Linking Questions to Answers: How EDOs can use EMSI Data to Show the Importance of Particular Clusters (or Other Industrial Groupings)

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Matching Questions About Clusters to Measures Available in EMSI

The objective of this document is to match measures (data output) produced in EMSI to questions that economic development professionals may have about their region's economic activity. This is a part of a package of materials produced by the RPC that introduce practitioners to EMSI and to the concept of "clusters" and cluster-based economic development. However, it is important to note that the data shown in this document can be created for any grouping of industries or even a single industry. Hence, the material reviewed is not specific to clusters. If a practitioner wished to use data to make a case for the importance of a sector, cluster, group, or industry, the same measures would be used.

Q1: What are region's strengths? (indicator = location quotient)

Perhaps, the most frequently asked question is: what are the region's strengths? Oftentimes, strengths are common knowledge, but this becomes an important question when deciding clusters that should be targeted for future growth. According to cluster theory, efforts to grow an economy should concentrate on the clusters where the region already has a strong showing. For more specific

information of the central tenets of cluster-based economic development, please see the report accompanying this document, entitled, "A Methodology for Enabling Analysis of Industry Clusters in Greater New Orleans."

To answer this question, a location quotient (LQ) is a common measure. This is calculated as follows:

LQ = (number employed in the cluster within the region/total employment in the region)/(number employed in the cluster nationally/total employment for the nation)

A resulting score of "1" reveals that the region is no different than the nation. Its performance is average. A score greater than "1" signals a regional strength, and of course, a score less than "1" reveals a weakness in the cluster of interest. Michael Porter and his associates, who are the leading scholars and researchers in economic clusters suggest that a rigorous standard of "1.3" be used to determine a regional strength. Below, LQs are provided for the 51 "traded clusters" in the 5-parish RPC economic development region of Jefferson, Orleans, Plaquemines, St. Bernard, and St. Tammany parishes. Traded clusters export their goods and services to other regions and in doing so build prosperity locally.

Table 1: Location Quotients for Traded Clusters, RPC Region

Cluster Name	Location Quotient
Aerospace Vehicles and Defense	0.2
Agricultural Inputs and Services	0.14
Apparel	0.35
Automotive	0.37
Biopharmaceuticals	0.04
Business Services	0.89
Coal Mining	0
Communications Equipment and Services	0.46
Construction Products and Services	1.84
Distribution and Electronic Commerce	1.0
Downstream Chemical Products	0.55
Downstream Metal Products	0.55
Education and Knowledge Creation	1.2
Electric Power Generation and Transmission	0.25
Environmental Services	1.42
Financial Services	0.60
Fishing and Fishing Products	2.85
Food Processing and Manufacturing	0.96
Footwear	0.04
Forestry	0.11
Furniture	0.13

Hospitality and Tourism	1.75
Information Technology and Analytical Instruments	0.18
Insurance Services	0.66
Jewelry and Precious Metals	1.02
Leather and Related Products	0.99
Lighting and Electrical Equipment	0.51
Livestock Processing	0.48
Marketing, Design, and Publishing	0.4
Medical Devices	0.06
Metal Mining	0.2
Metalworking Technology	0.14
Music and Sound Recording	0.68
Nonmetal Mining	0.42
Oil and Gas Production and Transportation	3.78
Paper and Packaging	0.12
Performing Arts	1.49
Plastics	0.46
Printing Services	0.44
Production Technology and Heavy Machinery	0.38
Recreational and Small Electric Goods	0.24
Textile Manufacturing	0.09
Tobacco	0.38
Trailers, Motor Homes, and Appliances	0.05
Transportation and Logistics	0.71
Upstream Chemical Products	4.92
Upstream Metal Manufacturing	0.43
Video Production and Distribution	2.43
Vulcanized and Fired Materials	1.16
Water Transportation	10.39
Wood Products	0.15

Source: Cluster definitions taken from Delgado, M., M.E. Porter, and S. Stern (2014), "Defining Clusters of Related Industries." Retrieved from http://clustermapping.us/; and Data Center analysis of EMSI Data.

If the strict standard is used (1.3), the results indicate the following clusters are regional strengths that should be targeted by EDOs for continued support and further development:

- Construction Products and Services (1.84)
- Environmental Services (1.42)
- Fishing and Fishing Products (2.85)
- Hospitality and Tourism (1.75)

- Oil and Gas Production and Transportation (3.78)
- Performing Arts (1.49)
- Upstream Chemical Products (4.92)
- Video Production and Distribution (2.43)
- Water Transportation (10.39)

The above strengths are not surprising and largely conform to substantive knowledge about the region. A looser standard can also be applied to broaden the strengths of the region. After all, cluster theory argues that EDOs should build upon existing bases, not just their strongest bases. If a relaxed criteria of "~1" is applied, the following clusters can reasonably be added to a comprehensive list of target clusters for future growth:

- Business Services (.89)
- Food Processing and Manufacturing (.96)
- Jewelry and Precious Metals (1.02)
- Leather and Related Products (.99)
- Music and Sound Recording (.68)
- Transportation and Logisitics (.71)
- Vulcanized and Fired Materials (1.16)

In analyzing these industries, the LQ should be coupled with substantive knowledge of the region in determining which clusters are the best options for targeted future growth. For example, jewelry and precious metals is a very small cluster that is driven by production for local parades and festivals, making it an odd choice to target as a cluster with strong export potential. On the other hand, music and sound recording was included. This is a rather low LQ and can be a questionable inclusion. However, is it possible that this cluster can work with existing strengths in performing arts and video production and distribution? These kinds of considerations need to be taken when analyzing the results and thinking about future strategies. The LQ on its own is just a measure that helps facilitate conversations. With that noted, it would be unwise to form strategies for growth around clearly weak clusters, as shown by the LQ.

Some may note that the largest employers are not traded clusters, but "local clusters," such as healthcare services. In cluster theory, local clusters are indeed large employers, but they are not necessarily builders of prosperity. In fact, they are recognized as sharers of prosperity. Nevertheless, they are still important and there should be a way to ensure that they remain strong.

Q2: Are our local serving industries strong? (indicator = location quotient (adjusted to population)).

The calculation for assessing the strength of a local cluster is slightly different than that for a traded cluster. The size and strength of a local cluster should be proportional to the population of the region. Essentially, an economic activity, like healthcare services, should be able to adequately serve the population. If it is too large, its upkeep is a burden. If it is too small, it is a push factor for other forms of development. Companies and talented labor do not want to move to places that cannot provide an adequate level of healthcare services. Thus, an altered LQ is used to assess the strength of local clusters. The calculation is as follows:

LQ = (number employed in the cluster regionally/total regional population)/(number employed in the cluster nationally/national population)

As with traded clusters, the score of "1" reveals average strength, but unlike the calculation for traded clusters, it is undesirable to be too far above or below this number. The LQs for local clusters in the RPC region are shown below.

Table 2: Location Quotients for Local Clusters, RPC Region

Cluster Name	Location Quotient
Local Food and Beverage Processing and Distribution	0.93
Local Personal Services (Non-Medical)	0.94
Local Health Services	0.92
Local Utilities	0.81
Local Logistical Services	0.93
Local Household Goods and Services	0.78
Local Financial Services	1.07
Local Motor Vehicle Products and Services	1.00
Local Retailing of Clothing and General Merchandise	1.08
Local Entertainment and Media	0.96
Local Hospitality Establishments	1.35
Local Commercial Services	1.14
Local Education and Training	1.67
Local Community and Civic Organizations	0.75
Local Real Estate, Construction, and Development	1.04
Local Industrial Products and Services	0.88

Source: Cluster definitions taken from Delgado, M., M.E. Porter, and S. Stern (2014), "Defining Clusters of Related Industries." Retrieved from http://clustermapping.us/; and Data Center analysis of EMSI Data.

The numbers are not surprising. How though, do these connect to economic development practices? Unquestionably, more literature has been produced on traded clusters, but there is an emerging perspective on local clusters that recognizes them as "anchor institutions." As such, they drive employment, and EDOs should be attentive to how workforce development is linked to these clusters. A capable labor force is needed to ensure these clusters remain healthy. Also, EDOs should have an interest in keeping local clusters healthy because they can spur traded activity. Local clusters require particular goods and services as inputs. Thus, they can be sizeable customers to traded clusters that exist in the region (or outside of the region). The spending patterns of local clusters can be analyzed to highlight where and how efforts can be made to ensure more of their spending goes to the region's traded clusters. For example, a region's healthcare services cluster (a local cluster) could purchase a large quantity of its medical devices (a traded cluster) from outside of the region, even though a modest base may exist locally. In such a case, EDOs can intervene and find ways to encourage the local healthcare services to spend within the region in hopes of furthering the development of the medical devices cluster.

While LQs are measures that show whether or not a cluster is a regional strength, it does not reveal how well the strength is performing. In other words, the RPC region can have a strong water transportation cluster but it could be in decline. A different measure is used to assess the performance of clusters that have a strong presence in the region.

Q3: How is a cluster, known to be strong within the region, currently performing? (indicator = shift share)

The measure, "Shift Share," answers this question. It can be viewed as a health indicator for regional strengths. The purpose of shift share is to isolate the three ways in which an economy can grow. First, the cluster of interest can be booming nationally, and therefore, regional growth should be expected. For example, due to fracking, energy industries are experiencing growth nationally. Thus, it is expected that the region's energy-related cluster would also experience growth. Second, a cluster can grow simply because the country as a whole is experiencing growth. Finally, something can be happening specific to the region that provides the cluster with a competitive advantage that enables it to exceed the projections associated with growth of the cluster nationally and national employment growth in general.

The example below is a shift share for the video and production and distribution cluster. The output from EMSI shows all of the industries associated with the cluster (first two columns). It also shows the number of jobs by industry within the cluster for the years selected for the analysis (columns 3 and 4). The expected growth due to how the cluster is performing nationally is provided in column 5, "Industrial Mix Effect." The expected growth of the cluster due to national economic growth in general is provided in column 6, "National Growth Effect." The seventh column, "Expected Change" is the sum of the Industrial Mix Effect and the National Growth

Effect. Hence, from 2011 to 2014, it was expected that the video production and distribution cluster would lose 102 jobs within the region. In column 8, the "Competitive Effect" is provided, which shows the region outperformed expectations by 738 jobs. This means its actual "Change" in jobs in the cluster over this time period was 636, as shown in the last column.

Table 3: Shift Share Analysis, Video Production and Distribution Cluster, RPC Region, 2011-2014

NAICS Code	Description	2011 Jobs	2014 Jobs	Ind Mix Effect	Nat Growth Effect	Expect Change	Comp. Effect	Change
334612	Prerecorded Compact Disc (except Software), Tape, and Record Reproducing	0	0	0	0	0	0	0
512110	Motion Picture and Video Production	1264	2020	-79	62	-17	773	756
512120	Motion Picture and Video Distribution	<10	<10	-2	0	-2	-1	--
512132	Drive-In Motion Picture Theaters	0	0	0	0	0	0	0
512191	Teleproduction and Other Postproduction Services	27	<10	-12	1	-11	-9	--
512199	Other Motion Picture and Video Industries	143	44	-80	7	-73	-25	-99
	Total	1437	2072	-173	71	-102	738	636

Source: Data Center analysis of EMSI data.

The results from the shift share analysis should be used in conjunction with LQs. The overall conclusion that can be drawn about the video production and distribution cluster is that it has a strong presence in the region with a LQ of 2.43 and it has been a strong performer over the last five years, adding 636 jobs, or 738 more than what was projected by industry trends nationally and national trends in general.

For shift share, analysts always want to see a positive number in the "Competitive Effect" column. This shows that the region has a special advantage when it comes to whatever type of economic activity is being analyzed. In the case of a negative number (for either known strengths or clusters targeted for growth), EDOs should then ask why the cluster is struggling, which leads to the next set of measures.

Q4: What are the current obstacles to development? (indicator = earnings, workforce issues)

Unfortunately, EMSI does not offer many indicators that can be used to assess obstacles to development. Then again, not many public or private datasets do, and it is usually up to the professionals at EDOs to develop original data to answer this question. Nevertheless two measures can be useful, earnings and also information on workforce.

On earnings, EMSI allows comparisons to be made to the state and to the nation with the current RPC subscription. Competitive wages have been recognized as a key factor for development. It is strong wages that lure talented labor, which is required for many of today's high-tech, modern industries. This stands in contrast to past thinking, whereby low wages were a draw for companies. Low wages may

still be an advantage for economic developers, but current research suggests this is only true for older, standardized forms of work. For newer types of work, where competitive advantages are built on speed, quality, and innovation, rather than quantity and price, low wages are a drawback. This is something EDOs should keep in mind when examining earnings. Basically, do earnings levels make sense for the type of work being performed?

An example of data output from EMSI on earnings is provided below for the environmental services cluster. In the first two columns, the industries in the cluster are provided with their NAICS codes. The third column shows average earnings as wages, salaries, and proprietor earnings. The fourth column of "Supplements" reveals average employee benefits. The third and fourth column are combined for total average "Earnings" in column 5. It is the number in column five that is the benchmark that should be compared to the total average earnings at the state level (column 6) and the national level (column 7). In this example, it is clear that those working within industries in the environmental services cluster within the region are underpaid. This raises the question: Is this good or bad, given the type of work performed? In many cases, these industries include manual labor that is not too sophisticated and does not require high degrees of education. Still, it is likely the results of the shift share should be combined with these results. If the shift share shows that this cluster is struggling, pay may be an issue. In addition, there are other concerns that can be taken into consideration. Waste management can be dangerous and the materials may be getting more and more complex, and therefore, innovation in how goods and services are provided may be needed. If so, this may require skilled labor, which will cost.

Table 4: Earnings Comparison between Region and Nation for the Environmental Services Cluster, 2014.

NAICS Code	Description	2014 Wages, Salaries, & Proprietor Earnings	2014 Supplements	2014 Earnings	2014 State Earnings	2014 National Earnings
562112	Hazardous Waste Collection	$36,950	$8,951	$45,901	$57,660	$71,003
562119	Other Waste Collection	$49,807	$12,066	$61,873	$69,142	$54,740
562211	Hazardous Waste Treatment and Disposal	$41,859	$10,141	$52,000	$63,454	$90,817
562213	Solid Waste Combustors and Incinerators	--	--	$70,488	$81,595	$103,720
562219	Other Nonhazardous Waste Treatment and Disposal	$62,612	$15,168	$77,780	$77,850	$71,812
562920	Materials Recovery Facilities	$96,504	$23,379	$119,883	$58,438	$54,782
562998	All Other Miscellaneous Waste Management Services	$53,307	$12,914	$66,221	$64,332	$61,453
	Total	$55,352	$13,409	$68,761	$67,672	$73,832

Source: Data Center analysis of EMSI data.

The quality of the local workforce could also be a factor that affects development of clusters. EMSI does not give information on labor quality, but a simple analysis can be run to determine if the supply for the occupations in highest demand sufficiently meets demand. It is important to note however, that EMSI has some limitations when it comes to workforce analyses. Its problems are not unique, as data on completions (the number of people that complete a program) often lags behind the

time period of interest. This is shown in the example below, which examines the highest demand occupations for the upstream chemical products cluster.

To get an idea of demand, the timeframe of the analysis extends to the year 2020. Closer cut-off points can be used if desired. The first two columns of the output show the occupations in highest demand. The third and fourth columns show the number of jobs in those occupations for the years selected. These numbers are specific to the cluster, and column five just shows the change over the period of time. The sixth column, "Openings," is NOT cluster specific. This column reveals the number of job openings within that occupation for all industries across the region. This is one of the problems with EMSI. Of course, through EMSI a percentage can be obtained for the cluster that can be applied to the provided Openings number. This is cumbersome but can be done efficiently by an analyst with advanced Excel skills. The next column, "Annual Openings" is the average number of openings per year over the selected time period that yields the final "Openings" number. Another problem is revealed with the "Completions" column. The most recent data is for 2011 – not a good match for 2014. This issue is described above and there is no fix for it. Fortunately, it is rare for completions to take radical jumps. The data from 2011 is a likely indicator of supply in 2014, and as a result, just examining the first occupation, it is reasonable to believe the supply of 1,976 completions will satisfy the annual openings number of 273. There would be reason for concern however, if the numbers were closer.

Table 5: Workforce Analysis, RPC Region, Upstream Chemical Products Cluster, 2014-2020.

SOC	Description	2014 Jobs	2020 Jobs	Chng	Opens	Annual Ops.	Regional Comps (2011)	Education Level	Exp. Level	Training Level
11-1021	General and Operations Managers	9,853	10,228	375	1,637	273	1,976	Bachelor's degree	Less than 5 years	None
49-9041	Industrial Machinery Mechanics	1,069	1,179	110	319	53	0	High school diploma or equivalent	None	Long-term on-the-job training
49-9071	Maintenance and Repair Workers, General	6,570	6,740	170	1,042	174	3	High school diploma or equivalent	None	Long-term on-the-job training
51-1011	First-Line Supervisors of Production and Operating Workers	1,873	1,870	(3)	252	42	1	Postsecondary non-degree award	Less than 5 years	None
51-8091	Chemical Plant and System Operators	59	80	21	37	6	0	High school diploma or equivalent	None	Long-term on-the-job training
51-9011	Chemical Equipment Operators and Tenders	144	184	40	76	13	0	High school diploma or equivalent	None	Moderate-term on-the-job training
53-3032	Heavy and Tractor-Trailer Truck Drivers	5,249	5,547	298	957	159	0	Postsecondary non-degree award	None	Short-term on-the-job training
	Total	24,816	25,828	1,012	4,319	720				

The final columns in the analysis reveal the qualifications needed to get jobs in the occupations. This is important information for assessing supply and demand because the experience and training levels are often not taken into consideration when workforce gaps are assessed. In other words, completions are often taken as a number that either adequately meets or does not meet demand. One can imagine though, that an occupation in high demand requires an additional 5 years of experience and long-term training. In such a case, which fortunately is not shown in the example, a completions number that is "in the ballpark" for annual openings may not be sufficient. This information must be taken into consideration in addition to the numbers for openings and completions when making assessments of labor supply. EMSI is a convenient source of such information, even as an imperfect source. Professionals in EDOs should not be so concerned with how precise the information is on workforce and recognize that even imprecise data has value.

Addressing wages and workforce needs are certain ways to cultivating stronger clusters. Another approach is to track spending in order to clearly identify where key inputs to a cluster can be bolstered locally.

Q5: How can we target specific parts of a cluster to help strengthen it? (indicator = industry requirements)

Perhaps one of the most useful tools offered by EMSI is its "Industry Requirements" reports. These are expense reports that show what clusters spend their money on to produce their goods and services and where they spend it. Professionals at EDOs can use these reports to try to bolster their clusters in two ways: reduce spending that escapes the region and increase spending that already occurs within the region. Think of industry requirements as a "supply chain" analysis. The key questions in such an analysis are: Where are there weaknesses in the supply chain for which we use providers from outside the region, and also, where are the strengths in the supply chain for which we use local providers that we can target to ensure they remain strong well into the future?

Two examples are provided below. The first one is for the medical devices cluster. This cluster was chosen specifically to show how difficult it is to grow clusters for which there is no pre-existing base. In the first two columns of the EMSI output, the industries that compose the supply chain for the cluster and their associated NAICS codes are provided. The third column reveals the amount of total spending for the cluster that goes to the industry. Total spending is also provided through EMSI, but it is excluded from these examples because the tables below only show the industries for which the cluster spends the most. To determine the region's weaknesses in the supply chain, look to the last column, "Out-of-Region." The results confirm what is known; a medical devices cluster is miniscule in the RPC

region. For some of the main goods and services in this cluster over 90 percent of the spending is done out-of-region, including spending in surgical and medical instrument manufacturing, surgical appliance and supplies manufacturing, all other plastics product manufacturing, primary smelting and refining of nonferrous metals, and iron and steel mills. The challenge of cultivating these industries locally in hopes of stimulating the formation of a medical devices cluster within the region is immense.

Perhaps the challenge can be lessened if we look to our strengths that support this cluster. This information is provided in the fourth column, where we see lessors of nonfinancial intangible assets, commercial banking, and offices of lawyers. At this point, an analyst or practitioner must ask: How can I bolster these strengths in ways specific to medical devices? Moreover, is it worth doing so given the weaknesses that were revealed in the out-of-region spending? In all, these data suggest the base for this cluster is very weak, and they do so in a way that illuminates the challenges of building clusters. These findings should discourage action, but then again, some may still wish to pursue the development of this cluster. The advantage of using a data-driven, cluster-based approach is that there is evidence at the outset of such actions that actors can be held accountable to if they fail to meet their goals.

Table 6: Industry Requirements, Medical Devices Cluster, RPC Region, 2014

NAICS	Industry	Amount	In-Region	Out of Region
339112	Surgical and Medical Instrument Manufacturing	$688,708	0%	100%
551114	Corporate, Subsidiary, and Regional Managing Offices	$570,843	36%	64%
339113	Surgical Appliance and Supplies Manufacturing	$407,844	3%	97%
326199	All Other Plastics Product Manufacturing	$284,436	2%	98%
325211	Plastics Material and Resin Manufacturing	$253,856	35%	65%
332710	Machine Shops	$245,035	27%	73%
425120	Wholesale Trade Agents and Brokers	$215,411	61%	39%
331419	Primary Smelting and Refining of Nonferrous Metal (except Copper and Aluminum)	$211,121	0%	100%
533110	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	$197,682	90%	10%
523920	Portfolio Management	$175,146	18%	82%
522110	Commercial Banking	$167,809	80%	20%
541110	Offices of Lawyers	$166,946	90%	10%
331111	Iron and Steel Mills	$158,983	3%	97%
523120	Securities Brokerage	$158,512	54%	46%
322211	Corrugated and Solid Fiber Box Manufacturing	$141,776	11%	89%

Source: Data Center analysis of EMSI data.

In contrast, the second example (video production and distribution) shows how industry requirements from EMSI can be used to guide informed, rational decision-

making around the formation of clusters. When examining the strengths (column 4, "In-Region") there are very high percentages of spending for many industrial inputs, such as motion picture and video production; independent artists, writers, and performers; advertising agencies; and all other professional, scientific, and technical services. While high percentages of spending go to these industries, for some there is room for growth. For example, all other professional, scientific, and technical services is a strength, but at 80% of in-region spending, it is an industry that can be improved upon. Overall, the high numbers in column 4 show that a solid base exists for this cluster, which offers hope for further growth.

How can the further growth be achieved? This question was answered in part above. Strengths can be built upon. Another route to growth is to contain spending that spills beyond the region. This type of spending is revealed in the final column. Here, it is again wise to target industries for which there is a base. Immediately, teleproduction and other postproduction services stand out with spending in and out of region almost even (49% to 51%). This is an opportunity. Clearly a base exists that can be expanded. Accomplishing this would strengthen the local cluster. Similarly, practitioners at EDOs can think of ways to improve their management services that are specific to this cluster, recruit corporate and branch offices, and bolster marketing services. All of these steps are shown by the data to be in accordance with a cluster-based approach. The cluster is itself a strength, and to build it further, those important supportive industries for which there is a base can be isolated and pursued.

Table 7: Industry Requirements, Video Production and Distribution Cluster, RPC Region, 2014

NAICS	Industry	Amount	In-Region	Out of Region
512110	Motion Picture and Video Production	$60,315,259	99%	1%
711510	Independent Artists, Writers, and Performers	$12,950,977	71%	29%
541611	Administrative Management and General Management Consulting Services	$8,399,089	57%	43%
531120	Lessors of Nonresidential Buildings (except Miniwarehouses)	$6,802,358	92%	8%
531110	Lessors of Residential Buildings and Dwellings	$6,748,451	92%	8%
561320	Temporary Help Services	$6,339,798	84%	16%
541810	Advertising Agencies	$5,888,076	70%	30%
512191	Teleproduction and Other Postproduction Services	$5,776,897	49%	51%
541110	Offices of Lawyers	$5,756,458	99%	1%
551114	Corporate, Subsidiary, and Regional Managing Offices	$5,740,871	62%	38%
512131	Motion Picture Theaters (except Drive-Ins)	$5,291,410	96%	4%
541990	All Other Professional, Scientific, and Technical Services	$4,589,735	80%	20%

531210	Offices of Real Estate Agents and Brokers	$4,574,646	63%	37%
561110	Office Administrative Services	$4,306,526	94%	6%
522110	Commercial Banking	$3,701,119	92%	8%
541211	Offices of Certified Public Accountants	$2,926,907	93%	7%
541613	Marketing Consulting Services	$2,626,764	53%	47%
531311	Residential Property Managers	$2,617,363	77%	23%
531390	Other Activities Related to Real Estate	$2,569,004	79%	21%
515120	Television Broadcasting	$2,512,234	99%	1%
541690	Other Scientific and Technical Consulting Services	$2,488,382	84%	16%
512120	Motion Picture and Video Distribution	$2,431,223	44%	56%
541820	Public Relations Agencies	$2,055,397	59%	41%

Source: Data Center analysis of EMSI data.

All of the above data from EMSI can be used to make the case for the importance of clusters. The data described above can also be used to analyze single industries, groups of industries, partial sectors, and entire sectors. Essentially, while the examples used are clusters, these data can be used for similar analyses on other units of analysis. Newly emerging economic activity however, is perhaps the most difficult to identify and examine.

Q6: How do we identify emerging industries or new forms of economic activity?

The answer to this question in brief is not through a cluster-based approach. One can used substantive knowledge about the newly emerging industry/cluster to match it to existing clusters, but such experimentation will not yield as reliable information as a more in-depth dive into the emerging industry. This requires detailed data that is not available in EMSI or any other dataset.

The topic of emerging industries is addressed in more detail in the related report, ""A Methodology for Enabling Analysis of Industry Clusters in Greater New Orleans." The report suggests that tracking new economic activity should be done by tabulating known businesses doing the work of interest, the support organizations for the activity (i.e., membership groups), and individuals that are in the community and known supporters of the activity. Once these lists reach a critical mass, especially the list of businesses, they will push a more macro-level trend, such as employment in an industry. At this point, firm evidence exists for an emerging economy. Then, this industry can be analyzed the same way as described above, and importantly, the industry requirements analysis will start to reveal the components of the new cluster. Hence, EMSI and its analytical tools will be extremely useful but only when micro-level data (counts of organizations) are matched to industries.

A final issue worth addressing is how a cluster-based approach applies to the actions of EDOs. Does a cluster-based approach simply mean defining a region's

economic activity differently, or does it actually change how economic development is performed.

Q7: What does moving towards a cluster-based approach mean for economic development practices?

In many cases, economic development organizations are already following a cluster-based approach. They are just doing so with a limited understanding of how the targets of their activities fit together, and thus, the need for strict definitions. With strict definitions, it becomes the responsibility of EDOs to support clusters. Underlying cluster theory is the importance of collaboration. Clusters are efficient and innovative because private companies collaborate. Also, workforce development efforts are focused and effective because the private sector collaborates with government and the nonprofit sector. Infrastructure needs of industry are met because government agencies collaborate with the private sector. In sum, the purpose of EDOs is to encourage regional collaboration of many sorts. Below are some examples for how this can be accomplished.

- For clusters that are shown to be strong within the region (or shown to have a pre-existing base), EDOs should find ways to obtain the cooperation of leaders in the private sector to determine ways in which the cluster can be improved upon. Industry councils, membership groups, and leadership committees are all possible vehicles for getting actors together for this purpose.
- Networking matters, and therefore, business related events, such as entrepreneurial pitch events, conferences, and career fairs are important. These should be focused in ways that target cluster members rather than unrelated, vague demographics, such as all entrepreneurs or all high-tech businesses in general.
- Innovation is important, and nothing encourages it like competition. Political leaders, EDOs, and nonprofits must find ways to get actors in their clusters to communicate with actors in similar clusters elsewhere. Getting businesses from elsewhere to share their stories locally fuels competition.

The options above are just three simple actions that, of course, require resources and leadership, but should have long run benefits to local clusters. All seek ways to bring actors together to exchange information and collaborate. Only limits to strategic and creative thinking prevent the list from being longer. Again, see the longer report, "A Methodology for Enabling Analysis of Industry Clusters in Greater New Orleans," for more detail on how a cluster-based approach informs practice.