User Manual on Labor Market Information

Institute for Community Inclusion

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Contents

Introduction

This user manual is an open-source living document that provides description about how VR can use and potentially benefit from using Labor Market Information (LMI). This manual provides information about what LMI is, why it should be used, how it can be used and then provides a catalogue of different sources of LMI. This manual also highlights how some agencies are using LMI in innovative ways. Reason for keeping this book open sourced, free to use, and free to edit is two folds. First, LMI, its usage within VR are continously evolving. A standard format document cannot keep-up with the changes that are happening on a daily basis. Second, by open-sourcing this manual, we also want to invite VR agencies, practitioners and researchers to contribue in making LMI more usable and accessible for the VR. We understand that we havent been exhaustive in listing all the sources and all the possible ways LMI can be used. This manual should however guide its users in the direction where they can find relevant LMI, make them comfortable using LMI and finally enable them to contribute towards the common knowledge base.

Chapter 1

Purpose

The Demand Side RRTC partnered with the Alabama Department of Rehabilitation Services beginning in 2012 to infuse labor market information into a dashboard for counselors and to assist the ADRS to expand the programmatic use of formal labor market data to better serve jobseekers, understand business needs, and project long-term training solutions. Early on in the effort, it became very apparent that there are many sources of data and each have advantages and limitations for use in VR. The RRTC created this catalogue as a guide for selecting data elements and understanding the range of possible data sources. Since 2012, Congress passed the Workforce Innovation and Opportunity Act of 2014 that requires state VR agencies to use LMI. We expanded this catalogue and made it available to all state VR agencies as a handy reference for exploration. The Demand Side RRTC partnered with the RSA funded Job Driven Vocational Rehabilitation Technical Assistance Center to solicit review and recommendations to expand the catalogue. We included more information about how to access LMI within different states and provided some sample analyses that may be relevant for VR agencies.

This catalogue is divided in two sections. In the first section we will describe LMI using common definitions and discuss different types of LMI and different ways of appreciating LMI. In the second section we catalogue different sources of LMI available at the time fo this report. The catalogue highlights critical LMI sources that have a high likelihood of relevance to state VR agencies. More data sources are likely to be available over time and will be added to the catalogue.

Note: We make no conclusion about whether or not any given data source should be or should not be used by VR. We assert that VR agencies should select sources that have use for the particular goal in mind. Yet, we acknowledge that with an increase in readily available LMI data, there is a high likelihood that VR personnel may become overwhelmed with options. We hold to the belief that wise use of data is better than simply increasing the number of data sources used.
Hopefully this manual will help VR to tease out relevant information from a multitude information available to them.

Chapter 2

What is LMI?

According to the Bureau of Labor Statistics (2017), LMI is essential for tracking and analyzing the economy of a country. National and local governments need labor market information to reduce unemployment, generate employment, or plan training programs to meet the needs of industry. It is also used in determining future workforce training needs, identifying the availability of labor, ascertaining prevailing wage rates, exploring potential markets. LMI encompasses a wide array of measures that can help describe an economy. Some of the primary examples are unemployment rates, occupational statistics and employment projections. Below is the list of common domains that tend to fall in broad categories such as general economic indicators, labor force descriptors, and occupational skills clusters.

- Employment and unemployment data or forecasts
- Wage and hours worked data
- Industry sector data including trends, such as job growth or decline
- Occupation data including trends such as job growth or decline
- Labor turnover and mobility
- Average hours worked per week
- General economic trends such as gross domestic product (GDP).

Arguably, there are three major types of sources of LMI.

- Traditional LMI
- Real-Time LMI
- Labor Market Intelligence

2.1 Sources of LMI

Different sources of LMI mostly gather data in different ways and oftne provide exclusively different types of information. Therefore, it is important to appreciate their difference and the value they bring to the VR and decision making.

2.1.1 Traditional LMI

Traditional LMI can be defined as a broad array of data on the labor market that is systematically collected, analyzed and reported by the government agencies. This data is made available free of cost by the government. Traditional LMI sources covers wide range of geographical area, depending upon which level of government collected the data. Key data metrics include current employment levels, projected employment growth, unemployment rates, average wages, minimum education requirements, industry trends, and workforce demographics.

2.1.2 Real-Time LMI

Real-time LMI is the data generated from job postings posted online. Such information is derived from job-postings or resumes that are posted online and can be obtained at a very granular level for different localities. Real-time LMI is "scraped" concurrently from different sources rather than compiled over long periods of time from surveys or other data collection methods. Like traditional LMI, real-time LMI can provide information on labor market trends such as wages, skills in demand and emerging occupations or sectors.

2.1.3 Labor Market Intelligence

Labor Market Intelligence is data gathered by VR employees from employers, chambers of commerce, and industry associations about opportunities and challenges of hiring for different positions, expected changes in employment, and positions that require specialized skills. Labor Market Intelligence can often be very local in nature – i.e., providing labor market information for a particular set of employers in a town. In comparison, Traditional LMI has to be aggregated at relatively larger geographical unit. Labor Market Intelligence generated by VR employees uses existing social networks by including different stakeholders.

Chapter 3

Why Labor Market Information May Be Useful For State VR Agencies

State VR Agencies may find multiple uses for LMI at the administrative, field services, and counselor levels. With the passage of WIOA, state VR agencies and technical assistance providers are searching for ways to integrate LMI into their work. State VR agencies such as the Alabama Department of Rehabilitation Services are testing different methods.

LMI provides a big picture of labor market trends at the national, state and local levels, and projects future outlook. By using LMI VR agencies may be able to more effectively prepare demand-side strategic efforts and respond to labor market needs.

VR agencies could use LMI to:

- Serve clients with disabilities, while considering the following points:
  - Demographic characteristics of the population
  - Prevalent wages for certain occupation and industry
  - In-demand skills and education
  - Need for re-location and commuting
- Meet employer's needs, while keeping the following points into account:
  - Number of openings and mean salaries by industry and occupation
  - Job openings during a particular period of the year
  - Develop business partnership with key business players
- Improve strategic planning efforts

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

Chapter 4

VR Roles and LMI Usage

Different roles within a VR agency will use LMI in different ways. In the following tables we are providing some examples of different roles within an agency will use LMI based on their objectives and possible benefits. We have classified five roles within VR to illustrate these examples of using LMI– * Counselor * Business Relations Representative * Job Developers * Field Services Directors * Director

4.1 Counselors using LMI

Objective	Benefits
Assisting a jobseeker identify an employment goal	Jobseeker has information a
Understanding future trends in specific occupations or industries of interest to the jobseeker	LMI can give the best possi

4.2 Business Relations Representative using LMI

Objective	Benefits
Develop business outreach strategies that address immediate needs of business community in the local area	Use of differe
Maintain and improve connections with key businesses in the local economy	Using LMI n
Identify business engagement strategies that are tailored to VR jobseekers with limited skills	Use LMI to i

4.3 Job Developers using LMI

Objective	Benefits
Target job development to immediate needs of employers	Find open positions as they get posted through examination o
Explore career ladders for entry-level jobs	Use occupation information for guidance about career progress

4.4 Field Services Directors using LMI

Objective	Benefits
Align VR workforce to accommodate the local/regional labor market	Use LMI to identify locations in the state in which
Identify short-term and long-term training partnerships	Use LMI to identify occupations in high demand a

4.5 Directors using LMI

Objective
Identify career pathways and workforce system partnership opportunities
Evaluate how business relations personnel are identifying unique employment opportunities and identify employers who ar

Chapter 5

LMI Data Source

In this section, we are introducing LMI data sources, the corresponding dataset and their strengths and limitations for state vocational rehabilitation agencies. This is not an exhaustive list and each state may have additional sources. We have compiled them by public data sources and private data sources. We have divided the data sources by their ownership i.e., public data sources and private data sources. Most of the data sources listed in this section are available for free. However, some data sources are subscription based or require a fee. Most of the description text, when available is taken from the websites that describe the datasources. We intend to continual update this list with the most recent links, new data sources and any other changes.

Chapter 6

Public Sources of LMI

6.1 The U.S. Department of Labor

"The Bureau of Labor Statistics of the U.S. Department of Labor is the principal Federal agency responsible for measuring labor market activity, working conditions, and price changes in the economy." Its mission is to collect, analyze, and disseminate essential economic information to support public and private decision-making. The data disseminated by the BLS is mainly gathered from surveys that are administered monthly (e.g., Mass Layoff Statistics), quarterly (e.g., Quarterly Census of Employment and Wages), and annually (e.g., National Longitudinal Surveys.) (U.S. Bureau of Labor Statistics 2017e).

6.1.1 The Current Employment Statistics (CES)

http://www.bls.gov/ces/ (National Database)

https://www.bls.gov/sae/data.htm (State and Metro Area Database)

Current Employment Statistics (CES) survey, is based on a survey of approximately 147,000 businesses and government agencies representing approximately 634,000 worksites throughout the United States. The primary statistics derived from the survey are monthly estimates of employment, hours, and earnings for the Nation, States, and major metropolitan areas. Preliminary National estimates for a given reference month are typically released on the third Friday after the conclusion of the reference period in conjunction with data derived from a separate survey of households, the Current Population Survey (CPS). The reference period for the CES survey is the pay period which includes the 12th of the month. (U.S. Bureau of Labor Statistics 2017)

Strengths: The CES tracks hours worked and earnings (e.g., average hourly earnings, average weekly hours, and average weekly overtime hours). CES data are classified according to the 2012 North American Industry Classification System (NAICS), which streamlines the industry classification process. CES data is updated every month thus VR employees can track changes in the state labor market on a regular basis.

Limitations: The CES collects data on non-agricultural industries only. The data are aggregated at the industry level (e.g., average hourly earnings). The CES does not provide any county-level data, and only metro areas covered in regional analysis. For a state VR agency any analysis based on CES will be limited to the state level.

Level of specificity: The CES is published on a monthly basis at the national level. This dataset gives an overview of the health of the economy in the United States.

6.1.2 The Quarterly Census of Employment and Wages (QCEW)

http://www.bls.gov/cew/

The QCEW is a complete count of employment and wages, classified by industry and based on quarterly reports filed by employers for over 7 million establishments subject to unemployment insurance laws. This data can be used to calculate the number of establishments, monthly employment, and quarterly wages, by industry, by county, and for the entire country.(U.S. Bureau of Labor Statistics 2017d)

Strengths: Original source of QCEW is the Quarterly Contributions Report (QCRs) submitted to State Workforce Agencies (SWAs) by employers subjected to unemployment insurance laws. This data is not collected from individual institutions. Collected from SWAs this data is an accurate reflection of UI data. The QCEW publishes a quarterly count of employment and wages reported by employers covering 98 percent of U.S jobs. State VR agencies can get granular data at a county level on number of establishments , monthly employment, and quarterly wages.

Limitations: Wage data are available on a quarterly basis only. The QCEW does not collect data from the self-employed, domestic workers, and unpaid family workers.

Level of specificity: The information provided by this dataset is available at the county, Metropolitan Statistical Area, state and national levels by industry.

6.1.3 The Local Area Unemployment Statistics (LAUS)

http://www.bls.gov/lau/

LAUS is source of monthly and annual estimates for employment, unemployment, and labor force data for census divisions, states, counties, metropolitan areas, and cities. These data are available for 7,500 areas and can be used to assess localized labor markets and perform comparative analysis across regions.(U.S. Bureau of Labor Statistics 2017c)

Strengths: General strength of the LAUS is that it allows you to identify unemployment trends at the country or city level (for some states).

Limitations: The LAUS only looks at unemployment rates, and cannot be used in conjunction with any other data source. For example, one cannot find unemployment rates for any particular industry or occupation. Therefore there is no way to connect it with any other source of LMI.

Level of specificity: The LAUS produces data for census regions, divisions, states, counties, metropolitan areas, cities with a population of 25,000 or more and for all cities in the New England area.

6.1.4 The Occupational Employment Statistics (OES)

http://www.bls.gov/oes/

The OES program produces annual employment and wage estimates for over 800 occupations and 400 industries. BLS provides these estimates at national, state and at metropolitan and nonmetropolitan geographical levels. The OES also has occupational estimates for over 450 industry classification. This data is collected by surveying approximately 200,000 establishments every six months. (U.S. Bureau of Labor Statistics 2017c)

Strengths: The OES can be used to analyze occupational employment, occupational wages, and occupational projections. The OES can be used as tool by VR counselors during counseling by talking about occupational trends in the state or local region. The OES can also be used in conjunction with RSA 911 data by using Standard Occupation Codes (SOC) as a key variable.

Limitations: Covers full-time and part-time non-farm industries only and does not include self-employment, owners and partners in unincorporated firms, household workers, or unpaid family workers.

Level of specificity: Estimates are available at the national and state levels, and for selected metropolitan and nonmetropolitan regions.

6.1.5 The Mass Layoff Statistics (MLS)

http://www.bls.gov/mls/

The MLS collects information on mass layoff actions. The information is gathered using a combination of each state's unemployment insurance databases and employer-provided data. Monthly mass layoff numbers are collected from establishments from which a minimum of 50 claims for unemployment insurance has been made during a five-week period. A quarterly version of this dataset is also available.(U.S. Bureau of Labor Statistics 2017d)

Strengths: MLS data are available on a monthly basis. In addition to monthly reports, one can find quarterly and annual data. The MLS can be used to look at the characteristics of dislocated workers by their age, race, sex, ethnic group and place of residence. These variables can help understand labor demand on monthly basis. Additionally, this is the only source of data to find reasons for separation between employee and employer, which could be useful to see if any particular industry is performing poorly.

Limitations: MLS data are only a subset of all layoff activity. Many layoffs fail to meet the qualifying criteria. For example, large layoffs accompanied by low levels of unemployment insurance activity may not be identified as an MLS event.

Level of specificity: Data generated from the MLS is available at the state and industry level.

6.1.6 Business Employment Dynamics (BED)

http://www.bls.gov/bdm/home.htm

BED data are generated from the Quarterly Census Employment and Wages program. This data source includes quarterly measurements of gross job gains and gross job losses. (U.S. Bureau of Labor Statistics 2017a)

Strengths: Using the BED, you can estimate gross job gains and gross job losses in a particular establishment. Therefore, you can estimate which establishments are opening, closing, expanding, or contracting.

Limitations: This information is produced on a quarterly basis, and is aggregate at national level. Data from the self-employed and non-profit organizations are not included.

Level of specificity: These data are available in aggregated form at the national and state level.

6.1.7 The Job Opening and Labor Turnover Survey (JOLTS)

http://www.bls.gov/jlt/

This program under the BLS provides statistics on new openings, hires, and separations. The JOLTS serves as a demand-side indicator of labor shortages at the national level. (U.S. Bureau of Labor Statistics 2014)

Strengths: These data are released monthly. The JOLTS collects data on total employment, job openings, hires, quits, layoffs and discharges. It can be used for studying industry trends, education, and job training purposes.

Limitations: It includes nonagricultural industries only.

Level of specificity: JOLTS data are available at the industry level.

6.1.8 The Current Population Survey (CPS)

http://www.bls.gov/cps/

The CPS is a monthly household survey supported jointly by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics. It is the primary source of labor market economic statistics, such as employment, unemployment, and wages by industry, occupation, and demographic characteristics. (U.S. Bureau of Labor Statistics 2017b)

Strengths: The CPS provides monthly employment and unemployment data classified by a variety of demographic, social, and economic characteristics. This includes information that may be pertinent to VR, such as educational attainment and disability status.

Limitations: Disability status is self-reported, which may have an impact on the quality of the data. Sampling strategies are complex but were designed for national estimates and therefore reliable estimates cannot be made at the county level. Many counties are not included in the sample.

Level of specificity: CPS data are produced at the state level, and for 12 of the largest metropolitan statistical areas.

6.1.9 The National Compensation Survey (NCS)

http://www.bls.gov/ncs/ect/

The NCS is a survey conducted by the Office of Compensation Levels and Trends, which provides the following statistics: - Quarterly changes in employer costs: Employment Cost Index (ECI). The ECI shows changes in wages and salaries, and benefit costs in addition to showing changes in total compensation.

- Quarterly employer cost levels: Employer Costs for Employee Compensation (ECEC). The ECEC is a quarterly survey that shows total compensation costs using these variables: wages and salaries; total benefit costs; separate benefit costs for broad benefit categories such as paid leave, supplemental pay, insurance, retirement, and savings; and legally required benefits.
- Incidence and provisions of employee benefits, such as the average number of paid holidays provided to employees each year. (U.S. Bureau of Labor Statistics 2013)

Strengths: The ECI presents data as a total for all workers, and separately for private industry and for state and local government workers. Unlike the CPS, which is administered to a member of a household, this survey is administered to business establishments. Thus, the NCS may help you determine what the acceptable wage is for a particular position in a particular industry or occupational group. It can provide insight on an employer that you may not be able to determine by visiting their website. Occupations are classified using the Standard Occupational Classification system.

Limitations: Not all occupations within a given establishment are selected due to the method used in data collection by the NCS. The NCS uses Probability Selection of Occupations as their method of choice. It allows the NCS staff to select a particular occupation within the establishment. Occupations with the highest number of individuals are more likely to be selected.

Level of specificity: The ECI reports changes by industry, occupational group, union and nonunion status, and census region and division, for 15 large metropolitan areas and the nation.

6.1.10 The Employment Projections (EP)

http://www.bls.gov/emp/

The EP program produces 10-year projections of industry and occupational employment outlook. The latest projections are for the period of 2012–2022. This group also produces an annual Occupational Outlook

Handbook, which contains national-level analysis based on the employment projections. (U.S. Bureau of Labor Statistics 2017a)

Strengths: The EP includes occupational profiles for the vast majority of employment settings. It provides education, related work experience, and on-the-job training requirements for a particular occupation.

Limitations: Economic, employment, and labor force projections are updated every other year. The EP does not produce short-term projections. These projections are not to be confused with the short and long-term projections compiled by your state's department of labor.

Level of specificity: Employment projections are provided at the national level.

6.1.11 O*NET Online

http://www.onetcenter.org/

The Occupational Information Network (O*NET) program is a comprehensive database of worker attributes and job characteristics and is compiled and managed by the Employment and Training Administration. Its interactive user interface contains standardized descriptions of different occupations. Such data help with career exploration and counseling, education, employment, training activities, and career decision-making.

Strengths: The data collected and processed by O*NET is available at no cost, and is continuously updated. The website also has a suite of career exploration tools. These can be used by VR to assist clients that want to choose a career or are considering a career change.

Limitations: O*NET data are heavily used by VR agencies and vendor organizations. One disclaimer is that data or career assessments included may have not undergone rigorous validity testing particularly for persons with disabilities. Access to the related instruments requires internet access and may require proficiency with information technology.

Level of Specificity: These data are available at the regional, state, and national levels.

6.2 The United States Census Bureau and The U.S. Department of Commerce

The Census Bureau is the primary source of population demographics. The Census conducts large-scale nationwide data collection with advanced sampling methodologies that provide official national and subnational-level measures.

6.2.1 Longitudinal Employer-Household Dynamics (LEHD)

http://lehd.ces.census.gov/

The LEHD program is part of the Center for Economic Studies at the U.S. Census Bureau. Through the Local Employment Dynamics (LED) Partnership, states have agreed to share unemployment insurance earnings data and participate in the Quarterly Census of Employment and Wages. These data are then combined with numerous administrative data, censuses, and surveys in order to create statistics on employment, earnings, and job flow in a specific geography and industry for different demographic groups. These data are used to create anonymized data on workers' employment, and the LEHD Origin-Destination Employment Statistics (LODES). Industry-level data are available under the LEHD program, under Industry Focus – http://lehd.ces.census.gov/applications/industry_focus.html.

Strengths: The LEHD program produces data that can be used by states and local authorities to make informed decisions about their economies.

Limitations: Some of the data collected by the LEHD program is considered to be confidential, and is only available to qualified researchers with approved projects through restricted access use in Census Research Data Centers.

Level of specificity: LEHD data are available at the state level.

6.2.2 The Economic Census

https://www.census.gov/programs-surveys/economic-census.html

The Economic Census is the U.S. Government's official measure of American business and economy. The Economic Census is the most comprehensive source of information about American businesses from the national to the local level. Published statistics include more than 1000 types of industries, 15,000 products, every state, over 3, 000 counties, 15,000 cities and towns, and Puerto Rico and other U.S. Island Areas. The most recent Economic Census was conducted in 2012. Primarily the economic census contains data on number establishments, revenue, annual payroll ($ value), and number of paid employees on payroll. This data is available across all sectors. These data are generally used for planning purposes by government agencies as well as by businesses. The Economic Census is also used to evaluate market share and new business opportunities.

Strengths: Economic Census data are used by businesses to identify opportunities for growth. Having such an insight will allow VR to target businesses in their state that are planning to expand. These data can also be used to compare different communities.

Limitations: The Economic Census is conducted every five years, in years ending in 2 and, and it does not census forms to most very small firms.

Level of specificity: Data are typically available at six levels of geographical specificity: National, States, Metro Areas, Counties, Places, and at ZIP Codes level.

6.2.3 Business Dynamics Statistics (BDS)

https://www.census.gov/ces/dataproducts/bds/

The Business Dynamics Statistics (BDS) is a source of annual statistics on the 'business dynamics' (such as job creation and destruction, establishment births and deaths, and firm startups and shutdowns) for the economy and these data are aggregated by establishment and firm characteristics. The Longitudinal Business Database (LBD) https://www.census.gov/ces/dataproducts/datasets/lbd.html is the source of BDS. The LBD is a confidential database available to qualified researchers through secure Federal Statistical Research Data Centers https://www.census.gov/fsrdc. Using BDS, one can track business growth and decline in a given region.

Strengths: The BDS provides information on establishment openings, job expansions, and number of startups within a region. This information can help VR professions to identify industries that expanding and creating more jobs in the state. Business relations personnel at VR might find this data useful in identifying industry sectors and establishments that are growing and are seeking skilled employees.

Limitations: Self-employed, agricultural sectors, and most government establishments are not included in this dataset.

Level of specificity: Data are available at the state, metro/non-metro, and at Metropolitan Statistical Area level.

Chapter 7

Private Sources of LMI

There are private for profit firms, non-profit organizations, and research institutes that provide labor market data and analyses. The information available through private sources is often available for free and is mostly available on the internet. On some occasions value added information, or information with higher fidelity is available only through membership, subscription or for a fee. Several of the popular sites that mostly function as a job board also provide statistics and data on the labor market, along with career planning services. There is a specific and growing sub-class of private LMI providers that focuses mostly on providing real-time LMI. The field of private LMI in general is continously evolving with consistent influx of new players. Real-Time LMI can be considered as a special class of LMI that uses advanced computational algorithms to collect and analyze data from job postings across the internet. In comparison, conventional sources of private LMI might gather data through surveys, providers of real-time LMI gathers data from actual job postings from across the internet. Well known job boards are also increasingly becoming sources for real-time LMI as they increase their ability to parse job postings on their network as well as on the internet in whole.

This catalogue is not endorsing any particular source but aims to provide general information on various private sources of LMI. Users should be aware of copyright or any other restriction with respect to the information products or data available through private sources.

7.1 Private sources of LMI

As noted earlier there are multiple private sources of LMI. Some of the companies collect data through surveys of employers. Other companies that mainly function as job-boards analyzes the jobs posted on their services and provide an aggregated outlook on trends in labor demand and supply. These private sources also small briefs and reports that synthesizes data that is either available through outher public LMI sources or references the proprietary data.

Strengths: There are multiple sources of such private LMI to chose from. VR counselors can chose the source that serves their needs the best. Websites hosting private LMI also provides analysis and synthesis of their data for easy consumption. Compared to public sources of LMI, new set of private LMI data is made available at a higher frequency.

Limitations: Private sources of LMI are often less exhaustive than public sources of LMI in their reach and coverage. Private sources of LMI or often not as extensively scrutinized as most of the public sources of LMI are. In cases where data collection or analysis methodology is proprietary, it is not easy to assess the methodology as an user.

Level of Specificity: Most of the private sources of LMI are frequently updated and are mostly available at state level. Specially, the data based on job postings is available even for smaller regions such as counties,

cities and towns.

Following is a non-exhaustive list of private sources of LMI –

- *Conference Board*

https://www.conference-board.org/data/ , https://www.conference-board.org/data/eti.cfm, https://www.conference-board.org/data/helpwantedonline.cfm

Conference board is a global research association that provides informational relevant to the businesses. The Conference Board website provides publication and data related to the labor market. The Conference Board also develops Employment Trend Index https://www.conference-board.org/data/eti.cfm, which is based on other publicly available sources of LMI. The Conference Board considers its ETI as a short-term look of the labor market which can be used by decision makers as a forecasting tool.

The conference board also produced Help Wanted Online (HWOL) Data Series in partnership with Wanted Technologies. HWOL is monthly series that looks at 16,000 internet job boards, corporate boards and other job sites. HWOL provides seasonally adjusted labor supply and demand data for the U.S., the nine Census regions, the 50 states, and locally for 52 largest metropolitan areas. HWOL data and related information is available at https://www.conference-board.org/data/helpwantedonline.cfm

- *Manpower Inc.*

http://www.manpower.com

Manpower is a staffing agency that provides workforce management services to employers. It conducts quarterly Employment Outlook Surveys in the U.S. results of which are publicly available at http://manpowergroup.us/meos/.

- *Monster.com*

http://www.monster.com

Monster.com is an online job posting website. Monster.com provide salary search to its consumers and also produce market intelligence reports on labor statistics and trends, occupational reports and resources for job seekers. Reports from Monster.com are available at - https://hiring.monster.com/hr/hr-best-practices.aspx

- *Indeed.com*

http://www.indeed.com

Indeed.com is a leading job search portal. Besides job postings, once can find job category trends (https://www.indeed.com/jobtrends/category-trends), salaries (https://www.indeed.com/salaries) and company reviews (https://www.indeed.com/companies).

- *Careerbuilder*

http://www.careerbuilder.com/

Careerbuilder like Indeed.com is also a job search portal. Along with providing access to job postings it also provides information salaries, required skills and other resources. Most of the additional resources are available at - https://www.careerbuilder.com/insights/

7.2 Real-Time Labor Market Information

The real-time LMI as a sub-class of private LMI deserves discussion in greater detail because of its scope and how it can compliment traditional sources of LMI. Real-Time LMI is derived from online job postings available across multiple job boards, both small and large.

Many a times online job postings contain wage range, industry information and occupational information. Other information in job postings such as position description, and skill requirements are also valuable set

of information. Organizations that provide real-time LMI are continuously parsing online job postings and develop aggregates based on region, industry type, occupation type and job requirements. Most of the providers of LMI try their best to remove duplicates before developing usable statistics.

Strengths: Real-time labor data provides users with scrubbed online postings that are active at the moment and are representing positions for which an employer is actively seeking workers. Many open positions at one employer may signify change in that employers' hiring needs. In general statistics generated through real-time LMI tools are updates at least once in a day.

Limitations: Such data sources only collect job related information that is available online. It is unclear if all labor market sectors are actively posting online and whether an online posting is for an open position. Some postings may be for positions in which there is an internal hire already identified, or are always posted to ensure a pool of applicants for when the position becomes available. Data provided through such sources can be inconsistent because of the details provided in various job postings.

Level of Specificity: Data are available at the city and often at the zip code levels. Data are also available in real time. Details such as skill requirements, educational requirements, experience requirements, occupation codes, and sector information are also easily available.

Following is a non-exhaustive list of sources of real-time LMI –

- *Labor Insight by Burning Glass*

http://burning-glass.com/labor-insight/

Labor Insight by Burning Glass is an analytical tool that provide aggregated labor market data in real-time. Burning glass aggregates and analyzes job postings from multiple sources, remove the duplicates and provides a dashboard to display relevant information.

- *CEB TlentNeutron*

https://www.cebglobal.com/talent-management/talent-neuron.html

TalentNeutron, which is a part of Gartner was also known as Help Wanted analytics. TalentNeutron is provider of real-time LMI analytics, targeted mainly to HR services to help them make recruiting decisions. It provides labor supply and demand information by region, industry, occupational classifications and skills.

- *Geographic Solutions*

https://www.geographicsolutions.com/

Geographic Solutions is another provider of real-time LMI. It has developed America's Labor Market Analyzer (ALMA) as a tool that combines multiple sources of LMI with real-time LMI.

Chapter 8

Existing Innovative Strategies

There are already some innovative strategies for LMI Integration used by VR Agencies. There are examples of how VR agencies are using traditional LMI, real-time LMI and labor market intelligence as a part of their workflow. Following three examples use different sources of LMI to best fit their needs.

8.1 The Alabama Department of Rehabilitation Services (ADRS) Dashboard

http://www.rehab.alabama.gov/

A dashboard is a tool that provides "critical" data accessible quickly similar to GPS systems in cars that store massive amounts of data, but pull relevant data to provide immediate directions. ADRS's dashboard is integrating all three forms of LMI (Traditional, Real Time, and ADRS LMI Intelligence Data).

8.2 Vermont Division of Vocational Rehabilitation's (VDVR) "Jobsville" Model

http://vocrehab.vermont.gov/

As a part of VDVR's Jobsville model, VR counselors share client goals with Business Specialists. Business Specialists provide the labor market intelligence by sharing current employment opportunities in local businesses.

8.3 The Career Index Plus

https://www.thecareerindex.com/dsp_intro.cfm

The Career Index Plus compares thousands of data points with the customer's background, needs and circumstances in mind to produce a unique and easy to understand summary of pros and cons along with detailed support information for a given career choice. As a freely available tool, The Career Index Plus can be used by a counselor as well as person looking for employment. The Career Index Plus does not collect or analyze any data by itself, it uses a variety of tools which it integrates with real time local labor market information as well as local job openings from thousands of online job boards and present the data in an user friendly interface.