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Emerging Insights into the Use of Labor Market Information in Postsecondary Education

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Colleges and universities face multiple pressures intensified by the COVID-19 pandemic, from declining undergraduate enrollment, to a quickly shifting job market, to calls for more accountability and transparency around how degrees connect to work. To understand and respond to these challenges and trends, colleges and universities are increasingly looking to labor market information (LMI)—defined as data about the job market, student outcomes, and existing degree programs. LMI offers the possibility of making better decisions within higher education, in core areas ranging from program review, to academic and strategic planning, to recruitment and enrollment. At the same time, LMI is often new or newly accessible, so higher education practitioners may have limited knowledge of how to use it.

This brief explores findings and recommendations from a study that examined how and why 10 US colleges and universities use LMI, including five two-year colleges and five four-year universities. The recommendations address the types and costs of data sources colleges and universities used, the infrastructure needed to support LMI usage, and the challenges and benefits of using LMI. This brief and its recommendations can serve as a resource to colleges and universities at any stage in the process of LMI institutionalization, whether they are just getting started using LMI or have fully integrated LMI into their institutions.

Ways Colleges and Universities Can Apply LMI

LMI can help colleges and universities meet both quality and equity goals. For example, institutions may use LMI to improve the quality of their programs and align them more closely with employer needs and students' education and employment goals. They may also employ LMI to address equity issues, whether by preparing students of all backgrounds to enter the job market or by addressing workforce and economic needs in neighboring communities. To fully use LMI to advance both quality and equity, institutions should consider how to best apply LMI to their core activities, including in the following areas:

- » **Program review, development, and improvement:** Decision-makers may use LMI to support or reject ideas for new programs, improve or expand existing programs, or sunset programs. They may also use LMI to justify extra costs, such as funding for a new faculty member and supplies.

- » **Alignment with employer needs:** LMI enables institutions to examine trends in the job market, consider how employable their students will be after graduation, and align their programs more closely with employers' job vacancies and skill needs. LMI indicators such as annual job openings and growth percentage can help colleges and universities align their program offerings and program enrollment more closely with current or future job vacancies. Two-year colleges in our study were especially focused on skills alignment due to requirements from outside funders and state policies.
- » **Academic and strategic planning:** Colleges and universities may use LMI as one of many tools and inputs to inform academic and strategic planning. Institutions in our study used LMI to prepare first-generation students to find jobs after graduation, to enhance quality of life after graduation for students from all backgrounds, and to address workforce and economic development needs in their communities.
- » **Recruitment and enrollment:** Institutions may use LMI to attract and recruit prospective students and stem enrollment concerns. Four-year institutions in this study, especially liberal arts colleges, were particularly concerned about enrollment declines and were interested in using LMI to communicate the value of their degrees to prospective and current students, parents, and the community. These institutions used LMI to build transparency by highlighting valuable skills students learned in liberal arts courses, including career-relevant skills as well as soft skills like problem-solving that help students succeed in many different career paths. At one university in this study, admissions staff used LMI to identify occupations in demand in target recruitment regions, link the skills needed for those jobs to specific programs at the university, and then promote those programs to prospective students early in the recruitment process.
- » **External partnerships:** Colleges and universities may share and discuss LMI with external partners, including employers, community partners, and state and system offices. Higher education institutions may use LMI to identify opportunities to partner with external groups, build relationships, and learn how to serve community needs. Colleges and universities may also collaborate with their partners to collect and disseminate data and develop and improve LMI practices.
- » **Advising:** LMI has potential value in student advising and career counseling, but these practices are still emerging. Advisors might use LMI to help students connect their career interests to jobs and think about developing transferable skills. They might also encourage students to pursue experiential learning and internships earlier in college. Advisors who want to incorporate LMI into their work currently face a lack of professional development opportunities and limited funding for advising licenses for data tools.
- » **Grant applications:** Institutions in our study, especially two-year colleges, often included LMI in grant applications to receive funding to develop new programs or support existing programs. Many funders require institutions to include LMI in their grant applications to demonstrate demand for their programs.

How to Navigate Multiple Data Sources

Colleges and universities often require multiple sources of LMI, which has implications for the cost of implementation. The following are recommendations for implementing various sources of LMI:

- » **Recognize the many sources of LMI.** Public government sources (both state and federal) and private vendors are the two primary sources of data. Internal institutional data and LMI from the community, employers, and industry organizations complement public and private data sources.
- » **Consider using multiple LMI sources and types, depending on institutional and programmatic needs and goals.** Most of the institutions in our study found that they needed to use multiple sources of LMI. No product has everything that practitioners want or need. For example, free government data sources of LMI provide valuable information on job numbers, job growth, and industry changes but do not cover skills or alumni outcomes. Public data sources also tend to be less user friendly and not as current as private sources. Colleges and universities tend to turn to private data sources for real-time data—including skills and alumni employment outcomes data as well as job and industry growth data—presented in easily understandable and visualizable formats.
- » **Budget for the costs of both public and private sources of data.** Although public data sources of LMI tend to be free, they present hidden costs. For example, because these data are typically available in raw formats, they often require additional cleaning or analysis to use. Unlike free government data sources, private sources of LMI require licenses, which can represent a significant financial investment. Institutions often need to buy multiple licenses for various departments, which can be costly. It can be difficult for institutions to track how different departments across campus are actually using these licenses, leading to uncertainty about how many licenses are really necessary. Institutions may accrue other costs as they build infrastructure to support LMI use, such as new staff positions, professional development, coaching, or supplies.

Elements of LMI Infrastructure

Institutions that decide to use LMI must create an infrastructure to support it, which includes users, structures, ongoing professional development, and policies. Colleges and universities seeking to build up organizational structures for LMI may consider the following recommendations:

- » **Examine the different roles of data users within the institution and how their functions can support the college or university.** This study identified four main roles of LMI data users: data analysts, power users, general users, and implementers. Each makes valuable contributions to the adoption, implementation, and application of LMI. *Data analysts* are staff hired to analyze data for other staff as part of their formal jobs. *Power users* are people “deputized” to analyze LMI data for their colleagues but not to the same level of detail as data analysts. *General users*, who make up the bulk of LMI users, include everyone else who accesses LMI directly or who uses data reports that analysts or power users generate. *Implementers* are faculty, administrators, and other staff who receive LMI reports but do not access LMI directly. They are largely responsible for implementing program changes using the results of LMI analyses that other users perform.

- » **Identify LMI champions who understand and advocate for LMI's use.** LMI champions may come from many different areas and levels of a college or university. Those we encountered in our study were often motivated by prior LMI usage and a robust understanding of the importance of information on the labor market; they played essential roles in expanding LMI usage associated with academic planning and strategic initiatives. They were often responsible for continuing, refining, and deepening LMI usage for local programs and initiatives, even when the chancellor or president initiated those efforts. Sometimes, individual champions in different parts of an institution strengthened LMI use when they found one another and amplified positive messages about the usefulness of LMI.
- » **Increase LMI-related positions.** Newly created LMI-related positions may include executive-level positions, analysts, and data coaches (power users that serve as dedicated LMI resources within the institution and teach others how to use LMI tools). Instead of hiring new staff, institutions may create these positions by leveraging existing staff and faculty who are already familiar with the institution and interested in learning the technology.
- » **Foster institutional understanding of LMI by empowering more people to use LMI and connecting people who are already using it.** Depending on their roles, LMI users at study institutions had a range of knowledge of LMI's potential applications, strengths, and limitations. LMI users in different roles often worked together to determine how to apply LMI most effectively across their institutions. Our study suggests that collaboration among LMI users in different roles increases institution-level understanding and helps develop more sophisticated LMI approaches over time.
- » **Design organizational structures and practices to support LMI integration and consistency.** These structures do not need to be complex. Data structures to collect, store, and share LMI may include master lists, simple reports, and websites. Resources like data request forms, handbooks, and standardized data packets can help to make LMI use more consistent across campus. Institutions may also organize LMI into easily usable products.
- » **Establish professional development structures to promote LMI use.** Because LMI is complex, practitioners need professional development to help them understand its potential and to learn how to put it to use. Private vendors often offer professional development along with their products at no additional cost, including self-paced instructional videos and in-person professional development for small groups. Colleges and universities may supplement this professional development internally. For example, staff that attend an in-person training with a vendor may later train new staff members within the institution. Institutions may embed internal LMI product training within other professional development programs or may bring in external consultants to model data analysis and applications.
- » **Consider using individualized coaching models and quick response help systems.** Data users need personalized professional development akin to individualized coaching, which extends beyond instructional videos and group work. This is especially useful when users already have a strong background and instead need particular questions answered. Vendors sometimes provide support systems in which users can ask experts specific questions by email or phone and receive quick responses. Participants in this study found the most value in these individualized coaching and quick response models.

- » **Implement standard policies for LMI use.** Not all institutions have formal LMI policies, but study participants reported that data policies, along with data tools, products, and adequate funding, are important for promoting and sustaining LMI usage. In the absence of formal policies, expectations from senior leaders, institutional culture, and routine operations within departments may play a role in promoting LMI usage.
- » **Leverage LMI to demonstrate meaningful outcomes to funders while reinforcing the value of LMI to the institution.** Many funders require their recipients to report on LMI. Institutions that are interested in institutionalizing LMI might look for such grants as a way to demonstrate LMI's utility and start making the case for using it across the institution.
- » **Create more holistic strategies that invest funds in LMI products, services, professional development, and increased staffing across the whole institution.** Institutionalizing LMI demands a campus-wide commitment of time and resources, as well as institutional financial support for purchasing products and services and increasing staff. Some colleges and universities receive external funds to achieve this, such as grants or consortium and system funds, and others use institutional funds. Colleges and universities in our study took three different approaches to managing these structures: a centralized approach, a decentralized approach, and an individual approach. A *centralized approach* was more common at two-year colleges and usually featured a central office that coordinated and promulgated LMI usage throughout the institution, integrating LMI into existing offices. Study participants suggested that a centralized approach could encourage more people at the institution to use LMI.

Challenges, Benefits, and Considerations

As more colleges and universities engage with LMI, they will benefit from its strengths but will also confront various challenges and concerns, including campus users' data literacy, staff's skepticism about the data, and inherent limits of the applicability, availability, or timeliness of the data. There is much potential to improve LMI in the future.

- » **Acknowledge the weaknesses and challenges of LMI.** Study participants shared examples of weaknesses in LMI including insufficient or missing data, a lack of data granularity (such as when government data are less specific to local contexts), out-of-date information, and an inability to capture longitudinal student trajectories (such as where students with associate degrees go after graduation). The challenges they reported included the expense of software licenses, inconsistencies in language used by academics versus employers, the need to balance LMI with the institution's mission, and the fact that LMI could be overwhelming and challenging to understand. Having a data coach or a go-to person for data could be very helpful in overcoming these challenges.
- » **Recognize and promote the strengths and benefits of LMI.** Specific LMI data had many strengths according to study participants, such as being detailed, comprehensive, or easy to filter or disaggregate. LMI usage also had many benefits for the colleges and universities in our study, such as assisting the institutions in meeting their mission and goals, uncovering economic and educational disparities, improving communication across campus and with external partners, making program review and decision-making easier, and helping users identify and meet the needs of multiple stakeholders.

- » **Address concerns about data literacy.** Data literacy means that people understand where the data they are using come from, how to use them, and their limitations, along with how data can be misinterpreted or misused. Some users may draw the wrong conclusions from unclear data, but a highly literate data user is aware of the need to flag instances where misinterpretations are likely to occur. Professional development can improve data literacy among users.
- » **Find ways to balance trust and skepticism.** When exposed to LMI, most people trust the data, and express curiosity. However, every group has doubters who do not accept data because they contradict their preconceptions. Users may find a balance between trust and skepticism as they recognize the value of the data while also acknowledging that the algorithms data sources use are not transparent and require cross-checking. In general, data skepticism tends to decrease as users gain experience with the data they are working with.
- » **Identify and address unmet data needs.** Given the evolving field of LMI, discussion of data needs and best practices across institutions can help provide feedback on needed data to data providers. Some study participants expressed a desire for more data on how job skills in demand by employers align with education programs, such as by connecting jobs data to each major. Other data needs are expected to emerge as users further engage with LMI.
- » **Demonstrate the value of LMI to students in order to reinforce the value of and need for alumni data.** Alumni data are hard to come by, as are long-term outcomes, such as career and salary information. When institutional alumni data are available, practitioners might consider developing centralized data-sharing systems to make this information easier to access across campus. Alumni and longitudinal outcomes data have the potential to help faculty identify careers and skills relevant to their field and then build a curriculum that prepares students with those skills.

Although LMI usage in higher education is relatively new, and levels of implementation within institutions vary, it is clear that LMI has become a vital source of data for colleges and universities searching for ways to stay competitive and relevant and improve student outcomes amid changing social and economic conditions. For LMI to reach its full potential, collaborative efforts and funding are needed to support the development of institutional infrastructures, resolve some limitations of LMI, and support knowledge sharing.

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