Data Driven Insight: Evaluating the Dun and Bradstreet Toolkit

Washington Workforce Training & Education Coordinating **Board**

Employment Security Department WASHINGTON STATE

Washington State Department of **Commerce**

EXECUTIVE SUMMARY

Can business insight gleaned from detailed data make a difference in keeping businesses operating and thriving, even during an unprecedented pandemic? This interagency project tested whether third-party business analytics software would improve business engagement, along with performance outcomes, across Washington's workforce development system. The project was initiated before the COVID-19 pandemic upended the economy. But by pushing back the one-year pilot's deadline and moving licenses around to maximize staff capacity to use the new tool, workforce and economic development partners were able to test drive this concept at locations across the state.

The project stems from a 2019 request from the Workforce Training and Education Coordinating Board (Workforce Board) to the Governor and Legislature to create a dashboard that tracks the impact of public workforce development services on business engagement and business satisfaction. This request aligned with the Workforce Board's strategic priority to enhance and increase business engagement for the comprehensive workforce development system (including all forms of education, training, and support services).

The Workforce Board identified Dun & Bradstreet (D&B) proprietary data and its EconoVue (EV) and Market Insight (MI) tools for their potential to help the system pinpoint business needs at a more granular level than is possible with administrative data. D&B acquires data by analyzing payment experiences, banking information, government registries, and various online tracking systems to create a robust profile of millions of companies from around the world. This public, proprietary, entrusted, and behavioral data is housed in a data cloud to be used in analytics tools. The toolkit can generate scores, ratings and insights including analyzing financial stress, enabling the workforce system to strategically target assistance to businesses likely to lay off employees.

The one-year trial of the D&B data, software, and training was acquired at a significantly reduced cost—an almost 40 percent reduction of the standard market rate. This reduced rate was presented by D&B as an affordable way to demonstrate the product's value. The state could then test drive the tools to see if they made sense to incorporate into the state's workforce development resources and strategy. Initial costs associated with D&B was $214,500. However, this does not include the additional staffing required to facilitate the product. The total planned staffing costs among the three partners was $324,848, bringing the project total to an estimated $539,348. The initial D&B exploration project was paid for primarily using the Governor's Workforce Innovation and Opportunity Act (WIOA) discretionary funding alongside $65,000 from the Department of Commerce (Commerce) to support a 0.5 FTE.

In utilizing complementary third-party data tools such as D&B, the state could determine whether they helped to:

- Better deploy economic development resources where they are most needed.
- Optimize workforce development and layoff aversion strategies.
- Utilize a more robust data collection and analysis system to inform economic and workforce development priorities.

By sharing business information and coordinating resources, public sector partners would also be able to reduce duplication and link services toward better outcomes, and potentially reach a greater number of businesses and workers.

Commerce, Employment Security Department (ESD), and the Workforce Board launched an interagency agreement for a one-year trial with D&B to evaluate its effectiveness in achieving these goals by leveraging the D&B toolset. This work included the use and analysis of D&B's proprietary data in conjunction with resources from the three partner agencies. The project, which began in Fall 2019, was delayed as a result of the COVID-19 pandemic. Project partners are grateful to D&B and the Governor's office for a nine-month extension to June 2021 to be able to more thoroughly test drive the tools, evaluate their effectiveness, and provide an overall analysis of this project.

This report evaluates the D&B data toolset in engaging and supporting businesses in variety of ways, working with multiple partners across the state. The project delved into three main areas:

1. Identify opportunities to increase business engagement and effectiveness in delivering services across all stakeholders in Washington's workforce system.
2. Assess the value of the D&B products as a tool to enhance business services and/or as a potential data set in the proposed business engagement dashboard, and implications for future funding.
3. Increase interagency (and partner) collaboration, data sharing, and support.
   a. Short term - D&B assessment
   b. Long term - Opportunities for ongoing collaboration, including the creation of a dashboard displaying key business engagement indicators, as well as relevant economic and workforce data.

Value Added by Dun and Bradstreet

This coordinated approach, in some cases, yielded positive returns. Interagency collaboration resulted in shared data, resources, and knowledge; aided in the distribution of economic

assistance services; and supported layoff aversion efforts. Though D&B data is imperfect, its large database includes valuable information on a wide range of Washington businesses. This information is not typically available to those without a D&B subscription. This can hinder the type and level of assistance provided to businesses by agencies and partners who lack this type of detailed, data-rich information. Initial investigations show this data has the ability to help workforce and economic development professionals provide assistance to distressed businesses and industries much more quickly, avert business closures and layoffs, place unemployed workers into training or jobs, and connect businesses with qualified workers. By proactively identifying distressed businesses before a WARN notice[1] is issued, for instance, the state can engage with businesses and workers when there is still time to make a difference. But the successful and regular use of these D&B tools wasn't universal. Also, some partners took issue with incomplete data and data that was inconsistent with existing state databases, among other concerns. The following is an overview of D&B's strengths and weaknesses.

Strengths

- Identifies previously unknown businesses.[2]
- Accessible contact information for a wide range of businesses.
- Predictive analytics (including proprietary Financial Stress and Growth Scores).
- Data variables and filters providing insight into a business's health and the ability to refine searches by various criteria.
- Demographic insight on business ownership, including those owned by women and minorities.
- Search and analyze region-specific data.
- Shared database among partner agencies.
- Availability of raw, complete data that can be downloaded and utilized.
- Timely, actionable data to provide assistance more quickly.
- Business knowledge and client support services.

Weaknesses

- Training and technical skills needed to effectively use this tool.
- Data caveats:
    - Incomplete data.
    - Incorrect data (or not updated).

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[1] The federal WARN (Worker Adjustment and Retraining Notification) Act requires companies with 100 or more employees to notify affected workers 60 days before closures and layoffs.
[2] State and local agencies do track businesses, although not all businesses are included in these databases.

   o Data that significantly differs from internal state (ESD labor market and Department of Revenue) data sources.

   o Limited time series data that makes it difficult to do longer-term comparisons.

   o Lack of transparency of the methodology used in predictive variables.

- Data sharing limitations.
- Cost of future investment.
- Cost of FTEs to support software, toolkit, and partner assistance.

<u>Pandemic impacts evaluation</u>

The COVID-19 pandemic, which included the mandatory shutdown of businesses and schools starting in March of 2020, had profound repercussions on Washington's economy and workforce. Because of this unprecedented disruption, projections and assumptions built on previous economic cycles were no longer necessarily valid. This had significant ramifications when evaluating the effectiveness of the D&B tools. These tools mine data from business-to-business transactions. Much of this typical business activity stalled during much of 2020 and into early 2021.

Under more typical economic conditions, business financial distress is not as rapid or as devastating as the sudden, enforced shutdowns of multiple industries, as was the case during COVID-19. During more normal economic times, it is easier to pick out distressed businesses or industries that can be helped by government services before they close or begin to lay off workers. The city of Los Angeles, for instance, used D&B's predictive analytics to identify distressed businesses for the city's layoff aversion program. This helped the city to exceed its goals for identifying at-risk-businesses by 25 percent and boosted its consultation/site visits by more than 50 percent[3]

During the pandemic—when many, if not most, sectors were effectively shuttered at least temporarily—it became much more difficult to single out specific businesses or industries that were underperforming relative to their peers. This relative underperformance can be a key indicator of distress. Because businesses were being shut down across the board, it became difficult to determine which merited outreach efforts.

Another hurdle during the COVID-19 pandemic was the limited time workforce and economic partners had to learn to use new tools. These partners were in crisis mode, reacting to the sudden economic freefall caused by a global pandemic. Many were unable to dedicate

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[3] Layoff Aversion Program FY2014: Economic Impact Analysis, Institute for Applied Economics, Los Angeles County Economic Development Corporation, July 2014.

significant resources to learning and using D&B tools as they prioritized more immediate relief efforts.

However, the pilot showed that while the tools did not provide answers to every question, some participating partners found they were useful. Staff who were able to effectively utilize these tools connected with businesses to avert layoffs, identified potential recipients of economic assistance grants, implemented job fairs, and conducted other outreach efforts. These users recommended purchasing the D&B tools for use on an ongoing basis. While D&B is not, nor should any data set be expected to be, a "silver bullet" that provides answers to all queries, this pilot showed that it does complement other traditional economic and labor market information. These partners found the products to be helpful supports, optimized to complement, rather than replace, traditional data already in use.

INTRODUCTION

In the age of information, access to accurate, real-time data is essential to maintaining economic competitiveness. Information is the new commodity of the 21st Century, more valuable than gold or oil. While the gathering and commercialization of vast troves of information is readily apparent in the private sector, this vital resource also helps the public sector carry out its mission in helping businesses survive and thrive.

State policy makers and practitioners require vast amounts of information for a myriad of uses, from better understanding the day-to-day economic struggles of local marginalized populations to outlining in-demand skills needed for family-wage jobs, to identifying struggling businesses in need of assistance to tracking and encouraging growth industries. While the primary public sector use case for this data during economic recovery is helping businesses with financial assistance and layoff aversion, accurate, timely information is key during any economic cycle.

Washington's public systems currently do not have access to reliable, up-to-date information that can provide a more complete picture of the economic health of the state's businesses, including their financial viability, or their short- and long-term prospects for growth or contraction. Without this ground-floor data, it has been difficult to target businesses for either lay-off aversion or to support business growth or technology transformation. To be meaningful, the system needs real-time data from most, if not all employers about their specific job make-up and competitive outlook. This data is needed to build stronger partnerships with industry and to map new career and credential pathways for workers, with an eye toward long-term labor market value for both employees and employers.

Data analytics tools provided by third-party vendors such as Dun & Bradstreet (D&B) can help public sector agencies keep on top of economic trends and gain a more nuanced understanding of the needs of their business customers and workforce. This information can help answer broader questions about local and regional labor markets, which jobs and industries are declining or increasing, which emerging skills are needed to fill talent pipelines, and which specific workforce and economic development resources can help business and industry the most. Regional Workforce Development Councils (WDCs) along with county-level Associate Development Organizations (ADOs) and Economic Development Councils (EDCs) are able to deliver targeted services through timely, situational, business-specific data gathered at a local level. This granular information is largely unavailable from other sources. For instance, D&B can identify local business branches along with linked franchises. Other data may only list a company at its headquarters location.

Recognizing this, the state's Department of Commerce (Commerce), Employment Security Department (ESD), and the Workforce Training and Education Coordinating Board (Workforce

Board), with funding from the Governor's office, created an interagency team to assess the potential of D&B data to enhance business engagement with economic and workforce support systems. The purpose of the interagency project was to identify public and potential third-party business analytics data sets to improve business engagement and performance outcomes across the workforce development system. This project specifically explored D&B's proprietary data in conjunction with the administrative data and research strengths of partner agencies.

The project also included the development of staff capacity across multiple agency partners to understand and make use of the data to strategically deploy limited public resources to support businesses, workers, and jobseekers. This state-level use of data was in addition to on-the-ground deployment by regional workforce and economic development partners, who were better able to tailor their services to meet local business needs. Through shared business information and coordinated resources, partner agencies also had the opportunity to reduce duplication of services. Instead, they could "knock once" on a business door in a coordinated way, rather than reaching out on multiple, often overlapping fronts and potentially frustrating business customers. The D&B toolkit also helped workforce and economic development organizations reach a greater number of businesses and workers, because the toolkit helped surface a larger number of businesses than traditional analytics alone.

The D&B toolkit also has the potential to enhance local workforce and economic development outreach by providing a data-driven understanding of the local and regional economic landscape. With this ground-level understanding, staff will be better able to contact and engage with businesses needing support—from those struggling to survive to businesses requiring assistance with expansion efforts. Leveraging the power of D&B's EconoVue and Market Insight data tools could help staff connect with more of these businesses and result in increased awareness and participation in the state's business support systems.

ENHANCED BUSINESS ENGAGEMENT

Exploring new ways to drive business engagement and satisfaction with the state's economic and workforce systems helped inspire the short-term, multi-agency D&B data project. Data sets such as those provided by D&B have the potential to aid in business engagement in a number of ways. First, EconoVue and Market Insights are fed by a database of millions of companies, along with contact information, that can be used to engage businesses directly. Secondly, predictive variables can help guide specific outreach efforts, such as identifying growing businesses or those in financial distress, to better engage with public economic and workforce development systems that can offer support. This data can then be used to identify and establish direct connections with individual businesses and customize a menu of services at the state and local level based on specific needs. Providing workforce system access to this data

would support more timely delivery of layoff aversion efforts, upskilling or reskilling current workers, worker retention, and better preparation of new entrants for available jobs.

Previous research indicates this enhanced engagement is likely to benefit employers. Many are not aware of the business services available to them. Meanwhile, the relatively small number of businesses who do use these services have reported positive outcomes. According to the Workforce Board's 2020 Washington Employer Workforce Needs and Practices Survey[4] prior to the pandemic, nearly 70 percent of Washington's more than 200,000 employers with two or more workers experienced workforce challenges in the preceding 12 months, yet more than one-third (36 percent) of Washington employers were unaware of the state workforce system services.

Among employers who were aware of the public workforce system, more than one in four stated they did not use the system's services due to the perception that the services did not fit their needs. However, of those employers who used state workforce system services, such as WorkSource offices, at least 60 percent were more likely to report a helpful outcome when addressing turnover and retention as their biggest workforce challenge, according to the Workforce Board's report. Given the gap between many Washington employers and their knowledge about available workforce services, there is an opportunity to reach out to businesses, increase awareness about the services offered, and support these businesses based on their needs.

Business engagement efforts in other parts of the country have proven successful. One study commissioned by the City of Los Angeles Workforce Investment Board and the City of Los Angeles Community Development Department, showed these types of efforts, and others, led to the retention of over 5,000 jobs for struggling businesses with their Layoff Aversion Program (LAP).[5] The layoff aversion program used D&B data to augment outreach efforts to businesses deemed "at-risk," and subsequently engaged them with communications and services. The study estimated that the retained jobs were expected to create $2.3 billion in economic activity in Los Angeles County and support 11,880-plus jobs generating a combined income of $690.5 million. This analysis shows the potential direct and indirect benefits to the economy, which included those "at-risk" jobs which were retained (direct) as well as those businesses whose revenues

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[4] Dula, C. (2020). *2020 Washington Employer Workforce Needs and Practices Survey.* Olympia, WA: Workforce Training and Education Coordinating Board.

[5] Institute for Applied Economics, Los Angeles County Economic Development Corporation. (2014). *Layoff Aversion Program FY2014: Economic Impact Analysis.* Los Angelas, CA: Los Angeles County Economic Development Corporation.

stem from those "at-risk" jobs (indirect). Averting layoffs, as this example shows, can pay off immensely.

Another report by the Lumina Foundation noted that Cerritos College, a community college in southeastern Los Angeles County, found that using real-time labor market data revealed growing demand in niche areas of manufacturing that were hidden within traditional industry data:

> *When these new real-time analytics are combined with traditional labor market analysis and more consistent tracking of post-graduation labor market outcomes such as employment and earning status, community colleges will strengthen their capabilities for market-driven programming and be better-positioned to confront growing demands for accountability and outcomes-based funding.*[6]

Washington's own Workforce Economic Recovery Plan,[7] developed in September 2020 by the Workforce Board to map an equitable path out of the pandemic, also recognized the value this data could provide. The plan noted that D&B data could be used to quickly identify the growth or contraction in businesses and industries and use that information to better target economic and workforce recovery efforts.

Other examples of public workforce agencies utilizing D&B data to improve business engagement include compiling more targeted mailing lists for job fairs (Madera County, CA), proactively pinpointing financially stressed businesses for outreach (Oklahoma City), identifying businesses with soon-to-expire lease agreements prior to closure or moving (San Joaquin County, CA), identifying at-risk companies in priority sectors for layoff aversion intervention (Morgan Hill, CA).

BACKGROUND

In 2019, the Workforce Board requested purchasing D&B business analytics, packaged as the "EconoVue" tool, to the Governor and Legislature. This supported the Workforce Board's strategic priority and top initiative: enhanced and increased business engagement for the comprehensive workforce development system (including all forms of education, training, and support services). The idea behind this request was that the D&B toolset has the potential to

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[6] Dorrer, J. (2016). *Using Real-Time Labor Market Information to Achieve Better Labor Market Outcomes.* Indianapolis, IN: Lumina Foundation.

[7] Workforce Training and Education Coordinating Board. (2020). *Washington's Workforce Economic Recovery Plan.* Olympia: Workforce Training and Education Coordinating Board.

further business connections by supporting an employer engagement dashboard and providing more targeted and granular business information to workforce development partners.

Commerce, ESD, and the Workforce Board, in compliance with the federal Workforce Innovation & Opportunity Act (WIOA), contracted with D&B to assess the usefulness of the vendor's data and tools. WIOA statewide activity funds, provided by Gov. Inslee, supported the purchase of a one-year, reduced-cost license of the D&B product, and added staff capacity for the three partner agencies to work with the data. The funds also supported staff development to understand and make use of proprietary D&B data to better and more strategically deploy limited public resources to support businesses, their workers, and jobseekers. This project intentionally supported cross-agency collaboration to understand and make recommendations on the use of D&B data to improve relevant business services provided by the state, its agencies, and partner organizations, and explore its viability in supporting a business engagement dashboard. With shared business information and designated coordination of resources, state agencies would also be able to reduce duplication and link services towards better outcomes, and potentially reach a greater number of businesses and workers than the workforce development system does currently.

Project funding included $214,500 (about 60% of market cost) to purchase access to the D&B tools including 10 Market Insight (MI) licenses, 25 EconoVue (EV) licenses, access to 25,000 contact leads, and detailed business details (providing highly comprehensive information on specific companies upon request), in addition to the necessary staff training to use the tools effectively. The data derived from these tools was used to augment other available administrative data sets to support and accelerate program and

COVID-19 IMPACT

The contract to evaluate D&B was signed in 2020 at about the same time as the COVID-19 pandemic shuttered businesses and schools across the state. This had major consequences for both the timeline of the project and its evaluation.

Many of the partner agencies and stakeholders initially tasked to participate in the usage and evaluation of D&B tools were reassigned to focus on the COVID-19 crisis, with staff and economic resources prioritized toward emergency layoff aversion and economic assistance efforts. Many were unable to dedicate resources and staff time to learn and employ the new software packages despite possible benefits they might yield. Nor were they able to test drive the additional tools D&B introduced.

While the project's timeline was extended to accommodate this shift, the usage of D&B tools was in many cases focused on financial assistance, economic recovery, and layoff aversion, at the expense of identifying growing sectors and aligning them with workforce needs.

policy decision-making related to business engagement and performance outcomes across the workforce development system.

Staff across the three agencies (Commerce, ESD, and Workforce Board) collaborated on cross-system planning and implementation of new practices toward a comprehensive, state-wide "upskill-backfill"[8] approach to business engagement and services. However, due to the impact of the COVID-19 pandemic, much of these cooperative efforts were refocused on layoff aversion and economic recovery initiatives. Additional workforce system partners were invited to participate but were unable to given the lack of available staff resources during the pandemic.

The intention of the original contract was for partner agencies to report to the Governor's Office on the project's progress and provide information that could aid the decision-making process for a possible budget request for the 2021 legislative session. However, the COVID-19 pandemic dropped the state's economy off the deep end. The pandemic posed a substantial projected state budget shortfall, changed worker priorities, and led to a hiring freeze that limited staffing capacity for this project. The pandemic also sunk the economy into a sudden recession, drying up tax revenue and scuttling potential budget requests to the Legislature.

CROSS-AGENCY COLLABORATION

Washington state government agencies and their partners have embarked on a collaborative effort to more effectively deploy limited public resources to support businesses, workers, and jobseekers. This emphasis on enhanced collaboration and reduced "silo" mentality among stakeholders is part of broader efforts by the Governor and policymakers to reduce duplicative efforts, increase efficiency, and maximize public resources.

Continuing to coordinate efforts among the three project agencies—Commerce, ESD, and Workforce Board—will enable effective cross-system planning and implementation of new practices toward a comprehensive, statewide effort to build and retain talent in partnership with the state's businesses. Given the substantial effects COVID-19 has had on the economy and workforce, interagency cooperation will be more vital than ever to maximize the effectiveness of state resources. The collaborative interagency team that came together during this pilot was invested in supporting each other and their local partners with the overall goal of achieving economic recovery and future growth by:

- Coordinating business services across agencies in response to data findings.

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[8] The Upskill-Backfill Initiative launched by the Workforce Board in previous years focused on providing current workers with additional training to move ahead in their careers, opening up slots they left behind to be backfilled by entry-level workers.

- Supporting the Workforce Board's dashboard utilizing D&B and other data to create a prototype data dashboard to track business engagement across the system.
- Facilitating the participation of workforce and economic development stakeholders, along with business and labor leadership representatives.
- Providing accurate, relevant, timely, and accessible workforce and labor market information.
- Supporting efforts and mandates of WIOA funding.
- Reducing duplication of work.
- Linking services through better outcomes.
- Increasing business engagement across the workforce development system.
- Leveraging strategic opportunities such as the D&B toolkit.

DATA DASHBOARD TO HELP STAFF TRACK TRENDS

This project also included the development of a series of prototype data dashboards to track business engagement across the workforce and economic development system. Developed by the Workforce Board and ESD, the dashboards feature D&B tools along with administrative data from partner agencies to track the system's improvement of business service provision. This includes D&B data showing businesses in growth and decline and women and minority owned businesses. Data from other partner agencies helped develop other dashboards that track the number of businesses using public workforce development services sorted by categories such as location, industry sector, size, and type. Future development of the dashboard might also track the type(s) of services received along with how satisfied businesses are with those services, along with occupational trends among businesses utilizing system services. The dashboard is intended to help frontline staff, managers, and policymakers make informed decisions about how to maximize business and worker services and resources.

The dashboards below display the following information:

- The Business Engagement Dashboard in tab one displays employer and job seeker usage of WorkSource services, including employer account requests, direct posted jobs, job seeker registrations, and job searches sourced from ESD. Tab two displays women- and minority-owned businesses by country and industry sourced from D&B, along with job postings and unemployment claims sourced from ESD.

- The Growth and Decline Dashboard displays businesses in growth and decline sorted by county sourced from D&B, along with country unemployment rates sourced from ESD.
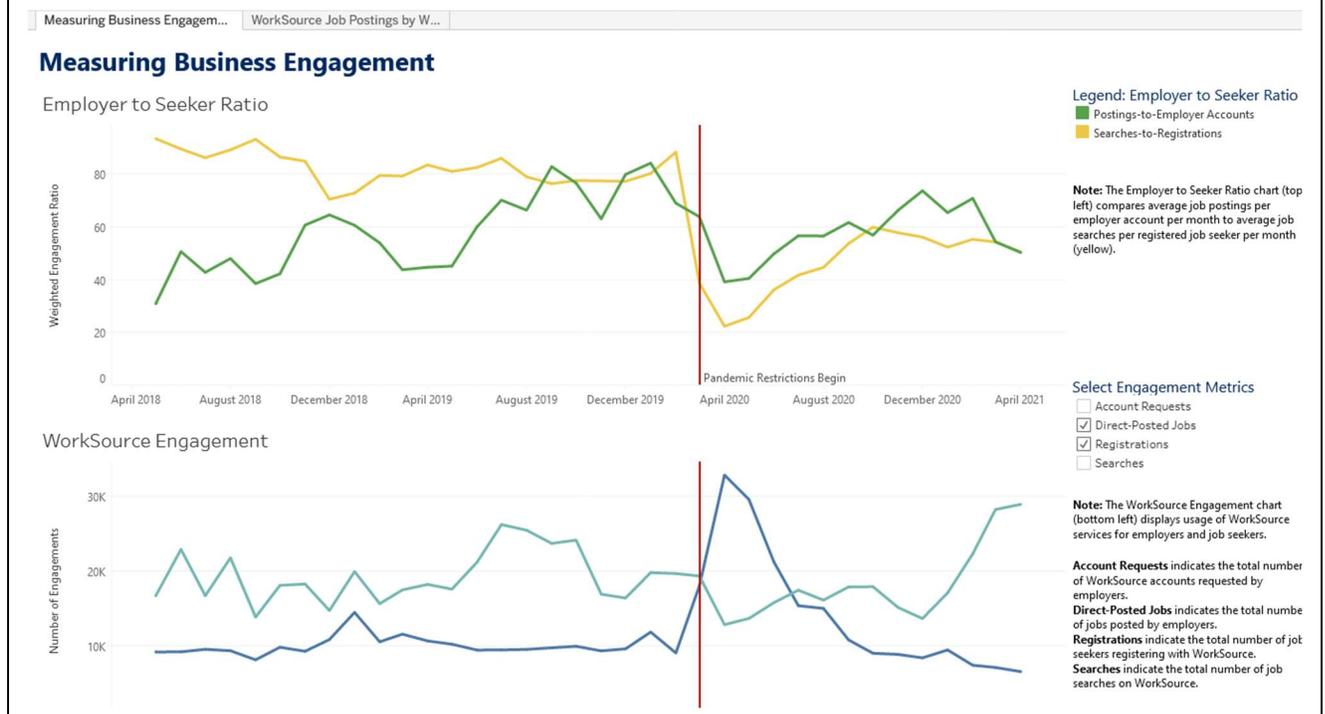
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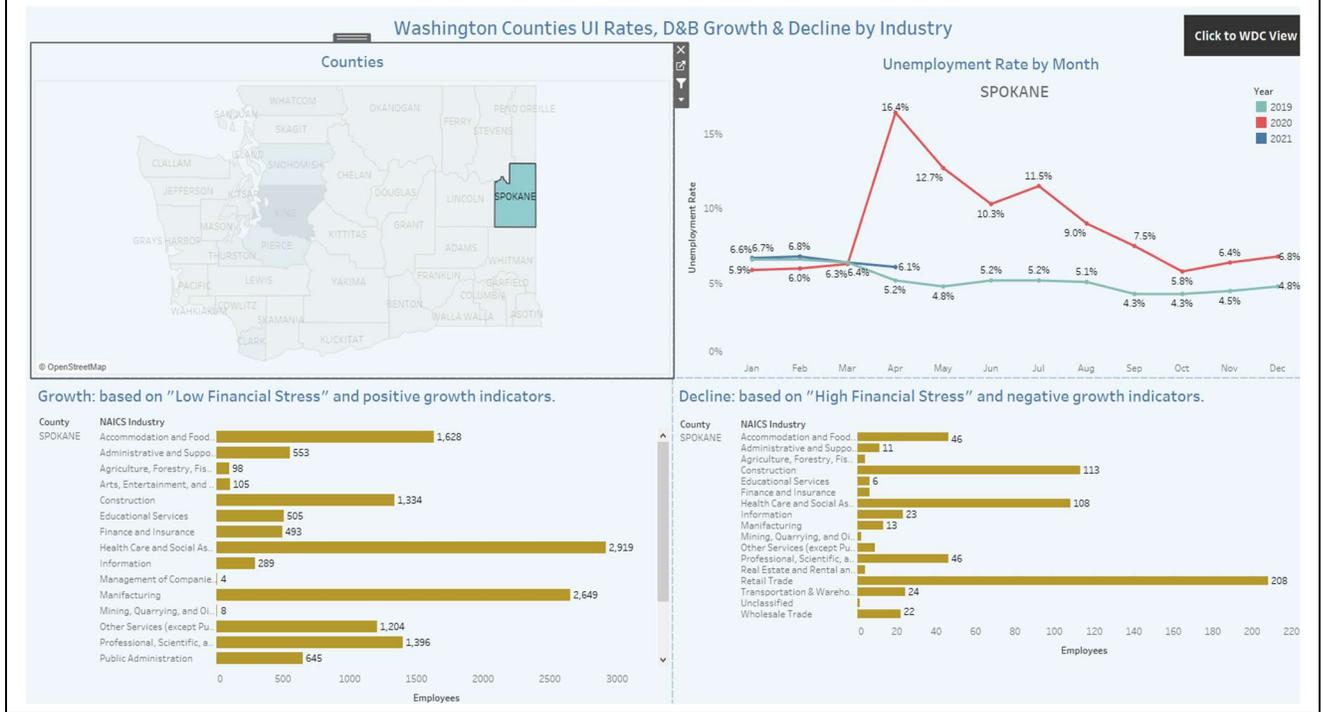
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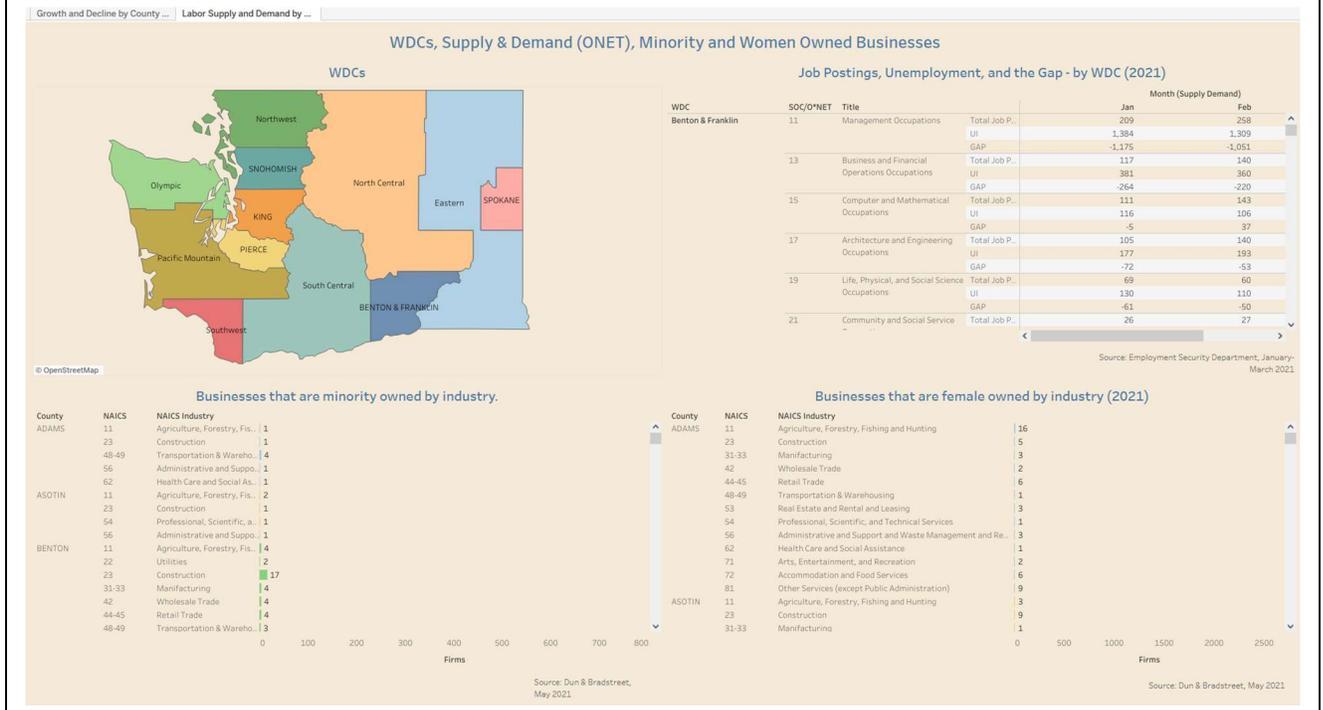
Business Engagement

Over the course of evaluating the D&B products, the project team also engaged partners to discover what indicators and data would be most useful for them and their clients related to business engagement and satisfaction, and how they can be measured. For the purposes of developing the prototype dashboards, data was sourced from ESD, Commerce, and D&B. Data sets to include and/or to be explored for inclusion in future versions[9] of a dashboard include:

- Dun & Bradstreet Washington Businesses Extract
  - Business growth and contraction
  - Financial stress
  - High Risk Businesses
  - WARN notice
- Monthly unemployment claims count
- Monthly Unemployment Insurance (UI) rates by county
- Weekly initial unemployment claims by county
- Workforce supply & demand data tables
- Economic development assistance programs

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[9] Note: The addition of each new data set and ongoing maintenance of new and existing datasets for the dashboards would require staff time develop and maintain.

- U.S. Census Small Business Pulse Survey data
- Occupational demand
- Workforce Development/Workforce System Services Data

Depending on the source, data can be refined locally by county, zip code, census tract or Workforce Development Area (WDA) region. This protype was developed by the Workforce Board with assistance from ESD as a proof of concept, with other workforce partner agencies supporting its future development with data sources to expand the scope of offerings.

THE D&B TOOLKIT: WHAT'S INSIDE

D&B provides commercial data, analytics, and insight for businesses and public-sector customers. The one-year trial purchased from D&B included access to three products: EconoVue (EV), Market Insight (MI), and detailed financial reports on individual businesses. Although EV and MI employ similar data, the platforms vary in terms of their sophistication and necessary data analyst skills. D&B acquires data by analyzing payment experiences, banking information, government registries, and various online tracking systems to create a robust profile of millions of companies from around the world.

The service provides access to an employer database (including more than 400,000 Washington employers) and is designed for public sector use. EV is already in use in at least 10 states. These states use this information to make more informed decisions about their workforce investments. EV provides both insight into identifying employers at risk of layoff or even closure, as well as positive information about employers or sectors likely to begin or continue expanding.

D&B offers unique proprietary data sourced from a wide variety of global data elements, including: credit scores and ratings, over one billion trade experiences, corporate family trees and beneficial ownership, banking data, firmographics (demographics of business sectors and industries), business registrations, relevant contacts and principals, and buyer intent. The toolkit also can analyze financial stress, enabling the workforce system to strategically target assistance to businesses likely to lay off employees.

For example, the D&B Financial Stress Score (categorized as low, medium or high) provides predictive insights of the businesses most likely to fail within the next 12-18 months.[10] The D&B Financial Stress Score assigns a probability of a business experiencing the following:

- Ceasing operations following assignment of bankruptcy.
- Ceasing operations with loss to creditors.
- Voluntarily withdrawing from business operation leaving unpaid obligations.

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[10] https://econovue.zendesk.com/hc/en-us/articles/360014389254-ProspectVue-Financial-Stress-Score

- Going into receivership, reorganization, or making arrangements for the benefit of creditors.

According to D&B, companies with low Financial Stress Scores are good candidates for strategic partnerships and expansion incentives. Businesses in the medium category are prime candidates for proactive outreach. Often, employers in the high stress category have already laid off employees or are taking steps to close operations, resulting in a need for Rapid Response or Rapid Re-employment engagement.

These tools are powered by D&B's proprietary business database for economic analysis and detailed company information. This data is supplemented by labor market resources, including Quarterly Census of Employment and Wages (U.S. Bureau of Labor Statistics), National Establishment Time Series (NETS), a private sector source for U.S. business microdata, CareerOneStop.org (the U.S. Department of Labor's career, training, and job search website), and Indeed.com (a market-leading search engine for jobseekers).

Proprietary predictive variables such as the Financial Stress Score and Growth Score provide significant insight not available from other vendors. This data does come with a caveat, however. Users are not privy to the data and methodology that these scores are derived from. As a result, users cannot independently verify the reliability of the data.

ECONOVUE

This tool allows users to search for and view information about businesses with certain criteria without needing to know basic query knowledge. Users can explore and analyze companies and download detailed information on them in different formats including lists, info boxes, company reports, and company contacts. For example, users can search for businesses with certain NAICS codes, the standard used by federal statistical agencies for classifying businesses for the purpose of collecting, analyzing, and publishing data related to the U.S. economy. They can also search by business names within a city, zip code, or WDA.

EV uses numerous data visualization tools and is designed to be drilled down upon, allowing the user to investigate and filter based on location, industry, number of employees, financial attributes, COVID-19-related attributes, and other criteria. For example, a user could begin by analyzing the relative location quotients of industries within a WDA and then drill down to see all the restaurants in a city that have a high level of financial stress. Data including business contact information can be extracted in Excel and then used accordingly.
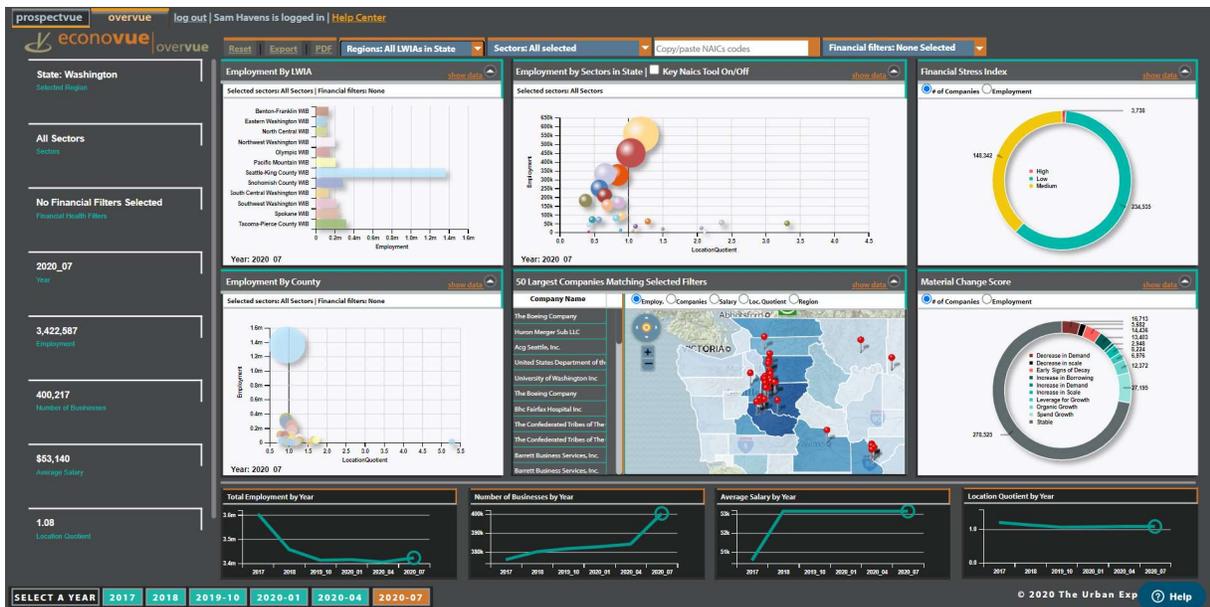
Distinguishing characteristics of EV include:

- Provides users with a good understanding of industries, businesses, and employees.
- Filters by WDA, county, zip code, city, and radius searches.
- Filters by NAICS codes, O*Net codes and sectors, number of employees, Financial Stress Scores, Growth Scores, COVID-19 related attributes, and other filters.
- Provides users with fresh data each quarter.

MARKET INSIGHT

MI is another way to search and extract D&B data. Extracting data requires some basic query knowledge and logic. Using the tool requires some training time and a strong Internet connection, but once learned, is relatively straightforward to use (though can be slow depending on one's broadband connection). MI includes all the data found in EV (timing and update schedules prevent the data from being identical at every point in time) along with other features. Rather than relying on a heavy visualization approach to the data, MI allows the user to build data sets, and some visualizations through cubes, trees, and Venn diagrams. The defining characteristics of MI include:

- Typically used to build data tables based on selected variables.
- Additional variables/filters added since COVID-19: PPP Loans > $150,000, pre-COVID-19 Financial Stress Score, WARN Notices, areas and businesses impacted by natural disasters.
- Can be used to find linkages of businesses and business "family trees."
- Data is refreshed monthly.

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It's up to users to select each variable when building and analyzing these data sets. For that reason, a solid understanding and knowledge of the variables and objective is imperative. Through MI it is possible to extract the entire Washington state business data universe (based on D&B's perspective) and use this data with other relevant analytics to build a detailed picture of economic regions. An additional benefit to MI is access to national and global data. This allows detailed linkage analysis as well as import and export work. This also allows users to look at cross-border data with other states, which is useful for border cities like Vancouver, Washington, when looking at local information that would include neighboring Portland, or businesses in Whatcom County interested in exporting to British Columbia.

EVALUATION PROCESS

Beginning in May 2020, the project team worked to provide access and support to users in various state agencies for both EV and MI. These outreach efforts were initially hindered as WDAs and other organizations prioritized their efforts to respond to the immediate needs of their customers in response to COVID-19 before they allocated resources to this project. As a result, early potential benefits of using this software remained unrealized as potential participants initially focused on pandemic mitigation measures. Only in July 2020 or later were many partners able to begin to focus their efforts on training and learning the D&B tools, and to implement a business engagement strategy within the COVID-19 landscape. Furthermore, the needs of project staff in Commerce and the Workforce Board were similarly focused on the response to COVID-19 coupled with a state hiring freeze. This impacted the ability of the Workforce Board to put a convener in place and delayed the hiring of an additional analyst at Commerce to supplement staff already working on the project. Both the convener and analyst were included in the original proposal.

Starting in May 2020, the D&B project team allocated EV and MI licenses. The team was mindful to distribute the licenses equally across agencies, including WDAs and other partners, and to ensure they were being used. EV was offered to each WDA and to the Washington Workforce Association (WWA), which represents the state's 12 regional WDAs. Commerce also worked to engage Associate Development Organizations (ADOs) and city/county economic development offices, although due to COVID-19 many did not have the desire or capacity to engage in D&B. The initial training was offered by D&B representatives in early June 2020, with many of the WDAs participating. Monthly training sessions exploring different uses for EV and MI were held though the end of the contract in May 2021.

As part of the evaluation process, the project team worked to understand the needs and available resources of each D&B user. These efforts included reaching out to each user and leading them through discussions of existing business engagement practices to better understand how their activities and best practices could be augmented through the usage of

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D&B tools. This allowed the project team to determine if the users' work aligned with the D&B toolkit, and to support them with training and technical assistance through D&B customer service representatives. Over the course of the pilot, D&B representatives assisted in numerous applications of data tools for specific projects, resulting in positive outcomes (*see box below, and Appendix A*) that would otherwise have been possible.

The wide discrepancy in resources available to D&B users also had a significant impact on how effectively participants were able to leverage the D&B tools. This trend was evident across a broad spectrum of users including the WDAs, ADOs, the Department of Social and Health Service's Division of Vocational Rehabilitation (DVR), Washington State Board for Community and Technical Colleges (SBCTC), Office of Minority & Women's Business Enterprises (OMWBE), and other economic and workforce development partners. In general, the more well-resourced partners were able to dedicate more staff time to learn how to effectively use D&B tools and ultimately, assess their value. Because of differences in capacity, EV and MI licenses were reallocated during the project to maximize usage.

Commerce likewise played a significant role in increasing the breadth of those who could benefit from the D&B toolkit. Beginning with their own economic recovery dashboard,[11] the project team worked with Commerce's consultants from the Boston Consulting Group (BCG), to explore the possibility of using D&B data in their dashboard. Although D&B data was ultimately not incorporated in this dashboard because of the uncertainty over how long the agency would have access to the data, the experience did enhance interagency relationships and resulted in the use of ESD data in the dashboard. The dashboard serves as a template of not only pertinent economic data, but how to work collaboratively across agencies.

Similar efforts can be seen in the relationships with other stakeholders the project team worked with including the Washington Hospitality Association (WHA), the Washington Arts Commission, various local governments, and others. In each instance, these partners were looking for more timely data to aid in their support of businesses and nonprofits that had been most impacted by COVID-19. The project also offered an opportunity for the project team to see how D&B data compared to external partners' data resources, much of which they purchased through other private vendors.

As part of the D&B evaluation, ESD explored the usage of the D&B data and products by allocating licenses to regional economists at the agency's Labor Market and Economic Analysis (LMEA) unit. Given the close relationship between ESD and the WDAs in collecting, analyzing and distributing data, D&B tools were viewed as a potential solution to streamline data sharing.

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[11] https://www.commerce.wa.gov/datadashboard

Data sharing constraints and timeliness of data have posed challenges in the past. (*see Appendix B*). Unfortunately, COVID-19 interfered with these explorations in applying D&B tools to supplement and enhance existing data sets and other information.

FINDINGS

Over the course of the evaluation process, users (primarily WDAs and Commerce, working with their partners) employed D&B tools for dozens of projects. This included:

- Gathering and analyzing data for strategic planning.
- Identifying women- and minority-owned businesses.
- Identifying and engaging previously unknown businesses.
- Identifying inactive or closed small businesses.
- Identifying and vetting potentially eligible companies for business development, grants and workforce aid programs and services.
- Providing informed rapid response.
- Providing proactive targeted outreach.
- Helping with layoff aversion.
- Identifying workforce trends.
- Identifying the size of specific industries and sectors.

Because of the pandemic, these tools were often used to identify struggling businesses that could benefit from layoff aversion or economic aid programs. The project team worked with participants to capture their experiences with the D&B toolkit and the value it provided. The following is an example of one such successful project:

Keep businesses operating, employees working through early identification of distress

Background: One of the state's WDCs, Workforce Snohomish used EV to identify the tipping point where business intervention is most beneficial in preventing layoffs or closure.

Results: EV's filter features helped uncover a struggling sole source provider, and its more than 800 workers, who were at significant risk of layoffs. After reaching out to the business, the WDC was able to implement a strategy two months before layoffs were to occur. At this point, the WDC helped the company file a WARN notice with ESD as well as facilitate three on-site Rapid Response units. In combination with local partners at the labor council, a Trade Adjustment Assistance petition was filed and certified, allowing employees access to federal WIOA funds and other opportunities within the Trade Adjustment Assistance Act. More than 200 employees were able to find new opportunities due to WDC efforts to align resources and other job openings to these at-risk employees, giving them enough time to transition rather than continuing down the road to layoffs.

Impact: The WDC, aided by D&B EV data, was able to identify the distressed company and help more than 200 workers with placement in new jobs and work opportunities, while the company was able to continue to operate.

Take-away: According to the WDC, D&B has been a very useful tool and provided significant value in this initiative. The effort to triage the struggling company was complemented by the collaborative efforts of other workforce partner agencies.

D&B tools helped yield three definitive positive results from this project:
1. Support for the company and its hundreds of employees.
2. Leveraging federal programs like the Trade Adjustment Assistance Act and WIOA.
3. Creating synergy and connections among partners and other WDCs.

Without EV providing early insight about this company's economic distress, it's likely hundreds of employees could have lost their jobs and the business would not have continued to operate. Instead, the company is still in business, many employees avoided layoffs and realized other opportunities, and the WDC was able to provide a template for future outreach efforts utilizing D&B tools.

A more complete list of projects undertaken using D&B tools and evaluated can be found in *Appendix A.*

Key Strengths and Weaknesses

Upon completion of the evaluation period, the project team identified common themes regarding the usage of the D&B toolsets, including where they provided the greatest value, and where their limitations lie.

Strengths

1. <u>Identifying previously unknown businesses</u>: D&B data provides users the opportunity to proactively connect with businesses that are not accounted for in existing databases. Businesses can be searched by geographic area, industry, sector, occupation, financial health, and numerous other filters. The D&B methodology of collecting data and measuring businesses also includes locating non-traditional workers (temporary, contracted, or others working in the gig economy), which provides a wider range of sole proprietors and other smaller firms than existing systems can provide. The D&B database provides contact information for these companies including names of high-level employees, addresses, phone numbers, and frequently, email addresses.

   Finding unknown businesses was one of the more widely used D&B applications. Numerous WDAs and other users applied various filters to discover businesses that were not a part of their existing list of businesses. Commerce and its partners also used this function to identify and vet businesses to determine eligibility for economic assistance grants. This data can augment existing data bases and make outreach more efficient than blind cold calls.

   The D&B data base can also provide more granular details on a business and its health. Business representatives, armed with more detailed knowledge about a company's financial situation, credit issues, and more, can frame a conversation to best benefit the company. For example, a representative can talk about the state's Shared Work program with businesses that may benefit from temporarily cutting their employees' hours, while they receive partial unemployment benefits for lost wages, or the state's Customized Training Program, which provides interest-free training loan assistance.

2. <u>Predictive Analytics</u>: A significant benefit of the data is the use of D&B's proprietary predictive indicators that are in the form of Financial Stress and Growth Scores. The Financial Stress Score (FSS) is D&B's assessment of the likelihood a business will fail. For example, a firm with a "high" FSS score has a much greater probability of failing within the next 12-18 months than a business with a "medium" or "low" score. The Growth Score is D&B's judgement about the trajectory of a business at that point in time. A

business in the category of "Increase in Scale" is more likely to grow, and increase spending and borrowing. On the other hand, a business designated as showing "Early Signs of Decay" would suggest that although a business may maintain its size, its borrowing or spending is likely to fall. This kind of insight can prioritize business engagement efforts.

Updated monthly, both variables drive focused analysis of businesses that have a greater likelihood of failure than others. The ability to filter and prioritize businesses allows for a targeted approach at the local WDA level to serve and triage businesses that are at high-risk. This data also helps target growing companies that may be looking to add employees.

The use of this data enabled Commerce, ESD, the Workforce Board, and their partners to find and communicate with businesses that might otherwise go unnoticed. They were able to speak directly to targeted firms and implement strategies that support both struggling and growing businesses.

Predictive variables were another widely utilized piece of the D&B toolkit. These variables helped workforce professionals target a wide range of subsectors (such as Paycheck Protection Program loan recipients who received over $150,000—lower amounts are not publicly available), industrial sectors, and small businesses to more effectively discover and engage businesses most in need of assistance. WDAs were also able to use these predictive variables to successfully identify distressed businesses and provide outreach services to prevent business closures and layoffs. In cases where business did end up closing, employees were able to more quickly find new opportunities due to WDA efforts to align resources and communicate about job openings.

D&B's financial stability and financial stress tools can be helpful in determining where to channel limited resources. It's important that when a WDA or other government program offers business assistance such as training, that this investment is likely to pay off in keeping the business going, rather than sinking limited resources into a business unlikely to survive, even with assistance.

D&B can also track the effectiveness of outreach programs by identifying businesses that have received assistance or aid and then measuring their performance going forward.

Dynamic Data Variables and Filters: As previously mentioned, an advantage of D&B tools is the ability to use filters to search for businesses behavior (see above). While these provide accurate and timely information under normal circumstances, the status quo at times is upended by events such as natural disasters, global recessions, and other

unforeseen circumstances, such as the COVID-19 pandemic. In these cases, traditional metrics and predictions may no longer be valid, and D&B continues to add new filters and adjust variables in an attempt to capture the "new normal." During the product evaluation, COVID-19 and a series of wildfires dealt devastating blows to the state. D&B responded by adding new filters to account for these factors in their data and predictive variables.

3. <u>Diversity, Equity and Inclusion</u>: D&B includes in its database filters that can identify businesses that are veteran-, women-, or minority-owned. This data is sourced from the state's OMWBEand Department of Veterans Affairs and merged with D&B's businesses through their matching process. Using this information, WDAs identified women-and minority-owned businesses to engage in diversity-designated RFQ and RFP opportunities. This data was also used to assess the ratio of diverse business owners and could potentially be used to more effectively track these trends over time.

   Although these databases are not comprehensive, due in large part to the fact that it is based on individual businesses volunteering this information, these sources represent another resource of information in an area that has traditionally been difficult to accurately assess. Other variables that were explored and could be added to databases to expand these efforts include identifying businesses that are owned, employ, or are actively seeking to employ, people with disabilities, veterans, or formerly incarcerated.

4. <u>Region-Specific Data</u>: D&B allows users to search within a county, WDA, city, zip code or a defined radius to pinpoint which businesses are in the area. Users reported this feature would be useful both in identifying similar businesses and competitors, as well as potential supply chain partners and customers. Another beneficial use is providing information to companies that have recently relocated to an area, or are looking to do so.

5. <u>Common shared database among partner agencies:</u> Another benefit of the D&B toolkit is the opportunity for Commerce, ESD, Workforce Board, and their partners to work with a common shared data set. This allows these agencies to investigate and communicate directly with specific businesses. Business-specific data does exist within the Labor Market and Economic Analysis (LMEA) division of ESD. However, due to federal and state laws and other agreements, much of the data cannot be shared other than at the aggregate level such as at the county, WDA, or metropolitan statistical area (MSA) level. The same is true with access to more granular, disaggregated data from the Washington Department of Revenue (DOR). This data requires a high level of security to access it and cannot generally be shared between agencies. For that reason, data can be accessed but

cannot be reported or shared with partners (WDAs, EDCs & ADOs, or WorkSource) that have the ability and capacity to work with these businesses directly.

D&B's common shared database allows all partner agencies with access to use and share information freely. During the trial, WDAs and Commerce worked with other partners (chambers, municipalities, EDCs, business and trade associations) to perform targeted searches and analyses and were then able to share their data and findings.

7. <u>Availability of Raw Data</u>: One major constraint to using publicly available data is privacy, which compels sources to anonymize data and even omit data for certain companies if their size, scale or operations would essentially reveal their identity. This occurs often down to the establishment level, and can have the effect of suppressing more detailed data around specific companies or entire industries in some cases. D&B's advantage in this context is that EV and MI provide a lot of granular data related to specific industries that is generally not available for other similar products or publicly available data. Generally, available sources have more data related to job seekers, but much less for employers.

   According to some users, the D&B products and databases are particularly useful in analyzing large chunks of raw data, as opposed to repackaged data provided by other tools. The ability to download, analyze, manipulate and interpret data for individual user needs was an important feature for some users.

8. <u>Timeliness of Data</u>: An advantage to D&B is that EV and MI are updated quarterly and monthly, respectively. By contrast, traditional publicly available state and federal data sources vary widely in how often they are updated. Some may only be updated quarterly or annually and publishing dates can lag further behind. This delay can mean the difference between providing a lifeline for a struggling business through layoff aversion measures, and a company going out of business and workers filing for unemployment.

9. <u>Business Knowledge and Client Support Services:</u> One more significant benefit of D&B is its client support services. The support includes monthly trainings for EV and MI, one-on-one tutorials of how to utilize the D&B toolkit, as well as responses to time series data requests. The responsiveness of the client support team and D&B's industry experience (including contracts with 10 other states), provides partners and users of the D&B toolkit with needed, timely help, and a better grasp of how to maximize the tools.

Weaknesses

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Over the course of usage and evaluation of D&B tools, users generally found value in various applications, but agreed that like any data source, D&B is not a "silver bullet" that could answer all economic and workforce questions. These limitations manifested themselves in a number of ways for different reasons. Some of the more commonly voiced shortcomings are as follows:

1. Training Requirements: While MI and EV are relatively straight-forward for a user with basic query and data knowledge, the tools do require some time to become proficient. This was one of the most common concerns among users. Numerous WDAs, ADOs, and other organizations were unable to allocate time to learn to use the products when resources were stretched thin during the COVID-19 pandemic. In addition to learning how to use the tools, it is necessary for users to learn about the underlying data. Even with training provided by D&B, these challenges resulted in many of the licenses going unused for periods of time, and occasionally being reallocated. While this was a significant challenge during the pandemic, it is not clear what the capacity for training would be under normal circumstances.

2. Data Caveats: As with any data source, there are many caveats to D&B data including errors in the databases related to companies' information. During the D&B evaluation period, for example, a company's revenue, number of employees, contact data, and other information was not always accurate or did not match other data sources, including the state's Department of Revenue and ESD. Key issues included:

   a. Incomplete data: When conducting a search using specific filters, the list of businesses generated would leave out some companies known to exist in other data bases. For example, D&B has a field for minority-owned businesses, or women-owned businesses, and results did not fully capture the number of minority- and woman-owned businesses. Other searches were found to yield similar discrepancies.

   Data was also incomplete during a search for small businesses, as evidenced by a project carried out by Commerce that resulted in finding data for only about 75 percent of the businesses that applied for a small business grant program. This could be due to unintended adverse effects of quality control measures. D&B eliminates non-corporate domain names as part of its vetting process, so any email addresses that may contain a Google, Outlook, Yahoo or similar domain are weeded out by default. This can result in a significant undercount of email contacts for small businesses, which often use such email addresses.

b. <u>Incorrect Data</u>: Errors were discovered in the databases, including information about revenue, number of employees, contact data, and other company details. In other instances, D&B data dropped many small businesses, and nearly all micro-businesses, from its database. These smaller businesses were discovered to be open and operating. These discrepancies were discovered in a number of different projects by WDAs and Commerce.

Because of these discrepancies, some users were wary of using D&B tools as a front-line source for identifying businesses for financial assistance. This meant practitioners sometimes did not use the tool to see if businesses met qualifying criteria such as revenue levels or employee number to qualify for business assistance, grants, loans or other support measures. To ensure equitability across all applications in reviewing such qualifications, and protect itself from legal ramifications, the state does not advise any agency to use D&B in this way.

c. <u>Limited ability to measure business openings and closures</u>: Because the data file D&B maintains is constantly changing due to their "business verification" system, rather than strictly due to businesses actually opening and closing, users cannot compare groups over time (i.e., 400 businesses in NAICS code XXX in June and 200 businesses in NAICS code XXX in July does not necessarily indicate an increase in businesses operating in that NAICS code). This presented challenges when users attempted to measure business closures in certain industries or regions during the pandemic. While D&B could show how many businesses were operating at one point in time compared to another, it could not show specifically which businesses had closed or opened. This data also varied greatly from reputable public resources, including Opportunity Insight's Economic Tracker and the U.S. Census's Small Business Pulse Survey. Commerce has chosen to rely on these free resources over D&B in tracking small business closures after a thorough comparison of multiple data sources.

d. <u>Methodology of Predictive Variables</u>: There are only two predictive variables for which users have access (Material Change and Financial Stress Scores). While D&B has provided insight into how much of their data is collected, and how their predictive variables are developed, their product is proprietary and users do not fully understand the methodology used to calculate these scores. For economists and other practitioners, it can be difficult to accept the efficacy of the data without knowing what goes into the "black box" calculations. Although D&B reported the development of additional predictive variables such as a COVID-19

Index and a Lay Off Probability Score, these were not available to the participants during this project.

Because of these discrepancies, some users were wary of using D&B tools as a front-line source for identifying businesses based on specific variables. That included a reluctance to use D&B tools to vet whether a business meets qualifying criteria such as a revenue level or employee number to qualify for business assistance, grants, loans or other support measures.

3. <u>Sharing Limitations</u>: Although D&B can be shared among agencies more freely than other data sources, the same cannot be said for sharing data on specific companies outside of these partners. Because this data is proprietary, it is only sharable in aggregate (i.e., a user cannot say X business publicly, but we can say X industry). This places limitations on the granularity of data that can be shared with outside stakeholders. For instance, licensed users could share the name and contact information of a financially distressed business with each other, but would not be able to share this information with other unlicensed people, entities, or the public.

4. <u>Cost of Future Investment</u>: Vendors such as D&B generally offer their products and services on a subscription basis, with customers paying a monthly or annual fee that is sometimes negotiable. The one-year trial of the D&B data, software, and training was acquired at a significantly reduced cost—an almost 40 percent reduction of the standard market rate. This reduced rate was presented by D&B as an affordable way to demonstrate the product's value. The state could then test drive the tools to see if they made sense to incorporate into the state's workforce development resources and strategy. Initial costs associated with D&B was $214,500. However, this does not include the additional staffing required to facilitate the product. The total planned staffing costs between the three partners was $324,848, bringing the project total to an estimated $539,348. The initial D&B exploration project was paid for primarily using the Governor's WIOA discretionary funding alongside $65,000 from Commerce to support a 0.5 FTE.

When considering whether to invest in the D&B toolkit, the cost of additional staff time should be added to the price tag. It will require at least one FTE to develop, facilitate, and implement a usage strategy with current and future partners to maximize the effectiveness of the toolkit. Additional staff time would also be required to provide the ongoing support of the software users, coordinate training, act as liaison between agencies, and to perform or manage ad hoc data request from partners. This position would engage with D&B tools to learn best practices to enhance and increase usage of the product across the Washington workforce system. For example, there is great opportunity to leverage the product and align it with the needs of the

State Board for Community and Technical Colleges—which helps oversee the state's 34 community and technical colleges. D&B data can be used to analyze employer demand for certain skills and competencies, along with jobs projected to grow in certain industries. This information could help shape offerings at local community and technical colleges that deliver training. Based on the costs in the initial proposal for the 1.0 FTE for the ESD position, the staff costs would be around $150,000 per year. Assuming similar market costs and the same type of D&B package, the cost would be around $360,000 per year, for a total of $510,000 per year.

CONCLUSION

The D&B toolkit, including MI and EV products, is able to provide added value to workforce and economic development agencies seeking to help Washington businesses meet economic challenges, keep their employees working, build their revenue, and in the best cases, expand. This complementary data set can be a missing piece, augmenting and enhancing data already collected and used by workforce and economic development organizations. In other cases, the data has proved less reliable and incomplete, as well as unverifiable and less shareable, because of its proprietary content.

One theme that emerged during the pilot is the overall inconsistency of state and regional contact databases and the incomplete identification of businesses within customer relationship management platforms. In some cases, D&B tools were able to identify many businesses that were missing in government and other stakeholder databases. In other cases, these databases contained businesses that the D&B tools missed. While none of these data sets should be perceived as all-inclusive, when merged or compared with one another they help build a more complete picture of Washington's diverse business landscape.

In response to the pandemic, D&B users immediately focused on industries and workers in particularly hard-hit sectors, using D&B tools to locate hotels, restaurants, bars, entertainment, retail and similar venues that had suddenly plunged into financial crisis after state-mandated shutdowns. Other efforts focused on identifying healthcare capacity and needs, evaluating diversity and equity impacts, finding personal protective equipment (PPE) manufacturers, and identifying businesses deemed "essential" and focusing on their immediate workforce needs— from healthcare operations and childcare facilities to food processors and grocery stores. This information was utilized in different ways. For frontline rapid response and business outreach teams, it was used to analyze specific businesses and tailor messages around which services they were likely to need the most (such as educating businesses whether their employees qualified for a COVID-19 vaccine per the state's requirements). The D&B data also helped provide a clearer picture of local labor markets, helping shape decisions on where to target resources. D&B's tools were also able to help identify jobs in demand or decline, identify other occupations with similar skillsets, and find relevant individual job postings in the same area or identify local training options for specific skills.

This informed outreach resulted in positive outcomes for a number of projects, and hinted at the potential for expanded usage in the future. By identifying distressed businesses, for instance, local workforce and economic development partners were able to reach out proactively to provide assistance, keep businesses afloat, and avert layoffs. In other cases, frontline staff helped unemployed workers connect quickly with public supports within the workforce system to get them back to work sooner, or identify resources to sustain them and their families as the pandemic shuttered businesses and closed in-person learning at local schools. By identifying which employers were hiring and which skills were in demand at the local level, D&B users were better able to match worker skills with available jobs and adjust accordingly. As Washington's economy continues to recover, these data-driven matches made possible by D&B tools have continued.

D&B tools come with a learning curve, and some questions remain around the reliability of data and the methodology used in generating predictive variables. In some cases, reluctance over using D&B tools was so strong that those with licenses returned to previous data sets they considered more familiar and reliable. Whether or not this would change if users became more aware of specific strengths and capabilities of D&B relative to other tools remains to be seen. A possible solution to this challenge is for the state to fund full-time staff to master D&B tools (and other similar technical resources), and then act as advisors or facilitators of these tools to assist partners carry out data analyses.

While some WDAs found marginal benefit to using D&B to supplement their ongoing existing efforts, others found the tools to be indispensable, with a few going so far as to indicate they would purchase the products on their own should the state choose not to fund the D&B products following the completion of this pilot project.

Another benefit of using the D&B software was the opportunity for a shared experience among WDAs and other organizations across the state. However, because of the proprietary nature of the D&B data, they were only able to share if both they and their partners had licenses. In the current virtual climate, it is imperative that the state continues to look for opportunities to bring systems together. The state's diversity in geography, demographics, and available resources all place different needs and expectations business and workforce support systems. Employing standardized data tools across the state would provide opportunities to share best practices of business engagement, and increase collaboration and connectivity between all workforce and economic development partners.

Finally, although D&B data is imperfect and sometimes incomplete, it provides a lot of valuable information—including information for which some state agencies lack access. Over the course of the evaluation, smaller organizations with fewer resources found greater value in D&B tools, while larger state agencies and workforce partners generally favored their traditional, more

familiar, tools and data sources. If the state were to continue to invest in D&B tools, the primary beneficiaries and users, at least initially, would likely be smaller workforce and economic development organizations. That said, even large organizations found value in these tools during the evaluation period. When optimally utilized, D&B data supplemented the state's existing databases, granting economic and workforce development professionals a more nuanced, multidimensional picture of the businesses they serve and clear opportunities to enhance their business engagement practices.

Appendix A

The following projects show how D&B tools were used, and the effectiveness of those tools. While representative, this list is by no means a comprehensive list of initiatives undertaken using D&B data, both successfully and unsuccessfully over the past year.

Department of Commerce Projects

Project One

Working Washington Round Three Grant Program: Commerce was tasked with a one-month turnaround time of distributing $100 million in emergency small business recovery grants to those hardest hit (as mandated by gubernatorial proclamations 20-25.8 and 20.25.9) through this program.

Background: When tasked with quickly distributing emergency small business recovery funding set to expire in nearly one-months' time, Commerce vetted applications using multiple resources, including D&B data. The application required applicants to have revenue of less than $5 million in 2019. Because it was too time intensive and demanding of staff resources during a very busy time of year to rely on only the Department of Revenue to vet such requirements, Commerce chose to check applicant's revenue using D&B sales volume data as a proxy. The process was as follows over the course of three weeks:

- Commerce sent D&B applicant information daily (UBI, business name, and location).
- D&B matched applicants to their full-access database (not the WA database).
- D&B then posted a file with sales volume for all "matched" applicants to the WA database.
- Commerce downloaded the file and appended to applicants' other information.
- Of the 15 percent without a match, Commerce sent to the Department of Revenue for review.
- Of the matches that showed over $5 million in revenue per the D&B database Commerce sent to DOR to confirm this was correct.

Results: Without a DUNS number, it is difficult to query sets of specific businesses in either EV or MI. Thus, to match businesses, D&B used the address field, name, and several other factors. The full-access database had "matches" for approximately 85% of applicants in their full access database, compared to the data Commerce has access to (the D&B Washington database using EV and MI), which matched around 75% of businesses.

When Commerce received information noting sales volume over $5 million in MI, Commerce performed a secondary check. Unfortunately, most of the businesses that D&B noted as having a sales volume of over $5 million actually posted revenue under that amount. All of the

businesses that Commerce identified through different processes as exceeding the $5 million threshold were listed as having less than that threshold in MI.

Takeaway: Commerce has low confidence in the accuracy of D&B sales volume data for small businesses, especially those part of a franchise or who are considered a micro-business/sole proprietor. Without a DUNS number, it is difficult to query sets of specific businesses in either EV or MI. The D&B full-access database is more robust than the database that users have access to (the Washington database using MI and EV). Unfortunately, it is difficult to access data on small businesses in nearly any database, even across state agencies.

Project Two

Analysis of COVID-19 Effects on Business: The Washington Legislature passed a bill which appropriated $2.2 billion in federal funding that has been allocated to states in response to the ongoing COVID emergency.

Background: Commerce used D&B data to gain knowledge about what communities and businesses have been hardest hit by the pandemic, and attempted to gauge the overall number and percent of businesses that have closed in Washington since the pandemic began. This was done to prepare to administer a new grant program with strict eligibility criteria distributing funds to businesses that had been temporarily closed since the beginning of the pandemic due to the governor's public health measures. The two data points Commerce attempted to ascertain were (1) the number of small business closures, and (2) financial impact on small businesses.

1. Background—**Measuring Closures**: Commerce worked with D&B representatives to find data that could potentially identify or indicate small business closures in Washington. The D&B database maintains businesses in the WA database that they consider "active." (i.e., not closed). A business can become inactive if its address gets marked undeliverable by the post office, if previous financial activity ceases, if their phone line becomes disconnected, or other criteria consistently over a six-month period. Although "inactive businesses" are not accessible on the Washington database through EV and MI, they are accessible from D&B on the back-end. D&B engaged in a similar query[12] for the California Economic Development Organization. Commerce asked D&B to provide a list of businesses that had become inactive since the start of the pandemic.

   Results: In February 2021, D&B had 15,000 businesses that had become inactive since the beginning of the pandemic from the Washington database. Overall, 4-5 percent of businesses from the Washington database had become inactive since the beginning of

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[12] https://eastbayeda.org/covid-business-impacts/

the pandemic. D&B representatives noted that this is roughly the same attrition rate as other years – maybe just a point higher. Almost every county showed between a 4%—6% attrition rate. There was also little differentiation in the attrition rate by industry. These two data points lead Commerce to believe that the attrition rate was not actually reflective of businesses that have closed due to COVID-19 public health measures.

When comparing the inactive businesses to each other, more information was gained (i.e., 38% of the "inactive businesses" were in King County, the most prevalent inactive NAICS code was the NAICS for "specialty physician").

As a follow-up, Commerce performed a spot-check of the businesses that D&B had marked as "inactive" and had also received a grant from the Working Washington Grants: Round 3 program. Nearly all of these businesses were still operating in some capacity—for example, many businesses became delivery only. Some (10%) of these businesses were "temporarily closed" according to their websites. When spot-checking the full list, a higher percentage of businesses appeared closed.

Take Away: Small business closures is a very difficult thing to measure, especially in such turbulent economic times. There have been many studies since COVID-19 began with wide variations in their estimates of "closed business." This is likely because a business may be temporarily closed, or operating, but has moved operations to an owner's home or other non-traditional arrangement. A business may have also closed temporarily, re-opened, then closed permanently, further convoluting the data picture. In addition to D&B data, Commerce used supplemented information from the Pulse Census Survey[13] (statewide, and NAICS 2 digit—not available at county level), and from the Opportunity Insights Economic Tracker[14] ("closed" = no credit card transaction in two days)—both free and publicly available datasets.

Background—**Measuring Impact:** Since the attempt to measure closures using D&B "inactive" businesses proved unsuccessful, Commerce sought to measure financial impact on small businesses in Washington using D&B's "material change" predictive variable.

Results: D&B does do not recommend aggregate analysis with their data over time. They recommend against this because their database is continuously growing due to

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[13] https://www.census.gov/data/experimental-data-products/small-business-pulse-survey.html
[14] https://tracktherecovery.org/

increased sophistication of their "business confirmation" tools. Each month, D&B is able to verify more businesses that exist than verify businesses that are inactive.

Utilizing a targeted data base search, D&B was able review trends for certain businesses over time. For example, data identified 15,000 businesses that were growing in July 2020, but are in decline stages in January and suggested this group be prioritized for grant funding.

Take-away: At the conclusion of this project Commerce felt that the real-time analysis they had hoped D&B could provide on small business impact from COVID-19 (business closures) did not meet their needs. In this instance D&B did not prove useful for overall economic analysis, or for reviewing trends in aggregate over time. However, D&B does provide value by providing financial analysis of certain businesses for which they have valid information over time. (i.e., the businesses that were growing in July but are declining in January).

Project 3

Identification of Candidates for the Thrive! And ScaleUp Business Development Programs

Background: Thrive! and ScaleUp are business development programs administered by Commerce. Historically, Thrive! attracts around 20 participants per year but has capacity to support 25 participants. ScaleUp has about 100 participants per year. Candidates have typically been identified through a series of networks operated by partners including ADO's, Chambers of Commerce, the Small Business Administration, and others. The manager of these programs was interested in exploring whether they could leverage D&B data to identify candidates for this program. However, due to COVID-19 constraints on staff time, the administrator was unable to dedicate time to learn how to use D&B products, leading to the project team to act as the primary support in providing the data.

Thrive! is a program designed to assist second-stage companies (past the startup stage, but not yet mature) get "over the hump" to a position where they are able to expand and grow further. Candidates for Thrive! must meet the following criteria:

- Private, for-profit companies that have been operating in a Washington State community for at least two years.
- Employ between 6 and 99 employees (pre-COVID).
- Generate $1 million to $25 million in annual revenue (pre-COVID).
- Have both an appetite and aptitude to grow.
- Provide products and services beyond the local area.

ScaleUp is a partnership between Commerce, US Economic Development Administration (EDA), and Thurston EDC Center for Business Innovation. The goal of the program is to grow smaller "mom and pop" businesses into larger, more successful enterprises. The ideal candidate for ScaleUp is a president/owner of a Washington State business that has been in operation for two years and has annual pre-COVID revenues in excess of $100,000.

Results: Given the wide parameters for these programs, the number of "eligible businesses" within the D&B database was initially overwhelming, but these were later narrowed down by introducing the following filters:

1. Parse the list by county.
2. Reduce the list by identifying a selection of NAIC codes to include.
3. Reduce the list using the "low risk" financial stability score.
4. Reduce the list using the "growth" material change score.

Take-away: Using D&B to identify candidates for these small programs presents a challenge of receiving far more qualified candidates than can be accommodated by program of limited scale. While introducing more filters did produce a smaller, more serviceable list, Commerce had to rely on two proprietary predictive variables (#3 and #4). However, the uncertainty of the source and efficacy of the data due to its proprietary nature raised some concerns. Due to these constraints, it may be more useful to utilize D&B to market these programs, and vet applicants, rather than as a way to individually identify and contact candidates since there are far too many qualified candidates in Washington than the program could accommodate or vet.

Additionally, there are significant barriers to tech novices using these tools, particularly when more filters and variables are introduced. While expert users may be able to efficiently perform these queries, new or part-time users may not be able to carry out these tasks.

Other Smaller Commerce Projects

Identification of clean energy businesses in Washington: The goal for this project was to develop a list of businesses that may be candidates for federal funding programs targeted to clean energy manufacturers. To do this, Commerce performed a simple search to identify businesses in certain NAICS codes in Washington, which yielded an easily searchable list and summary tables. Because these businesses are not generally very small, they are well represented in D&B data. This proved a strong use-case for the data.

Identification of essential businesses for vaccine planning and distribution in Clallam and Jefferson counties: Commerce used NAICS codes to identify a list of essential businesses for vaccine planning and distribution (i.e., schools, grocery stores). This seems like a strong case for

using D&B data, although it was somewhat hampered by the small number of email addresses that were on file for these businesses (approximately 60 of 400).

Identifying Minority- and Woman- Owned businesses within a County: A county government wanted data to create a picture of the current state of small business in their county, with a particular focus on firms owned by women, people of color, and small businesses categorized by sector and trend data. Commerce sent them D&B data on small businesses in the categories that they were interested in (under 100 employees, noting whether or not they were minority or woman owned). D&B only has a small percentage of minority- and woman-owned businesses identified on their file. Despite that limitation, the county found the data useful.

Regional Distribution of Life Sciences Businesses: A request was made for regional distribution of life science businesses in Washington with certain NAICS codes.

WDC Projects

WDC Project 1:
Identify distressed companies, and employ layoff aversion resources

Background: The WDC used EV for layoff aversion actions by identifying the tipping point of a business where an intervention is most beneficial in terms of preventing layoffs or closure.

Results: In one specific example, the WDC used EV and the filter features to uncover an Arlington, WA-based struggling sole source provider business, Senior AMT, and it's 800 plus workers that were at significant risk. After reaching out to the business, the WDC was able to connect and implement a strategy two months before layoffs were to occur. At this point, the WDC helped the company file a WARN notice with ESD as well as facilitate three on site Rapid Response units. Additionally, in combination with local partners at the labor council, a Trade Act petition was filed and certified, allowing employees access to WIOA funds and other opportunities within the Trade Act. More than 200 employees were able to find new opportunities due to WDC efforts to align resources and other job openings to these at-risk employees with enough time to transition rather than continuing down the road to layoffs.

Impact: The WDC, aided by D&B EV data, was able to identify the distressed company and help more than 200 workers with placement in new jobs and work opportunities.

Take-away: The WDC indicated that D&B has been a very useful tool and provided a great boost forward identification and intervention of at-risk businesses. The effort to triage the struggling company was complimented by the collaborative efforts of other workforce partner agencies. Given the geographical proximity of the business and the employees, sharing knowledge and services between the partners benefited all involved and strengthened intergovernmental relationships.

The usage of D&B tools helped yield three definitive positive results from this project:
1. Support for the company and its hundreds of employees.
2. Leveraging federal programs like the Trade Act and WIOA.
3. Creating synergy and connections with partners and other WDCs.

Without the information provided by EV that identified the struggling company, it is likely that the outcome of the impacted employees would have been devastating. Instead, the company is still in business, many employees avoided layoffs and had other opportunities, and the WDC was able to provide a template for future outreach efforts utilizing D&B tools.

WDC Project 2:
Matching job seekers to businesses according to their skillsets

Background: A key role of WDCs is to match job seekers to businesses by identifying the skills, competencies and abilities of workers with those required by employers. During COVID-19 and the unprecedented wave of business closures and layoffs, this role became more important than ever. Crucial WDC activities during the pandemic have centered on layoff service and aversion, rapid response, and orientation to WIOA programs.

Results: Prior to gaining access to D&B tools, the WDC used INIS, ESD and other data but never had access to financial stress level information such as that provided by D&B. Instead, the WDC used retroactive information including newspapers and WorkSource intelligence (for instance, multiple former employees from the same company coming in to find new jobs).

Impact: During the pandemic, the WDC was largely unable to place many job seekers in employment through data gleaned from EV, although this is largely due to the economic restrictions in place during this time.

Take away: With EV, the WDC is able to identify suitable and available job seekers that are available to meet business' needs. This has been very beneficial for both workers and businesses, producing a win-win situation. During the pandemic, the primary focus was on layoff aversion, but as COVID-19 restrictions are lifted, this will become more of a focus. This is a new strategy for the WDC. They expect that with the addition of a new Business Engagement Manager, they will utilize this data to benefit future job seekers in the future.

WDC Project 3:
Identifying PPP loan recipients and distressed businesses

Background: COVID-19 and resulting social distancing measures have had a huge impact on the economy, spurring the federal government to provide assistance to businesses through measures including PPP loans. Businesses eligible to receive these loans must meet certain criteria, are often in financial distress, and may be eligible for further relief that they may or may not be aware of.

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Once identified using the D&B PPP filter, the WDC began outreach and business engagement efforts. Rather than initiating a cold call to businesses in financial distress and risk a negative first contact experience, the WDC sent a non-specific letter or email that appeared to the targeted business to be a general informational message that details the resources available that are tailored to help these specific businesses. The goal was to identify businesses that may have temporarily averted layoffs with PPP loans, and engage businesses regarding layoff aversion services including SharedWork, Incumbent Worker Training, Customized Trainings Programs, and consultations.

Results: The WDC, with assistance from project partners and D&B, utilized MI to generate a list of targeted businesses. Using the criteria of PPP recipients that received at least $150,000 in PPP loans, more than 1,100 businesses were listed. The list included phone numbers for almost all the businesses, but no email addresses. Other tools were used internally to identify email addresses of businesses.

Impact: TBD

Take away: This allowed the WDC to be more proactive in providing services. Overall, there are still mixed results in layoff aversion and business assistance, but that does not take away from the fact that the WDC was able to gain advanced warning of distress, and intervene. The information allowed the WDC to approach businesses even before they issue a WARN notice, enabling the WDC to send a rapid response team. Even in the worst case, this action can connect employees to workforce resources, training, and others assistance even before layoffs occur. The WDC can then provide services, and in some cases find new positions for workers very quickly.

For businesses at low risk of layoffs and/or that are growing, the WDC is planning to use D&B intelligence to help develop pathways to hiring, business development, and otherwise adding value. This WDC recently hired a new business engagement staff member that will primarily be using D&B in their outreach efforts. These efforts include using EV long-term regardless of state decision.

WDC Project 4:
Economic development proposals for partners
- Not-For-Profit Employers in Puyallup-Sumner.
- Identifying Tech Employers in Tacoma.
- Identifying FinTech employers in a drive-time range.

Background: This project was carried out by the WDC in conjunction with partner agencies including Chambers of Commerce, Economic Development Boards, and municipal governments. The goal of the project was to acquire economic and workforce information related to specific industry clusters. This information would then be used for business outreach efforts and strategic planning.

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Results: The WDC was able to identify 147 not-for-profit employers with approximately 4,457 employees. For the FinTech Proposal, the WDC identified 1,749 employers in King and Pierce County. However, the tech employers query produced an output was too broad to be meaningful and was not used.

Impact: TBD

Take-away: The WDC used the D&B data for business solutions with positive results. They were able to use this information to identify businesses that are growing, have a reduction in revenue, or are experiencing financial stress to target outreach efforts such as layoff aversion and other services.

WDC Project 5:
Internal regional economic and business analysis, including equity and diversity
- Review of priority sectors to see how representative they are of employers in the region.
- Review of businesses owned by minorities and women by region and industry.

Background: The WDC used the D&B data for business solutions, workforce development and outreach. Specifically, the WDC was trying to discern how many of the region's employers fell within a specific industry sector (advanced manufacturing, ICT and cyber security, construction, military/defense, transportation warehousing & logistics, healthcare).

Results: The WDC was able to assess the proportion of workforce represented by sector priorities with Quarterly Census of Employment and Wages (QCEW) data, but without D&B data, they were unable to accurately assess the proportion of employers represented in these industry sectors. The D&B helped frame the need for a sector priority update, and one that includes non-industry framed definitions.

The WDC found the following information from the D&B search

	Regional Count	Proportion of all Employers
Female	2188	5.70%
Minority	503	1.31%

Impact: The WDC ultimately did not use the data due to concerns about quality, specifically because the vast majority of records were unclassified.

Take away: The takeaway was that the concentration of women- and minority-owned businesses is likely well below representative levels in the population and that there is much more work needed in this space. In Pierce County the concentrations of minority- or female-owned businesses was very low, both regionally and among employers represented by sector (there

was almost no difference in the rate). This information has helped the WDC to frame their outreach and recruitment efforts for new WDC board members, and has been a focus point as the WDC works to update these sector priorities.

WDC Project 6:
Email campaign to contact manufacturing companies in the region

Background: The WDC wanted to identify manufacturing companies in its region due to increased hiring needs in the sector. The goal of the project was to identify as many manufacturing companies as possible, and add them to existing databases. This information could then be used for business outreach efforts to engage with businesses to provide needed services, and to increase awareness of the services offered by the Talent Solutions Team.

Results: D&B identified manufacturers with email contacts and removed those already in the WDC's existing customer relationship management (CRM) database. In the WDC's first email campaign, initiated December 7, 2020, there were 82 successful email deliveries with a 14 percent open rate. For the January 11, 2021, second round of email targeting those who did not open the initial email there were 64 successful email deliveries and a 6% open rate.

Impact: The WDC was able to contact and engage a number of businesses that did not exist in their own CRM (see *results* above). A separate pilot of outreach to businesses with no prior interaction was not conducted side by side so the WDC was unable to provide comparative data.

Take-away: The WDC did not receive a high level or response using the D&B tools compared to their own CRM and was reticent to use D&B data as a stand-alone tool for three main reasons. First, while the database contained a huge amount of information, not all of it was actionable in terms of utilizing it effectively for real-world outreach and engagement efforts. Second, not all the data was accurate (a company's' revenue, number of employees, contact data, for instance). Third, while the inclusion of the highest-ranking member of a business (such as a president, CEO, or owner) is generally included in D&B contact information, this can sometimes present problems with the contact being too far up the leadership ladder. As a result, email or phone contact efforts often went unrequited, with high-level personnel not responding to initial outreach communications where a lower-level employee may take more time and effort to respond to these queries. As a result of these challenges, using D&B data did not significantly improve response rates to outreach efforts.

However, the WDC noted that D&B can identify many different businesses and categorize them by financial growth, financial distress, and other filters. The data was more useful than their CRM for more targeted searches, rather than blind cold calls to different companies. The WDC also found, D&B to be quite useful in taking a deep dive into specific companies compared with

other tools. Specific data and research resulting in a deep dive of a company was one of the most useful components where the data is useful for the WDC.

However, WDC staff often employed other more familiar tools first before turning to D&B tools. Whether or not this prioritization would change if users became more aware of specific strengths and capabilities of D&B relative to other tools remains to be seen.

WDC Project 7:
Supporting businesses affected by COVID-19 social distancing measures

Background: The goal of this initiative was to offer support to businesses most likely to be impacted by statewide restrictions to mitigate the spread of COVID-19. The WDC targeted specific industries by NAICS code with an email campaign to two distinct lists:

1. D&B List—Not in the WDC's Talent Solutions CRM (n=1,876 Targeted Businesses)

2. Talent Solutions CRM list

The WDC worked with D&B to identify companies operating in these industries, along with financial information on these companies including financial risk (low, medium, or high).

Results: The WDC was able to get this campaign launched quickly, and found that both list groups had the same open rate. The results are as follows:

- D&B List—Not in Talent Solutions CRM (n=1,876 Targeted Businesses), yielded 42 previously unknown email addresses. The email campaign resulted in 12 bounces and 29 successful deliveries with a 17 percent open rate.

- Talent Solutions CRM List contained 158 email addresses. The email campaign resulted in four bounces and 154 successful deliveries, with an identical 17 percent open rate.

Impact: The WDC was able to contact and engage 42 new businesses that did not exist in their own CRM (see *results* above).

Take away: The WDC expanded its CRM to include the new contacts, and open new businesses for outreach efforts, but to a limited effect.

WDC Project 8:
Quality Job Initiative

The quality jobs initiative endeavors to identify employers that provide "quality job" opportunities.

Background: The WDC's quality jobs initiative seeks to identify specific "high quality" jobs and their employers for the purpose of outreach and to identify best practices. These characteristics include paying family-sustaining wages, operating under diverse ownership and/ or staff, providing benefits, are family friendly, providing internal promotion opportunities, and other characteristics identified in Aspen Institute studies. These scores can then be used to create different categories of businesses (for example gold, silver, and bronze rankings). This initiative is being undertaken in conjunction with the neighboring city of Portland, Oregon.

Results: At the time of the publication of this report, the quality jobs initiative was in its early stages of inviting relevant companies to a listening session. Future analysis of this industry subsector could be used to analyze comparative trends related to business performance, workforce retention, and wages.

Impact: TBD

Take-away: D&B has been a very useful tool to identify and categorize targeted businesses, and provided a great boost forward in the early stages of this initiative.

WDC Project 9:
Strategic Financial analysis of regional distressed industries

Background: This WDC used D&B for a wide variety of projects in both data analytics and business identification and outreach capacities. The intention was to use this analysis to help inform broader strategic planning, and to help guide business engagement and outreach efforts.

The project was intended to identify specific professions and business segments that were under duress. This included searching for any businesses in financial distress or in danger of having to lay off workers, and also targeting specific sectors or industries that are known to be particularly hard by the pandemic and social distancing measures.

Results: Using D&B, the WDC was able to track economic trends throughout the pandemic and look for changes. Financial health indicators in particular proved useful in looking for changes in business activity and acted as a proxy warning of possible business closures. Once identified, these businesses could then be approached by business outreach teams to provide available assistance.

Impact: TBD

Take away: This WDC found significant value in the D&B tools, particularly in the MI product. They found two distinct advantages to the D&B products relative to other public and private data sources and tools. The first of these is the unique ability of D&B tools to drill down to get to a wide variety of establishment (individual company)—level data. This was then used to enhance business engagement by providing contact lists for relevant companies, or carry out analyses at lower levels of aggregation for use in higher-level strategic planning and outreach.

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The second key advantage was timeliness. While many public data sources may be updated quarterly, many are much more latent with lag times stretching out to six months, a year, and even longer. This delay can be the difference between providing a lifeline for a struggling business or enacting layoff aversion measures and a company going out of business. D&B products have a much shorter data refresh timeframe, with MI updating monthly, and EV updating quarterly.

One major constraint to using publicly available data is privacy, which compels sources to anonymize data and even omit data for certain companies if their size, scale or operations would essentially reveal their identity. This occurs often down to the establishment level and can have the effect of suppressing more detailed data around specific companies or entire industries in some cases. D&B's attraction in this context was that EV and MI provided a lot of granular data related to specific industries that is generally not available for other similar products or publicly available data. Generally, other sources have more a lot of data related to job seekers, but much less for employers.

WDC Project 10:
Pre- and Post-pandemic comparison of businesses

Background: The WDC used D&B to do a deep dive into businesses in the WDC region to determine if there was a significant drop-off in business, or a spike in closures and/ or layoffs in 2020 as a result of the COVID-19 pandemic. In this region, agriculture and food processing/ packaging industries were hit particularly hard. As a result, the demand for state and federal assistance programs likewise increased, and the departments and agencies responsible for outreach and assistance require accurate information to identify eligible businesses and workers in need of assistance. The results were intended to be shared with partner agencies, including county commissioners, to help plan for shifts in social service allocations including TNF, unemployment insurance, and others.

Impact: The WDC worked directly with D&B representatives to build this report. The results of the report indicated that numerous businesses in the area had indeed closed during this time period. Specifically, the report revealed that:

- 1,114 businesses were removed (presumed closed) from the database in 2020.
- Essential businesses comprised the highest percentage (29 percent).
- The majority of closures occurred in Q1, 2020.
- Agriculture, forestry, fishing & hunting businesses had the highest number of closures (13 percent of the total).

This business closure data was then broken down by categories including: the quarter in which they were removed from the active database, county, essential business category, 2-digit industry NAICS code, and industry grouping.

Take-away: The WDC indicated that the reports provided value in providing a more accurate picture of businesses in the region. The WDC would like to have access to these reports on a quarterly basis tied to specific sectors: construction, agriculture, healthcare, manufacturing, and warehousing and distribution. This information would add value by revealing what businesses are in medium stress or high stress, so the WDC could then conduct Rapid Response services prior to business closures and/or layoffs. However, the WDC did note that they would be unable to compile these reports on their own due to limited staff resources, and would therefore need assistance to fully utilize D&B tools.

WDC Project 11:
Economic analysis of regional health care industry

Background: The COVID-19 pandemic and ensuing social distancing measures have had uneven impacts even within industries and sector groups. This includes the health care sector, where demand for health care professionals in primary care roles increased, while other services deemed less essential such as private doctors, dentists, optometrists, etc. suffered through business closures.

This project was intended to identify specific professions and business segments within the health care industry which were under duress.

Impact: TBD

Take-away: The WDC used D&B data to highlight areas of concern such as specific physicians' offices that were in distress as well as detailed related job losses in these areas. At the time of publication, this project was in the early stages, and will be shared later with the WDC's business and education partners.

WDC Project 12:
Identifying PPE producers in this region

Background: COVID-19 brought unprecedented demand for PPE in Washington and around the world. In order to identify theses manufactures in their region, the WDC used D&B data to acquire contacts for an email blast to PPE producers.

Results: Using D&B data base to identify PPE producers in the area, 95% of the list that was generated was new to the WDC. These 1,200 businesses were narrowed down to 550, which was further refined to approximately 330 emails to these businesses. Although the WDC received a roughly 20 percent bounce back on the email campaign (similar to results from comparable contact lists), the exercise did identify previously unknown companies

Impact: TBD

Take-away: The D&B database successfully identified previously unknown businesses in the PPE sector, resulting in increased engagement and expanded database.

WDC Project 13:
Virtual Job Fairs

Background: Unprecedented levels of unemployment claims have highlighted the need to get as many workers back into the workforce as fast as possible. The WDC employed D&B data and reports to identify trends in in-demand jobs ahead of its Health Care Industry job fair. The WDC also used EV to match registered participants to a DUNS Number to do additional analysis of these employers. This would enable the WDC to better tailor services and job candidates to businesses' needs.

Results: TBD—At the time of publication the job fair had not taken place yet.

Impact: TBD

Take Away: TBD

Other Projects:

Economic Recovery Plan (ERP)

Background: In response to COVID-19 and with lockdown measures fully in place starting in March 2020, the Workforce Board was tasked by Governor Inslee to develop the workforce development component of Washington's post-pandemic Economic Recovery Plan (ERP). The ERP included analysis of pre- and post-pandemic economic and workforce trends. In order to fulfill this, the Workforce Board research team used MI to identify firms that were experiencing financial distress. The team pulled data from the most current month, May 2020, and utilized filters to find companies that were under "high financial stress." The analysis also focused on specific industries that were experiencing higher levels of unemployment as indicated by unemployment data from ESD. These industries included construction, accommodation and food services, retail, healthcare, and manufacturing.

Impact: The Workforce Board was able to utilize D&B tools, along with other data sources, to provide a more accurate and timelier picture of the state's economy. This in turn helped to inform the ERP recommendations to focus resources where they were needed most.

<u>Take-away</u>: While MI was able to help identify these businesses and occupations, it was limited in comparing these trends to earlier historical trends due to the D&B limitations of data going back for a total of seven quarters.

The Workforce Board also sees potential value in the D&B toolkit through access to its database, specifically the contact information. As part of its operations, the Workforce Board regularly engages in surveys such as the Washington Employer Survey and Youth Employment Report to better ascertain the needs, wants and demands of the Washington businesses it serves. In the past, contact lists have been procured at significant costs to the Workforce Board on a one-off basis. This is in part because government agencies are prohibited from using their databases in this manner due to privacy needs. Having ongoing access to the D&B database, which the Workforce Board views as at least comparable if not more effective than previous lists acquired from third parties, would thus reduce the need to purchase this data in the future. Although the Workforce Board did not carry out any of these surveys during the course of the pilot project due to a reallocation of resources during the pandemic, these expenditures will be required as the economy returns to a new normal.

Appendix B

Employment Security Department Regional Economics and high-level data observations

As part of the D&B project, the Employment Security Department (ESD) explored the usage of the D&B data and products by allocating licenses to Labor Market and Economic Analysis (LMEA) division's regional economists.[15] This was a natural fit as they work closely with WDCs and are often confronted with issues (restrictions on data sharing, and a time lag on data collection from some sources, for instance) surrounding data sharing and working with data collaboratively. The use of the D&B data by both regional economists and the WDCs could serve to streamline data sharing between the two, which has traditionally been restricted due to data sharing constraints.

LMEA regional economists appreciate the need for alternative data sources to supplement the existing data they currently use. Due to the nature and complexity of ESD labor market data, the availability of the data often lags months, quarters, or even longer, after the reporting period. This is especially challenging during an unprecedented pandemic as the need for data is imperative for understanding the current economic condition and forward-looking strategic goals. Given the multitude of supplemental alternative data sources available, they must balance working with the using alternative sources they may be less familiar with against trusted ESD LMEA data. Failing to do this potentially negates or devalues the data and analysis produced and reported by reginal economists and ESD. During the evaluation program WDCs and other workforce partners sought alternative data sources to support their COVID-19 triage efforts, including grant writing that required specific data to support these applications. Although the intent may be viewed as means to an end, there is concern that the use of alternative sources (including D&B) are not given equal footing as the LMEA data. This is particularly pertinent when alternative data is incongruent with traditional LMEA data sources.

In spite the potential benefits of utilizing D&B tools to complement other available data sources, the impacts of COVID-19 significantly reduced and restricted ESD's planned engagement and participation in the project. Many of the regional economists prioritized their time serving their customers and constituents through production of additional datasets, analysis, and presentations of ESD labor market data and information, and other communications to help explain and understand the current economic conditions caused by COVID-19. Furthermore,

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[15] Regional economists participated in both the 90-Day pilot and the year-long project. Doug Tweedy (Ferry, Lincoln, Pend Oreille, Spokane, Stevens, and Whitman counties) contributed during the 90-Day pilot whereas Anneliese Vance-Sherman (Island, King, San Juan, Skagit, Snohomish and Whatcom counties) and Scott Bailey (Clark, Cowlitz, Klickitat, Skamania and Wahkiakum counties) contributed during the year-long project.

many WDCs were not able to invest time and resources into learning and using the D&B data or software, and as a result there was no demand for the regional economist to use the same D&B data or software as the WDC, as originally planned.

Comparison of D&B and existing ESD data sets:

Comparing LMEA's Quarterly Census of Employment and Wages (QCEW) to the D&B tools sheds lights on differences between the two datasets. The QCEW is a cooperative federal and state program that measures employment and wages in industries covered by unemployment insurance. The data is collected by ESD from quarterly unemployment tax forms filed by employers and through surveys of employers who have more than one worksite in the state. Due to the complexity and size of this dataset, data is typically released seven months after the end of each quarter (for example, in April 2020, the most recent QCEW file was the 2020 Q3 "preliminary" report). The D&B data, on the other hand, is updated monthly. The tables below show the comparison of the high-level summaries of firms and employees from both the QCEW report and D&B data. The QCEW totals are expressed as a three-month average for the quarter whereas the D&B data is the sum of firms and employees for Washington State within the D&B data cloud as of April 2021. This is not an apples-to-apples comparison between the two datasets, but instead shows differences of the firms, employees, and industries based on the most up-to-date data from each source.

All NAICS	Firms	Employees
QCEW	232,677	3,252,939
D&B (All firms)	438,438	3,953,151
Difference from QCEW	205,761	700,212
% Difference from QCEW	88%	22%

All NAICS	Firms	Employees
QCEW	232,677	3,252,939
D&B (firms > 1 emp)	331,917	3,848,316
Difference from QCEW	99,240	595,377
% Difference from QCEW	43%	18%

The table on the left compares all the firms and employees in the QCEW data to D&B data, which includes many firms with a single employee. The table on the right compares the firms and employees in the QCEW data to D&B data that have more than one employee. In both cases (all firms and firms > 1 emp), D&B's data contains higher number of firms (43-88 percent more) and employees (18-22 percent more).

NAICS 11: Agriculture*	Firms	Employees
QCEW	6,713	120,258
D&B (firms > 1 emp)	6,504	50,081
Difference from QCEW	-209	-70,177
% Difference from QCEW	-3%	-58%

NAICS 31-33 Manifacturing	Firms	Employees
QCEW	7,590	264,481
D&B (firms > 1 emp)	13,497	382,265
Difference from QCEW	5,907	117,784
% Difference from QCEW	78%	45%

*NAICS 11 includes agriculture, forestry, fishing, and hunting.

The two tables above show the difference between the totals from the QCEW and the D&B data at the two-digit NAICS level. Although the number of firms is comparable between the QCEW and D&B for NAICS 11 (a difference of 209 firms, or 3 percent), the difference between the number of employees is significant (70,177 or 58 percent). Substantial discrepancies likewise exist for NAICS 31-33: manufacturing. In this sector, data showed 5,907 more firms (78 percent) and 117,784 (45 percent) more employees in the D&B data compared to the QCEW data.

This comparison of the data is not to suggest the D&B data is inherently inaccurate. However, the significant differences between the number of firms, employees, and distribution throughout industries, must be understood by a user conducting analysis based on these variables, as there will likely be significant differences between D&B and QCEW data. This also highlights the position of regional economists, whom generally prefer and prioritize what they regard as more reliable and consistent, but less timely, QCEW data over other more current alternative data sources, including D&B.

Proprietary predictive variables

During the initial 90-day pilot, regional economists provided insight regarding the software and specific attributes of the D&B data, specifically using EV. Positive feedback was given to the user-friendly interface and intuitive nature of EV, and the fact that the basics could be picked up rather quickly. However, there were also concerns regarding the predictive variables (such as the Financial Stress Score (FSS) and Growth Scores) and that the model does not account for the specific attributes of Washington State as the modeling is conducted at a national level and does not incorporate regional factors.

The predictive variables created by D&B are proprietary, which prevents the disclosure of their methodology and calculations to the user for analysis and understanding. This includes the disclosure of error rates and the frequency of error rates, preventing a clear understanding of the reliability of the data. Furthermore, the FSS is expressed in the data as either "High, Medium, or Low", which was viewed as too broad to be effective in some analysis. Cumulatively, the proprietary nature of the variable and broad classification of the calculation brings the validity and usage of the variable into question.

D&B's data modelling at a national level was another potential concern. The issue is the national perspective fails to account for Washington State's high percentage of employers that experience seasonality, such as agriculture and manufacturing, which would give these regions a higher error rate and thus decrease the reliability of the data. Again, without the ability to understand all the inputs into the calculations and the data, it is difficult for regional economists

to put the data from D&B on an equal footing as other sources of data, especially those with an historic track record and clear understanding of the data and inputs (i.e., QCEW).

Dynamic updates

Another attribute of the D&B data is the dynamic updates and additions to the data that are implemented as needs change and information becomes available. One example of this was the Paycheck Protection Program (PPP) loan data that became available during the first few months of the pandemic. D&B matched data provided by the U.S. Department of Treasury to their data using a multiple variable comparison (i.e., name, zip code, NAICS code), but only for those receiving loans above $150,000. Matching these firms to existing D&B data provides access to all data associated with that firm in the D&B universe, including FSS and Growth Scores. However, if process is performed by matching data based on key terms, it can result in unmatched firms (both those that are present in the D&B database and those that are not), and incorrectly matched firms. Out of the 15,849 firms that received a PPP loan above $150,000, 12,018 were matched in the D&B system. This is a 75.8 percent matching rate and some of these matches included incorrectly matched firms. If a user is unaware of this, they could assume that the 12,018 in the D&B data represented all the businesses that received PPP loans above $150,000, when in reality this only represents just over three quarters of the businesses that received such a loan.

ESD Regional Economics outlook for D&B

D&B produces data that shows businesses and industries (and other attributes) across different geographical areas. This data includes typical features of businesses as well predictive variables to assist in this filtering and or fine tuning of searches for businesses. However, this data is substantially different than current data produced by ESD within LMEA. The needs of the user and the goal of the work will greatly influence which of the two datasets may be preferred. If looking at time series data and trends of industries and employment across the state, QCEW data would be preferred. If attempting to produce a list of businesses in a particular county with the greatest likelihood of going out of business, D&B data would be preferred. Both ESD and D&B data are tools, and like all tools, the needs and requirements of the project dictates which type of tool to be used.