraska has fewer jobs, and relatively slow job growth, in the high-wage producer services sectors. Based on Figure 6, this may occur because Nebraska has a large non-metropolitan population and mid-size rather than large cities.

This expectation is confirmed in Figures 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.<sup>3</sup>

<sup>3</sup> “Peer” and “aspirational” cities for Omaha and Lincoln were selected largely from studies produced by the Nebraska 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.

Omaha is slightly behind its peer metros in the share of PSTS employment. Omaha is ranked 6<sup>th</sup> out of 9 and its 5.3% share is below the 6.2% average. The Lincoln metro finds itself in a similar position relative to its selected peers. Grand Island, however, finds itself well behind its peer metros, 1.9% below the peer average.

Looking at Figures 8 through 10, Nebraska metro areas tend to have an average or slightly below 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. At the same time, Nebraska metropolitan areas do not appear to be taking the lead among their peers in terms of PSTS employment.

Figure 8 **Omaha Comparison Cities**

PEER COMPARISONS	PSTS Concentration (2016)
Louisville	4.7%
Milwaukee	4.8%
Oklahoma City	5.1%
Omaha	5.3%
Des Moines	5.4%
Boise	5.4%
Salt Lake City	7.5%
Colorado Springs	8.4%
Kansas City	8.6%
Peer average	6.2%

Source: CES, US Bureau of Labor Statistics

Figure 9 **Lincoln Comparison Cities**

PEER COMPARISONS	PSTS Concentration (2016)
Lansing	3.6%
Lafayette	4.6%
Lincoln	4.6%
Louisville	4.7%
Fargo	4.8%
Lexington	5.1%
Des Moines	5.4%
Peer average	4.7%

Source: CES, US Bureau of Labor Statistics

Figure 10 **Grand Island Comparison Cities**

PEER COMPARISONS	PSTS Concentration (2016)
Grand Island	2.4%
St. Joseph	3.3%
Grand Forks	3.7%
Dubuque	4.6%
Cheyenne	5.3%
Peer average	4.3%

Source: QCEW, US Bureau of Labor Statistics

Figure 11 illustrates the extent to which Nebraska producer services employment is centered in the Omaha and Lincoln metros. In particular, Nebraska’s micropolitan areas (regions centered on a city with a population between 10,000 and 50,000) 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. The highest shares are found in the western areas of Nebraska, away from competitors in Omaha and Lincoln. PSTS employment share is 3.8% in Kearney, 3.4% in North Platte and 3.1% in Scottsbluff.

Figure 11 **Nebraska PSTS Employment by Micropolitan Area (2016)**

Area	Average Weekly Wages	PSTS Concentration
Fremont	\$952	1.7%
Beatrice	\$755	2.0%
Lexington	\$791	2.1%
Columbus	\$974	2.5%
All Non-Metro	\$836	2.6%
Hastings	\$968	2.8%
Scottsbluff	\$846	3.1%
Norfolk	\$787	3.3%
North Platte	\$841	3.4%
Kearney	\$878	3.8%

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 makes up 4.3% of Nebraska employment compared to 6.2% nationwide and grew 8.9% in Nebraska between 2007 and 2016 compared to 15.9% 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. However, 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.