

Wisconsin Workforce Development Association and Consortium

Evaluation of Skills Wisconsin: Final Report

December 16, 2016

*Scott Davis
Kelley Akiya
Zachary Miller*



Submitted to:

Pat Schramm
Executive Director
Workforce Development Board of South
Central Wisconsin
3513 Anderson Street
Madison, WI 53704

Submitted by:

Scott Davis
Senior Research Associate
IMPAQ International, LLC
10420 Little Patuxent Parkway
Suite 300
Columbia, MD 21044
www.impaqint.com

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY.....	v
ES.1 Overview of <i>Skills Wisconsin</i>	v
ES.2 Evaluation Design	vi
ES.3 <i>Skills Wisconsin</i> Implementation	vii
ES.4 Process Study Results	ix
ES.5 Impact Evaluation Results.....	x
ES.6 Outcomes Analysis Results	xii
ES.7 Discussion.....	xvi
1. INTRODUCTION.....	1
1.1 Overview of Skills Wisconsin	2
1.1.1 Program Design and Objectives.....	2
1.1.2 Implementation Context.....	4
1.2 Evaluation Design	7
1.2.1 Process Study	7
1.2.2 Impact Evaluation	8
1.2.3 Outcomes Analysis.....	9
1.2.4 Evaluation Timeline.....	10
2. SKILLS WISCONSIN IMPLEMENTATION.....	12
2.1 Skills Wisconsin Milestones	12
2.2 Salesforce Adoption and Use	17
2.3 Summary	21
3. PROCESS STUDY	23
3.1 Approach.....	23
3.1 Review of Baseline Findings.....	25
3.2 Social Network Analysis.....	26
3.3 Successes and Lessons Learned.....	32
3.4 Summary	39

4. IMPACT EVALUATION.....	41
4.1 Approach.....	41
4.2 Data.....	42
3.2.1 Comparing Pilot and Non-pilot WDAs before Implementation.....	45
3.2.2 Comparing Pilot and Non-pilot WDAs after Implementation	49
4.3 Results.....	52
4.4 Summary	57
5. OUTCOMES ANALYSIS	59
5.1 Employer Satisfaction with the Workforce System	59
5.1.1 Survey Implementation	60
5.1.2 Changes in Employer Satisfaction, 2013-2016	62
5.1.3 Satisfaction among Employer Groups, 2016	69
5.2 Skills Wisconsin Performance and Cost.....	78
5.2.1 Performance	78
5.2.2 Cost	83
5.3 Summary	88
6. DISCUSSION	91
APPENDIX A. SUMMARY OF INTERVIEWS.....	95
APPENDIX B. SALESFORCE ADOPTION AND USAGE BY WDA	98
APPENDIX C. EMPLOYER CHARACTERISTICS AND SURVEY NON-RESPONSE	102
APPENDIX D. EMPLOYER SURVEY RESULTS BY SURVEY WAVE	105
APPENDIX E. EMPLOYER CHARACTERISTICS AND SURVEY NON-RESPONSE BY DATA SOURCE, 2016 WAVE	117
APPENDIX F. EMPLOYER SURVEY RESULTS BY DATA SOURCE, 2016 WAVE	120

TABLE OF EXHIBITS

Exhibit 1: Wisconsin WDAs	2
Exhibit 2: Unemployment in Wisconsin and the U.S., 2010-2015.....	5
Exhibit 3: WDA Assignments.....	9
Exhibit 4: Evaluation Timeline.....	11
Exhibit 5: Timeline of Key <i>Skills Wisconsin</i> Activities.....	13
Exhibit 6: Collabor8 Marketing through the Years	16
Exhibit 7: Salesforce Logins by Quarter	18
Exhibit 8: Salesforce Quarterly and Cumulative Logins	19
Exhibit 9: Salesforce Activity, 2013-2016.....	20
Exhibit 10: A Network Map	24
Exhibit 11: Network Centralization Examples.....	25
Exhibit 12: Baseline Network Map, Example WDA.....	27
Exhibit 13: Follow-up Network Map, Example WDA	27
Exhibit 14: Baseline Statewide Network Map	29
Exhibit 15: Follow-up Statewide Network Map.....	30
Exhibit 16: Average Degree by Stakeholder Type.....	31
Exhibit 17: Network Centralization Measures	32
Exhibit 18: Jobseeker Cohorts and Program Impact.....	42
Exhibit 19: Number of Jobseekers Exiting WIA Title I and Title III Programs	43
Exhibit 20: Changes in Jobseeker Labor Market Outcomes, 2011-2012	44
Exhibit 21: Jobseeker Demographic Characteristics,	46
Exhibit 22: Jobseeker Prior Labor Market Experience,	47
Exhibit 23: Services Received by Jobseekers,	48
Exhibit 24: Jobseeker Labor Market Outcomes,	49
Exhibit 25: Jobseeker Demographic Characteristics,	50
Exhibit 26: Jobseeker Prior Labor Market Experience,	51
Exhibit 27: Services Received by Jobseekers,	52
Exhibit 28: Estimated Impacts of Salesforce Implementation in Pilot WDAs on Jobseeker Outcomes.....	54

Exhibit 29: Estimated Impacts of Salesforce Implementation in Pilot WDAs on Jobseeker Outcomes, Weighted Regressions	56
Exhibit 30: Employer Survey Samples	61
Exhibit 31: Employer Survey Response Rates by Wave	62
Exhibit 32: Employer Interaction with the Workforce System	63
Exhibit 33: Employer Satisfaction with Ability of Workforce System to Provide Skilled Workers	65
Exhibit 34: Employer Ratings of Jobseeker Quality	66
Exhibit 35: Employer Experiences with Time to Fill Job Openings	67
Exhibit 36: Employer Satisfaction with Services Received	68
Exhibit 37: Employer Ratings of How Well the Workforce System Serves Businesses	69
Exhibit 38: 2016 Survey Wave Sampling Data Sources	70
Exhibit 39: Sampling and Response Rates by Data Source, 2016 Wave	71
Exhibit 40: Employer Interaction with the Workforce System by Data Source, 2016 Wave	72
Exhibit 41: Employer Satisfaction with Ability of Workforce System to Provide Skilled Workers by Data Source, 2016 Wave	73
Exhibit 42: Employer Perceptions of Jobseeker Quality by Data Source, 2016 Wave	74
Exhibit 43: Employer Experiences with Time to Fill Job Openings by Data Source, 2016 Wave ..	75
Exhibit 44: Employer Satisfaction with Services Received by Data Source, 2016 Wave	76
Exhibit 45: Employer Ratings of How Well the Workforce System Serves Businesses by Data Source, 2016 Wave	77
Exhibit 46: Summary of Skills Wisconsin Performance Outcomes	79
Exhibit 47: Skills Wisconsin Performance Outcomes	81
Exhibit 48: Adult and Dislocated Worker Participation and Outcomes, 2011-201	82
Exhibit 49: <i>Skills Wisconsin</i> Expenditures, by Grant Year	84
Exhibit 50: Estimated Salesforce-related Expenditures, by Grant Year	86
Exhibit 51: <i>Skills Wisconsin</i> Expenditures per Business/Jobseeker Served	87

EXECUTIVE SUMMARY

Skills Wisconsin was funded in 2012 by the first round of the U.S. Department of Labor's (DOL's) Workforce Innovation Fund (WIF) program. Granted to a consortium of the state's 11 Workforce Development Boards (WDBs), it aims to improve communication among workforce development stakeholders throughout the state, particularly as it relates to labor market conditions. The project's premise is that to effectively serve jobseekers as well as employers in the communities where they operate, workforce development stakeholders must have a keen awareness of both employer needs and workforce skills.

The WIF requires each grantee to implement an independent evaluation of its grant program as a condition of the award. These evaluations are intended to generate new, stronger evidence on the effectiveness of innovative changes to the workforce system. The WDB of South Central Wisconsin, the lead WDB for *Skills Wisconsin*, contracted with IMPAQ International, LLC (IMPAQ) to conduct an independent evaluation of the consortium's program. This report presents the results of our evaluation, based on grant activities and evaluation data collected throughout the grant period. It builds on two earlier reports, one prepared at the end of the first year of the grant, and one roughly midway through the period. The first report documented baseline information on how the workforce system in Wisconsin operated prior to *Skills Wisconsin* implementation. The second report described interim evaluation results based on data available at the time.

ES.1 Overview of *Skills Wisconsin*

Program Design and Objectives. The motivation for *Skills Wisconsin* was Consortium members' view that efficient coordination among workforce system stakeholders has been difficult, due to challenges both technical (e.g., lack of a centralized information system) and process related (e.g., lack of a coherent system and set of processes for working with a particular employer). The grant application further noted two wider challenges faced by the state's workforce system: (1) differences in workforce policy and goals among economic regions, which have been exacerbated by difficulties maintaining working relationships with many partners; and (2) a sense of competition among partners for business customers.

To meet these needs, the Consortium proposed undertaking three related efforts through *Skills Wisconsin*:

- **Implementing new technology**—A cloud-based customer relationship management (CRM) application, Salesforce, was to be implemented in each of the 11 WDAs. The Salesforce platform was expected to improve communication among workforce development and economic development (ED) stakeholders throughout the state by: (1) providing a single system for managing contact between the workforce system and employers, and (2) enabling different workforce system stakeholders to exchange information.

- ***Developing a new approach to business partnerships***—To complement adoption of Salesforce, another program focus was to reform the way WDB Business Service Units (BSUs) serve employers in their regions. This part of *Skills Wisconsin* focused on providing training on a demand-driven approach to workforce development.
- ***Enhancing industry partnerships and developing new training curricula***—Building on the stronger relationships with employers anticipated as a result of the first two program components, the program also included plans to enhance and expand industry partnerships in the state and to develop new training program curricula better aligned with employer needs.

The overall goal of *Skills Wisconsin* was to improve coordination among key workforce development stakeholders—including WDBs, staff at Wisconsin Job Centers, ED organizations, and WTCS. This was intended to make the system more responsive to business needs, and thus to better serve employers. By making the system better able to meet the needs of employers, the initiative was also intended to indirectly improve longer-term outcomes for jobseekers. Ultimately, the two components of *Skills Wisconsin*—increased awareness of employer needs and development of in-demand training programs—were expected to yield better matches between jobseekers and available job opportunities.

Implementation Context. *Skills Wisconsin* was implemented over a 4½ year period from July 2012 through December 2016. During that time, economic and other conditions both in Wisconsin and in the U.S. evolved in ways that would impact implementation of the program. Many of the changes that occurred during this time were impossible to anticipate. To put the implementation of *Skills Wisconsin* into some perspective, it is important to note two important contextual developments that occurred during the grant period: (1) the unemployment rate declined, and (2) the Workforce Innovation and Opportunity Act (WIOA) was enacted. The overall effect of these two developments specifically on *Skills Wisconsin* is not clear, but each certainly changed the workforce system and the labor market more generally during the period of the grant.

ES.2 Evaluation Design

Our evaluation of *Skills Wisconsin* consists of three components:

- A ***process study***
- An ***impact evaluation***
- An ***outcomes analysis***.

The qualitative process study focuses on how implementation of Salesforce affected workforce development stakeholders—including WDBs, state agency workforce program partners, ED agencies, training partners, and employers. The quantitative impact evaluation focuses on the effects of Salesforce implementation on jobseekers. The outcomes analysis documents quantitative outcomes related to *Skills Wisconsin* implementation.

ES.3 *Skills Wisconsin* Implementation

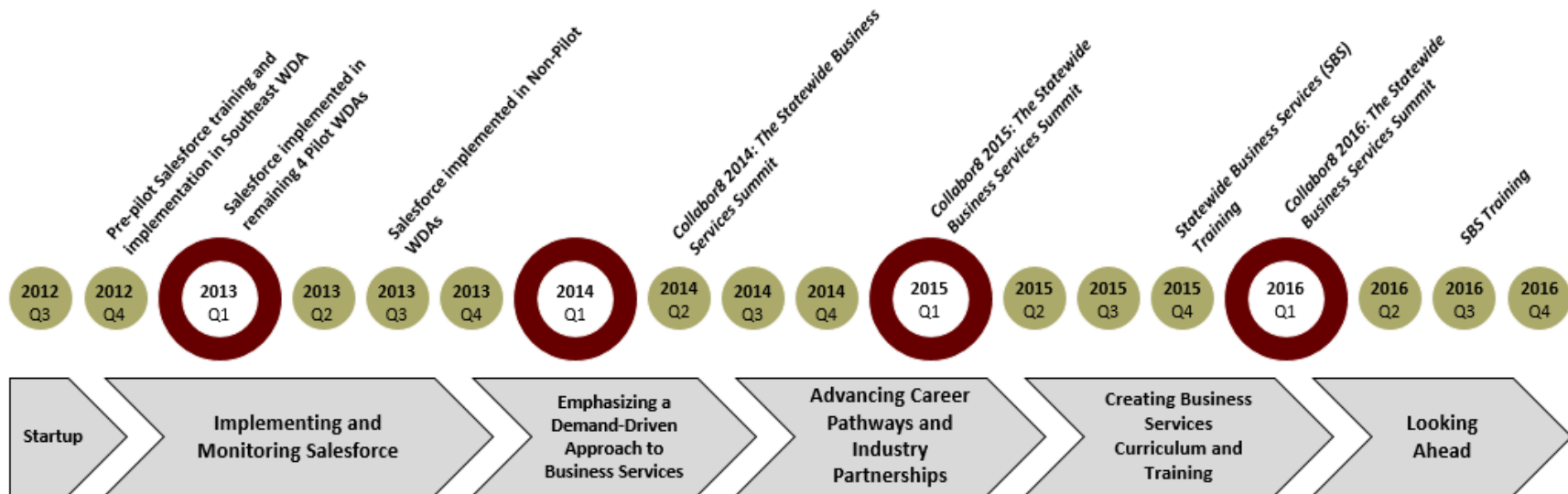
Skills Wisconsin was conceived as a program to enhance coordination among workforce system stakeholders, so the system could better serve employers (and help jobseekers through that mechanism). Following a start-up period during which administrative tasks were completed, the primary focus of *Skills Wisconsin* was to implement and support the Salesforce platform. The purpose of this tool was to allow business services representatives throughout the state to have a shared understanding of interactions between individual employers and the workforce system. The rollout of Salesforce was done in two phases (the first phase being a pilot) to facilitate the required impact evaluation. As WDBs gained access to Salesforce, the grant provided training and support to help users learn how to use the tool.

Beyond the adoption and use of Salesforce, *Skills Wisconsin* included activities intended to improve how the workforce system serves businesses:

- The program supported the development of training programs designed as part of career pathways. Twenty such new curricula were supported by the grant, including two funded exclusively by program funds.
- *Skills Wisconsin* supported work by the WDBs to enhance or create industry partnerships (IPs). Forty partnerships were created or enhanced through the grant.
- *Skills Wisconsin* funded the development and successful hosting of three statewide gatherings focused on business services. The three annual Collabor8 summits, each with 200 attendees, allowed workforce system staff from around the state to meet their peers from other areas, share their experiences serving businesses with one another, participate in sessions on topics related to business services, and listen to addresses by employers, national experts in workforce development, and other speakers.

Exhibit ES.1 presents a timeline of key *Skills Wisconsin* activities for the entire grant period.

Exhibit ES.1: Timeline of Key *Skills Wisconsin* Activities



Salesforce Adoption and Use. Workforce staff used Salesforce to document and share information about their interactions with employers. They also made use of extensions to the platform, such as the Salesforce mobile app and a tool that integrates Salesforce with Microsoft Outlook. Users reported that they would often use Salesforce to prepare for meetings or other interactions with employers. Over 250 staff who were not provided with paid licenses to use the full Salesforce platform made use of its Chatter feature. This allowed users to share information despite not being able to access detailed employer profile information.

Our review of quantitative data shows that the number of Salesforce user logins generally increased over the grant period. The number of Salesforce logins by quarter showed a positive trend over the grant period, with the single exception being Spring 2015 through the end of that year.

Data on the total number of Salesforce licenses and the amount of activity for each license show that the total number of licenses in use ranged from 140 to 179. On average, roughly 43 percent of total licenses in a given week were considered Active, meaning that the user logged into Salesforce at least five times during a week. Fourteen percent of users were considered Semi-active, logging into the platform at least once but fewer than five times a week. The remaining 43 percent of users were considered Inactive, not logging in at all during a week. Over the grant period, 57 percent of licenses were in use (i.e., Active or Semi-active) on average in a week. This proportion ranged from as low as 32 percent to as high as 73 percent.

ES.4 Process Study Results

The goal of the process study was to understand how *Skills Wisconsin* was implemented, describe how the workforce system operates after implementation of the grant, and identify program successes and lessons learned. IMPAQ's approach to the process study included two components: (1) a Social Network Analysis (SNA) that documented communication patterns among stakeholders before and after *Skills Wisconsin*, and (2) an analysis of qualitative data gathered through site visits, telephone interviews, and direct observations of grant-supported activities.

Social Network Analysis. The SNA indicates that after *Skills Wisconsin* implementation, communication across WDAs made up a larger proportion of communication within the statewide network, suggesting that communication may have become more widespread within individual areas. Comparisons to communication before implementation of the grant also suggest that WDB Directors, Business Services Representatives, and representatives from the Department of Workforce Development's (DWD) Division of Vocational Rehabilitation (DVR) communicated with more partners. Additionally, questionnaire respondents reported little use of Salesforce to communicate with partners, providing evidence that email, phone calls and face-to-face contact continue to be the preferred methods of sharing information.

Successes and Lessons Learned. Based on our analysis of the information we collected through our interviews and program observations, we identified the following key findings:

- *Skills Wisconsin* enhanced communication among workforce professionals from different WDAs, particularly among Executive Directors and Statewide Business Services Group Representatives.
- In several WDAs, *Skills Wisconsin* improved coordination among business services partners and streamlined communication about and with businesses.
- Salesforce has not yet become the universal business services solution that may have been envisioned, though several WDAs have strongly incorporated its use.
- Built-in incentives and senior-level buy-in seemed to increase Salesforce use and participation in *Skills Wisconsin*.
- Efforts to increase the quality and relevance of the *Skills Wisconsin* platform by linking to extant data sources have shown promise, but face ongoing challenges.
- Training programs are generally designed to respond to industry need, but in markets with low unemployment rates, industry and jobseeker needs are not always aligned.
- Industry Partnerships have helped regions aggregate information about employer need and facilitate development of responsive training programs.
- *Skills Wisconsin* opened up channels of communication among partners, particularly DWD/DVR.
- The decentralized and fragmented nature of Economic Development Organizations statewide continues to create challenges to collaboration.
- *Skills Wisconsin* staff demonstrated flexibility, innovation, and adaptation while implementing the grant.

ES.5 Impact Evaluation Results

The impact evaluation of *Skills Wisconsin* focuses on estimating the impact of implementing Salesforce in pilot WDAs on key labor market outcomes for jobseekers.¹

Our empirical approach to the impact evaluation uses individual-level data on jobseekers who exited WIA Title I and Title III programs both *before* implementation of Salesforce in the pilot WDAs and *after* it. Further, we rely on the phased rollout of Salesforce to compare outcomes for jobseekers who received services in pilot WDAs to outcomes for jobseekers who received services in non-pilot WDAs. We focus on three key labor market outcomes—employment, job

¹ We consider the pool of jobseekers potentially affected by *Skills Wisconsin* to be the group of all jobseekers receiving services from the state workforce system, though data limitations force us to estimate the impacts of the program on a subset of this group. We also note that the program did not target jobseekers directly. Rather, any impacts of the program on jobseekers would stem from improvements in information sharing and collaboration among workforce system stakeholders, or from improvements in how the workforce system serves businesses.

retention, and earnings. To estimate the impacts of Salesforce implementation in the pilot WDAs we use administrative data provided by DWD.

We use multivariate regression models to estimate the impact of the implementation of Salesforce in the pilot areas on the jobseeker outcomes of interest. Our baseline results show that Salesforce implementation in the pilot areas led to (1) a two percentage-point decrease in the likelihood of employment, (2) no change in the likelihood of retaining a job, and (3) a \$262 decrease in the cumulative earnings of jobseekers in the second and third calendar quarters after program exit.

To the extent that the groups of WIA Title I and Title III exiters changed differentially between pilot and non-pilot areas between 2012 and 2013, our baseline results confound the impacts of the program with the effects of such compositional changes. To control for the potential bias this may introduce, we re-estimated the regression models for all three outcomes of interest, incorporating a matching technique that controls for observable differences among jobseeker cohorts.² Exhibit ES.2 summarizes our results.

**Exhibit ES.2: Estimated Impacts of Salesforce Implementation in Pilot WDAs
on Jobseeker Outcomes, Weighted Regressions**

	Employment	Retention	Earnings
Impact	0.03*** (0.01)	0.00 (0.01)	263 (192)
R-squared	0.08	0.00	0.00
Number of observations	100,668	67,705	100,668

Source: DWD administrative data.

Notes: * indicates statistical significance at the 10 percent level; ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

When we control for observable differences among cohorts of jobseekers, we find that implementation in pilot areas led to a three percentage-point increase in the likelihood of employment for WIA Title I and Title III exiters, but had no effect on either of the other two outcomes considered.

Considerations. We note several important considerations to bear in mind when interpreting the results of our impact analysis. These include:

- The figures represent the estimated impacts of only an isolated component of *Skills Wisconsin*—the early implementation of Salesforce among a group of WDAs. They do not represent the impacts of the overall grant program.

² Our approach relies on data for four cohorts of jobseekers, defined by (1) whether the jobseeker received services in a pilot or non-pilot area, and (2) whether the jobseeker received services in 2012 or 2013.

- Our empirical approach captures only short-term impacts associated with the introduction of Salesforce in the pilot WDAs. The only program impacts our analysis can detect are those that manifest within one calendar quarter following the introduction of Salesforce. To the extent that it takes time for Salesforce to be used effectively or for it to facilitate more responsiveness to the demand side of the labor market, we might expect its impacts on jobseekers to take longer to develop.
- The individuals in our data are WIA Title I and Title III program exiters. Our results may not generalize to the larger population of jobseekers who receive services from the workforce system.
- To the degree that conditions between 2012 and 2013 changed differentially in pilot areas versus non-pilot areas in ways that affected jobseeker outcomes, our estimates will capture not only the impact of Salesforce implementation but also the effect of such changes.

Despite the potential limitations of our results, our best assessment is that the early adoption of Salesforce in pilot WDAs slightly increased the rate of employment among WIA Title I and Title III exiters and had no impacts on either of the other two jobseeker outcomes considered.

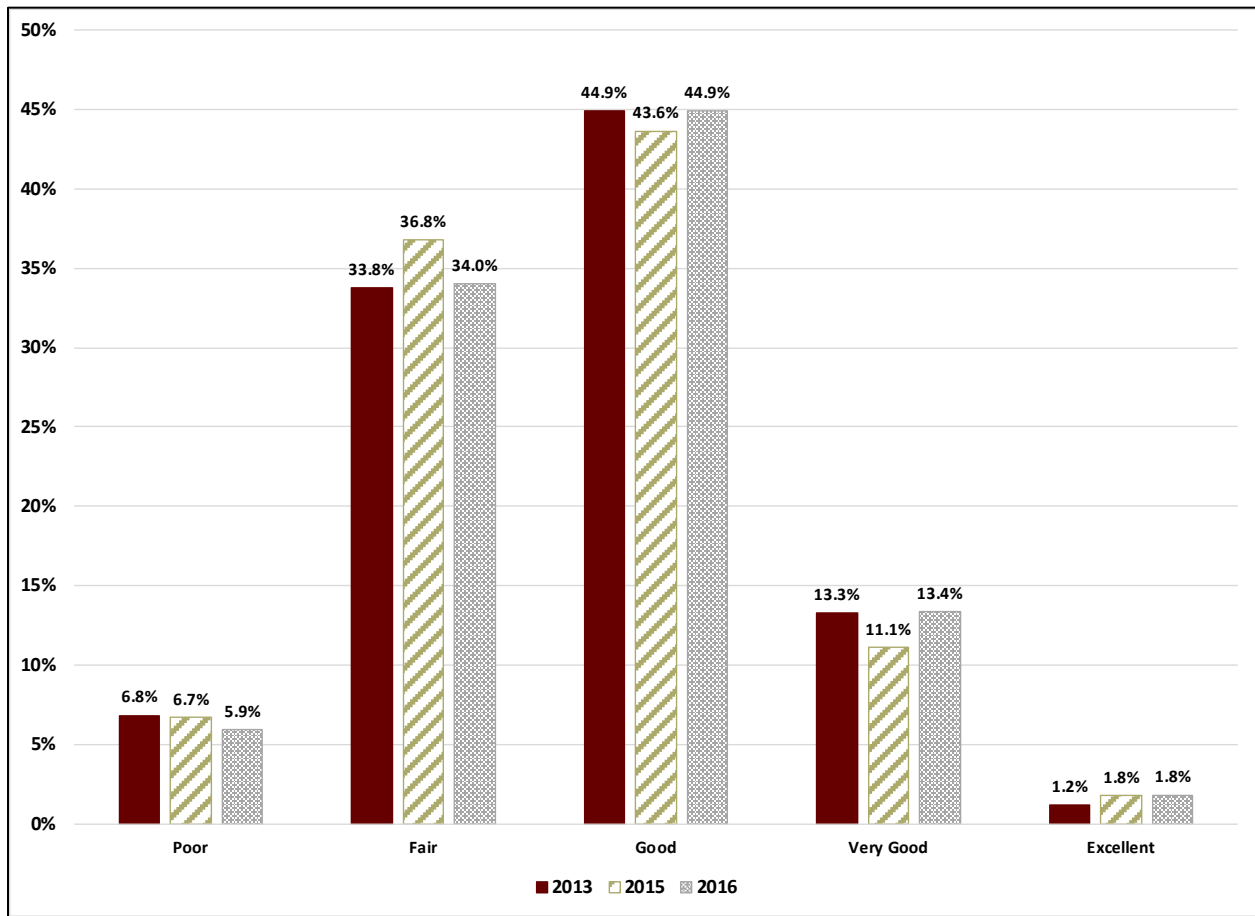
ES.6 Outcomes Analysis Results

The goal of the outcomes analysis was to document and analyze how key quantitative outcome measures changed during the *Skills Wisconsin* grant period. Unlike the impact evaluation, our aim was not to attribute any changes as being the direct result of the grant. Instead, the focus was on understanding whether changes in these measures suggest that *Skills Wisconsin* had its intended effects.

Employer Satisfaction with the Workforce System. Using the results of three waves of an employer survey, we find no evidence that employer opinions of the workforce system changed in a meaningful way. Our review of employer responses to questions about the ability of the workforce system to provide skilled workers, the quality of jobseekers referred by the workforce system, the time it takes to fill job openings, satisfaction with services received, and how well the workforce system serves businesses all show virtually no changes between 2013 and 2016. There are two minor exceptions. The first is that the survey data suggest that it took longer for employers to fill job openings when working with the workforce system in 2016 than in 2013. The second is that the proportion of employers that rated how well the workforce system serves businesses as Excellent increased slightly.

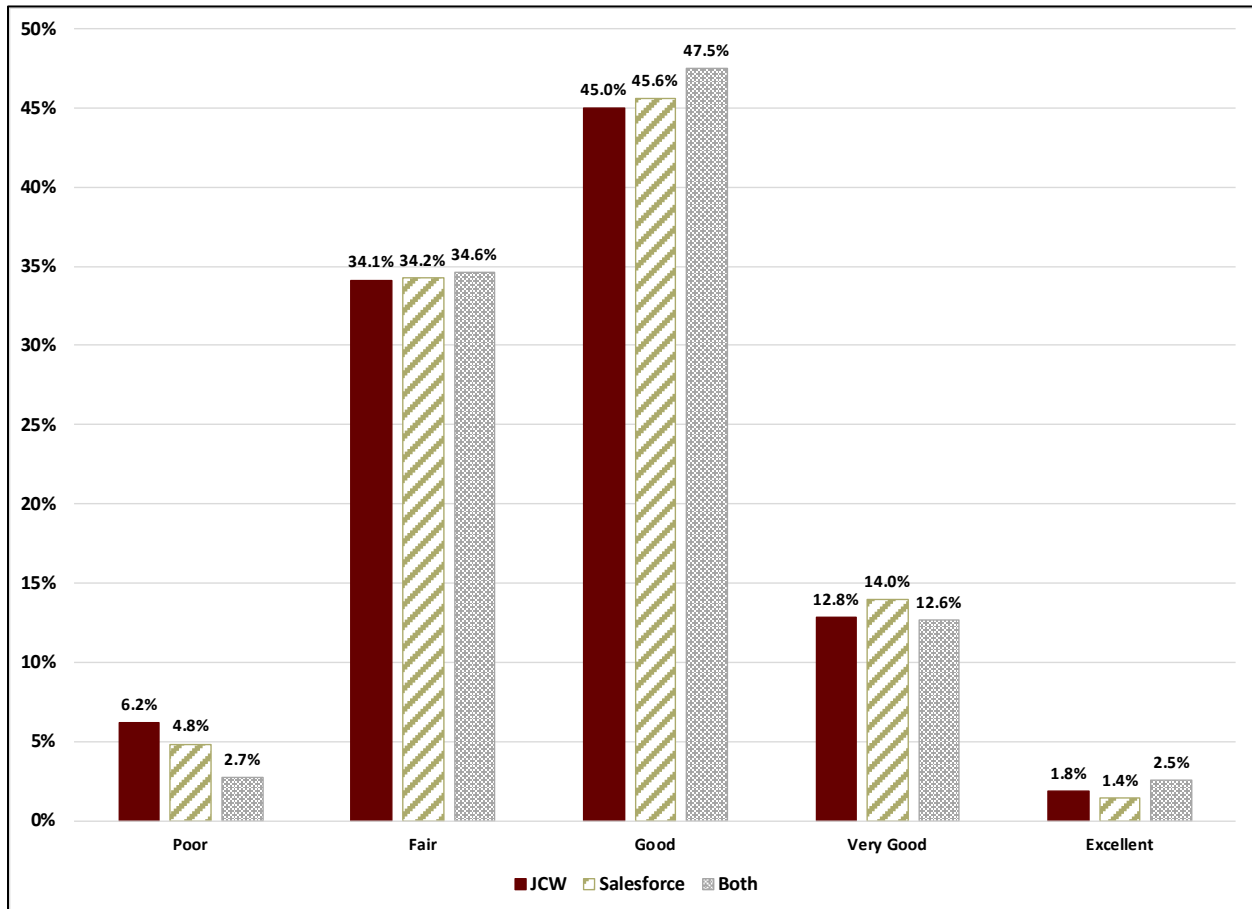
Exhibit ES.3 summarizes how employers in the three survey waves responded to a question that asked each employer to rate how well Wisconsin's workforce system serves businesses.

ES.3: Employer Ratings of How Well the Workforce System Serves Businesses



Although we see no evidence of changing employer opinion among a broad universe of employers, data from the 2016 wave of the survey offer additional insight, suggesting that employers that had more direct contact with *Skills Wisconsin* had slightly more positive feelings about the workforce system. Employers that both met the sampling criteria for earlier survey waves and had active profiles in the *Skills Wisconsin* Salesforce system had slightly more positive responses to a number of survey questions. They were more likely to be satisfied with the ability of the workforce system to provide skilled workers, reported faster times to fill job openings when working with the workforce system, were more satisfied with the services they received, and gave the workforce system higher ratings in terms of how well it serves businesses. Exhibit ES.4 summarizes responses to the same survey question as Exhibit ES.3, but for 2016 survey data from three different types of employers: (1) those that had posted job orders on the Job Center of Wisconsin (JCW) website but did not have a profile in the *Skills Wisconsin* Salesforce system, (2) those that posted on JCW and had a profile in Salesforce, and (3) those that had a profile in Salesforce but had not posted on JCW.

ES.4: Employer Ratings of How Well the Workforce System Serves Businesses by Data Source, 2016 Wave



These results are consistent with *Skills Wisconsin* achieving its goals related to better serving businesses, though we note that they should not be interpreted causally. One potential explanation for the pattern is that employers that were generally positive about the workforce system were more likely to have their profiles entered into Salesforce. Nevertheless, the results are encouraging.

Performance. *Skills Wisconsin* greatly exceeded its performance target for all of the quantitative performance measures associated with the grant. Exhibit ES.5 summarizes the performance of *Skills Wisconsin* in terms of the nine performance measures tracked during the grant.

ES.5: Summary of *Skills Wisconsin* Performance Outcomes

Measure	Goal	Total	Performance
Number of businesses served	5,500	87,069	1583%
Number of staff trained in the demand-driven model	110	200	182%
Number of employer profiles	5,500	44,151	803%
Number of new training curricula created	20	20	100%
Number of industry partnerships	40	40	100%
Number of jobseekers trained	220	823	374%
Number of jobseekers served	7,000	12,455	178%
Number of hires due to enhanced relationships	1,000	1,843	184%
Number of times Salesforce is accessed	66,000	265,159	402%

Source: *Skills Wisconsin* quarterly progress reports to DOL.

In nearly all cases, the performance target was exceeded many times over. Progress toward the performance goals was not immediate. The first year of the grant period (Q3 2012-Q2 2013) focused on grant start-up, the implementation of Salesforce in pilot areas, and planning for Salesforce implementation in pilot areas. During this time, there was little progress toward meeting the performance targets. However, the rate of progress accelerated in late 2013 (the start of Grant Year 2) and early 2014. Many of the performance targets for the life of the grant were met by the midpoint of the grant period.

Cost. Of the \$6 million awarded to support *Skills Wisconsin*, most expenditures were by the 11 WDBs, which accounted for 41 percent of total grant funding. This funding supported staff time spent implementing and using Salesforce, attending Salesforce training, participating in training on the demand-driven approach to workforce development, attending the Collabor8 summits, and other activities. Thirty-four percent of grant funds were spent on vendor subcontracts, including a contract for the Salesforce platform and related support, the evaluation contract with IMPAQ, and a small contract for the demand-driven training. The remaining funds were spent by partner organizations (such as the Wisconsin Economic Development Corporation (WEDC) and Wisconsin Technical College System) and on grant administration and management.

Our best estimate is that the costs associated with Salesforce accounted for roughly 30 percent of grant funding. This estimate includes subcontracts that were specifically dedicated to supporting Salesforce as well as a rough estimate that 25 percent of WDB expenditures supported the implementation and use of the platform, covering both the cost of licenses and staff time spent in Salesforce training and other related activities.

Using data on the number of businesses and jobseekers served by *Skills Wisconsin* along with data on grant expenditures, we calculated expenditures per business/jobseeker served. Because the grant was primarily focused on improving the way the workforce system serves businesses, the cost per business served is likely more meaningful than the cost per jobseeker served. The results show that the grant expended a total of \$69 per business served, of which \$21 was related

to the implementation of Salesforce. These figures indicate that *Skills Wisconsin* represents a low-cost program in terms of cost per outcome. The low cost associated with Salesforce suggests that adopting a CRM tool like Salesforce may be a cost-effective way for states to enhance existing workforce programs by improving the way their workforce systems serve businesses.

ES.7 Discussion

Skills Wisconsin was originally conceived as a way to enhance coordination and communication among organizations that constitute the state workforce system. Recognizing that lack of such collaboration sometimes led to problems effectively serving employers, the leaders behind *Skills Wisconsin* sought to overcome those challenges through the use of new technology, focused training, and related efforts.

During the grant period, *Skills Wisconsin* was implemented largely as planned. Major grant activities included the successful launch of Salesforce along with subsequent support for its continued use, training delivered to workforce system staff on how to implement a demand-driven approach to business services, and periodic in-person conferences at which representatives from around the state could meet to share their experiences with one another and to discuss common challenges and potential solutions. *Skills Wisconsin* also supported efforts to increase industry partnerships around the state and fostered new, strong partnerships between the WDBs and some state-level agencies such as DWD/DVR.

The qualitative data gathered via in-person site visits to all 11 WDAs both before and after *Skills Wisconsin* was implemented indicate that in many WDAs, the program enhanced collaboration among workforce system stakeholders in the way they serve businesses. For example, one interviewee explained the success of Salesforce this way:

“[The Skills Wisconsin Salesforce Platform] is the first time I ever saw that focused an effort for everybody to share [and] to make sure that we knew where one another had been and who we’d talk to and what we were doing. So if one of us had been to company X on Monday that’s the first time I ever saw that someone might have a chance to know on Tuesday that you might not want to go back there and have the same conversation.”

Consistent with the objectives of the program, collaboration across WDAs was enhanced and more concerted efforts made among stakeholders to work with one another. Commenting on the increased awareness of the broader set of workforce programs fostered by *Skills Wisconsin*, another interviewee told us the following:

“I think it’s prompted or forced more collaboration. You know if you’re going to share an account management system all of a sudden you have to be on the same page. There’s protocols, there’s dialogue, there’s training, and it brings anybody whose entering data into that system together. So it kind of forces that collaboration at a very grassroots level.”

The Salesforce platform itself supported a more organized approach to business services, with many workforce system staff using it as an authoritative source of information on interactions with employers. In addition to these accomplishments, *Skills Wisconsin* fostered new partnerships, including in particular stronger relationships between the WDBs and DWD/DVR.

Concluding Remarks. Overall, *Skills Wisconsin* largely achieved its intended goals of enhancing collaboration and communication among stakeholders in Wisconsin's workforce system. The results were not uniform across the state, as some WDAs embraced the program more enthusiastically than others. In areas that took full advantage of the opportunity presented by *Skills Wisconsin*, the program produced positive results.

As the grant has neared its end, WDAs have been preparing for the future. However, it is not clear that all WDAs will continue using Salesforce after *Skills Wisconsin* has ended. Some WDAs have indicated that they fully intend to do so, and have made the use of Salesforce a requirement included in subcontracts with organizations that will provide WIOA services. Others remain noncommittal. Aside from the use of Salesforce, the annual Collabor8 summits established through *Skills Wisconsin* are expected to continue, with planning currently under way for Collabor8 2017.

The progress made through *Skills Wisconsin* provides a solid foundation for the state workforce system to continue to improve the way workforce system stakeholders collaborate with one another and how they serve Wisconsin businesses. If the WDAs that were less engaged during the grant period become more supportive of and engaged in the use of Salesforce, it has the potential to develop into a more universal business services coordination platform. Likewise, if additional state-level partner agencies, such as DWD's Employment and Training division and WEDC, are able to establish and support meaningful connections with the Salesforce platform established by the grant, the enhanced platform may provide even greater value to the workforce system overall. Beyond the direct benefits of Salesforce as a collaboration tool, it may also prove valuable in other ways. For instance, WIOA requires states to report on their performance with respect to employer engagement. There may be some potential for DWD to leverage the quantitative data captured in Salesforce for this purpose. Regardless, it is clear that despite the positive developments achieved through the WIF grant, additional support of Salesforce will only increase the usefulness and value of the platform to Wisconsin's workforce system. After the grant ends, those grant partners that have embraced *Skills Wisconsin* and that continue to use Salesforce for information sharing and collaboration may help strengthen support for the platform by sharing their success stories and demonstrating the platform's value to others.

All things considered, the *Skills Wisconsin* experience has shown that a program aimed at improving how the workforce system serves businesses through a combination of the introduction of a CRM platform, training, and other efforts can help improve the degree of coordination and collaboration among workforce system stakeholders. Other states looking for ways to achieve similar goals should consider implementing similar programs modeled after *Skills Wisconsin*.

1. INTRODUCTION

Skills Wisconsin was funded in 2012 by the first round of the U.S. Department of Labor's (DOL's) Workforce Innovation Fund (WIF) program. It is a joint effort of a consortium of the state's 11 Workforce Development Boards (WDBs) that aims to improve communication among workforce development stakeholders throughout the state, particularly as it relates to labor market conditions. The project's premise is that to effectively serve jobseekers as well as employers in the communities in which they operate, workforce development stakeholders must have a keen awareness of both employer needs and workforce skills.

Under the WIF, each grantee was required to implement an independent evaluation of their grant program as a condition of the award. These evaluations are intended to generate new, stronger evidence on the effectiveness of innovative changes to the workforce system. The WDB of South Central Wisconsin, the lead WDB for *Skills Wisconsin*, contracted with IMPAQ International, LLC (IMPAQ) to conduct an independent evaluation of the program. This report presents the results of our evaluation, based on grant activities and evaluation data collected throughout the grant period. It builds on two earlier reports, one prepared at the end of the first year of the grant, and one roughly midway through the grant period. The first report documented baseline information on how the workforce system in Wisconsin operated prior to the implementation of *Skills Wisconsin*.³ The second report described interim evaluation results based on data available at the time.⁴

This report presents the results of our evaluation. In the rest of this chapter, we first present an overview of *Skills Wisconsin*, describing the key features of the program, some of the relevant organizations in the state, and the broader context in which the grant operated. We then describe the evaluation design. In Chapter 2, we describe the implementation of *Skills Wisconsin*, focusing on major grant activities. Chapter 3 is about the process study. In it, we briefly summarize the results of the Baseline Report, present the results of a Social Network Analysis (SNA) of communication patterns among workforce system stakeholders, and discuss our key findings based on qualitative interview data. Chapter 4 describes the impact evaluation. We describe our technical approach and use individual-level jobseeker data to estimate the impact of one component of *Skills Wisconsin* on key labor market outcomes for participants in WIA Title I and Title III programs. In Chapter 5, we analyze outcomes data related to employer satisfaction, grant performance, and costs. Chapter 6 provides an overall discussion of the results of the evaluation.

³ Davis, S., C. Corea, and D. Brooks. *Evaluation of Skills Wisconsin: Baseline Report*. IMPAQ International, Prepared for the Wisconsin Workforce Development Association and Consortium. September 30, 2013.

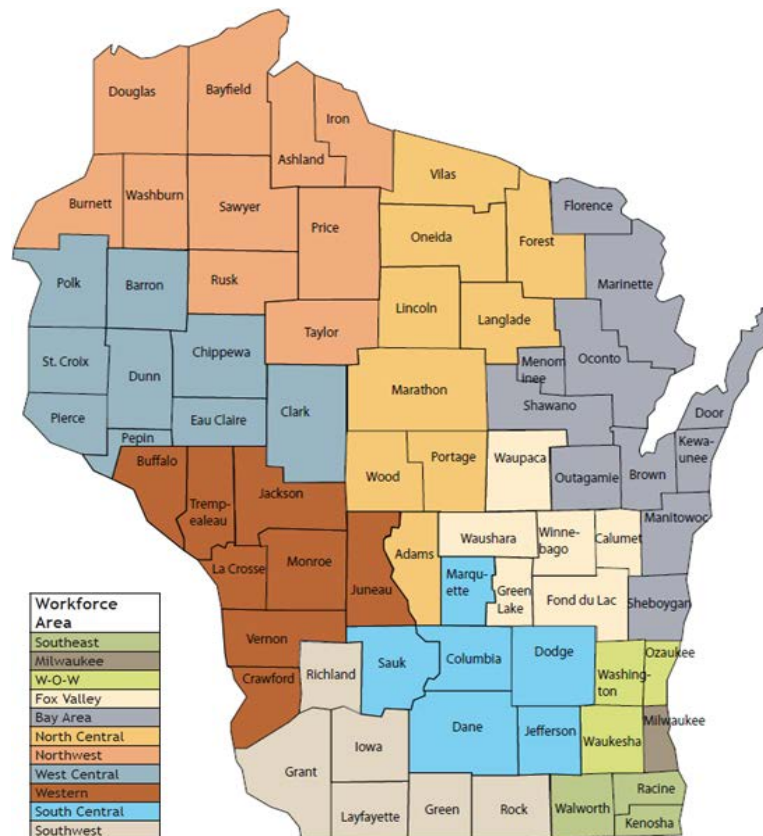
⁴ Davis, S., Z. Miller, and A. Tenaglio. *Evaluation of Skills Wisconsin: Interim Report*. IMPAQ International, Prepared for the Wisconsin Workforce Development Association and Consortium. August 25, 2014.

1.1 Overview of Skills Wisconsin

1.1.1 Program Design and Objectives

The State of Wisconsin is made up of 11 Workforce Development Areas (WDAs), each with its own WDB. Exhibit 1 shows the counties that make up each WDA.

Exhibit 1: Wisconsin WDAs



Along with the 11 WDAs, Wisconsin has more than 400 economic development entities and 16 technical colleges. In addition to the Consortium of 11 WDBs, the *Skills Wisconsin* team includes key workforce system stakeholders as partners, including:

- **Department of Workforce Development (DWD).** DWD is a state agency whose mission is to enhance the state's workforce by providing support services, education, and training programs aimed at helping Wisconsin jobseekers find, secure, and retain good jobs. DWD also maintains the Job Center of Wisconsin website, an online forum for both jobseekers and employers.
- **Wisconsin Economic Development Corporation (WEDC).** WEDC is a public-private corporation that acts as the primary economic development organization in the state. WEDC works with both employers in the state and businesses considering locating in Wisconsin, to encourage economic growth.

- **Wisconsin Technical College System (WTCS).** WTCS is a system of 16 institutions with roughly 50 campuses across the state that offer two-year associate degrees, technical diplomas, adult education programs, and customized training for local employers. In nearly all areas of the state, WTCS is the primary (or only) training provider involved with the workforce system.

The motivation for *Skills Wisconsin* was that Consortium members felt that efficient coordination among workforce system stakeholders has been difficult, due to both technical (e.g., lack of a centralized information system) and process (e.g., lack of a coherent system and set of processes for working with a particular employer) challenges. The grant application further noted two wider challenges faced by the state's workforce system: (1) differences in workforce policy and goals among economic regions, which have been exacerbated by difficulties maintaining working relationships with many partners, and (2) a sense of competition among partners for business customers.

In response to these shared challenges, *Skills Wisconsin* was intended to address three specific needs:

- To increase placement outcomes and move large numbers of jobseekers off the caseloads of the workforce development system to gainful employment leading to economic self-sufficiency
- To better match training offerings with business hiring needs
- To improve the tracking of service delivery metrics and management of business customer information in real time, in order to serve individual firms and industry cluster partnerships more effectively.

To meet these needs, the Consortium proposed undertaking three related efforts through *Skills Wisconsin*:

- **Implementing new technology**—A cloud-based customer relationship management (CRM) application, Salesforce, was to be implemented in each of the 11 WDAs. The Salesforce platform was expected to improve communication among workforce development and economic development stakeholders throughout the state, by providing a single system for managing contact between the workforce system and employers and allowing different workforce system stakeholders to exchange information.
- **Developing a new approach to business partnerships**—To complement adoption of Salesforce, another focus of the program was to reform the way WDB Business Service Units (BSUs) serve employers in their regions. This part of *Skills Wisconsin* focused on providing training on a demand-driven approach to workforce development.
- **Enhancing industry partnerships and developing new training curricula**—Building on the stronger relationships with employers anticipated as a result of the first two program components, the program also included plans to enhance and expand industry

partnerships in the state and to develop new training program curricula better aligned with the needs of employers.

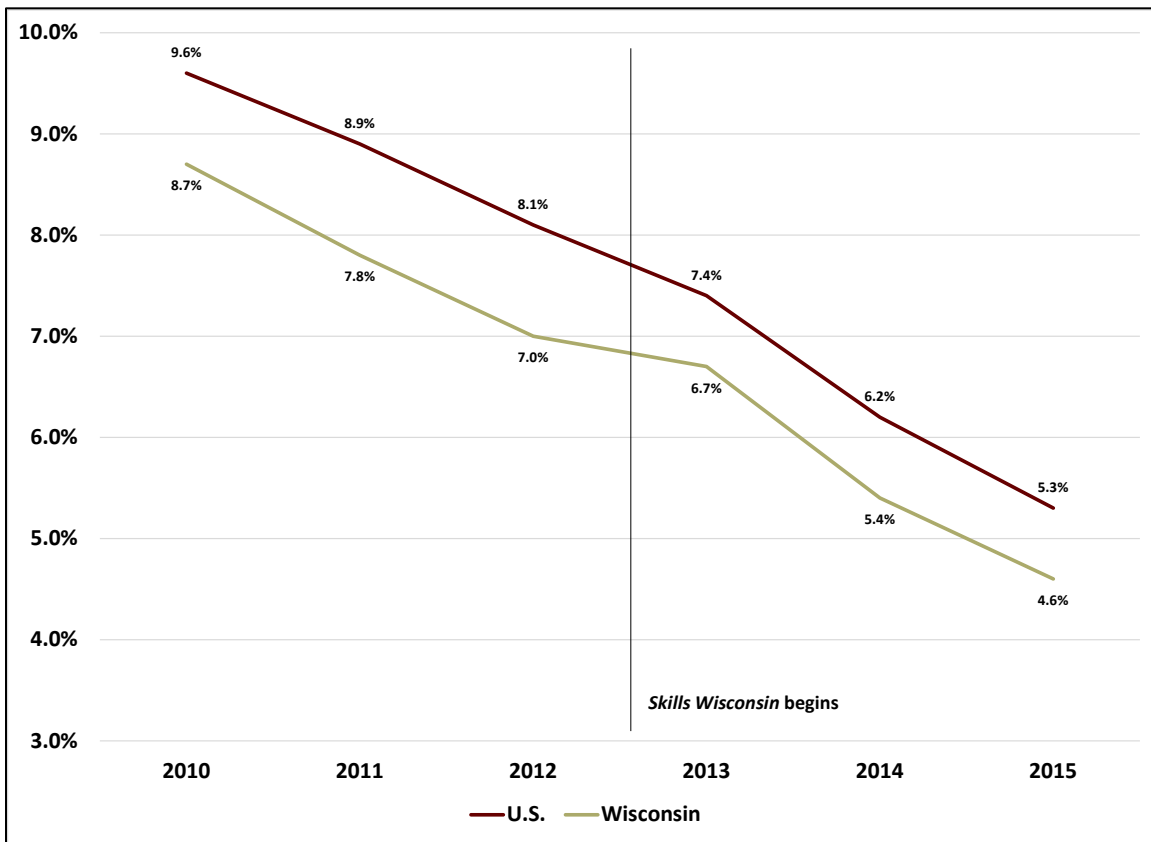
The overall goal of *Skills Wisconsin* was to improve coordination among key workforce development stakeholders—including WDBs, staff at Wisconsin Job Centers, economic development organizations, and WTCS. This was intended to make the system more responsive to business needs, and thus to better serve employers. By making the system better able to meet the needs of employers, the initiative was also intended to indirectly improve longer-term outcomes for jobseekers. Ultimately, the two components of *Skills Wisconsin*—increased awareness of employer needs and development of in-demand training programs—were expected to yield better matches between jobseekers and available job opportunities.

1.1.2 Implementation Context

Skills Wisconsin was implemented over a 4 ½ year period from July 2012 through December 2016. During that time, economic and other conditions both in Wisconsin and in the U.S. evolved in ways that would impact the implementation of the program. Many of the changes that occurred during this time were impossible to anticipate. In order to put the implementation of *Skills Wisconsin* into some perspective, it is important to note some of the most relevant developments that occurred during the grant period. For example, several WDAs experienced internal changes such as changes in organizational structure or turnover among senior managers. Two changes affecting all WDAs in particular stand out: (1) the unemployment rate declined, and (2) the Workforce Innovation and Opportunity Act (WIOA) was enacted.

The Unemployment Rate Declined. Exhibit 2 shows the unemployment rate for both the U.S. and Wisconsin. During the two years prior to the start of *Skills Wisconsin*, the U.S. was just beginning its recovery from the Great Recession. The national unemployment rate was over 9 percent for the first time since 1983, reaching a post-recession peak of 9.6 in 2010. The unemployment rate in Wisconsin mirrored the national trend, rising to 8.7 percent in 2010. This was the backdrop for *Skills Wisconsin*.

Exhibit 2: Unemployment in Wisconsin and the U.S., 2010-2015



Source: Figures reported by the DOL Bureau of Labor Statistics.

Notes: National figures are based on the Current Population Survey. Wisconsin figures are based on the Local Area Unemployment Statistics series.

The beginning of *Skills Wisconsin* (the grant was awarded in July 2012) coincided with the start of what would turn out to be a steady decline in the unemployment rate, both for the U.S. overall and for Wisconsin in particular. By 2015, the national unemployment rate had fallen to just over 5 percent. In Wisconsin, the unemployment rate fell from 7.8 at the start of the grant to slightly below 5 percent in 2015.

Trends in unemployment have direct effects on state workforce systems. When unemployment is high, businesses may be less likely to use the workforce system as a resource, since it may be easier to find workers. Conversely, other businesses may seek assistance from the workforce system to help screen large pools of job applicants. High unemployment can also be the result of slowing economic growth, which may lead to fewer employers looking for workers, but is likely to increase the number of jobseekers seeking assistance from the public workforce system. On the other hand, when unemployment is low, it may be more difficult for some businesses to recruit workers, and they may turn to the workforce system for assistance. Other businesses may have no difficulty recruiting and thus may not use the workforce system as a resource. On the supply side, lower unemployment is likely to translate into fewer workers using the services available from the workforce system. Moreover, the jobseekers that do use the workforce system

are likely to be different in terms of their skills, labor market attachment, and career objectives than the pool of jobseekers seeking help during periods of high unemployment.

It's not clear exactly how overall trends in unemployment might be expected to influence *Skills Wisconsin*. We discuss these issues not in an attempt to pinpoint potential effects, but rather to highlight the economic environment in which *Skills Wisconsin* was implemented.

WIOA was Enacted. Between 1998 and 2015, the public workforce system in the U.S. was governed by legislation called the Workforce Investment Act (WIA). The legislation defined the programs that states were to operate to support jobseekers and employers, described the types of services that were to be provided, and set up organizational structures to manage and administer WIA programs. In 2014, Congress passed WIOA, which reauthorized workforce programs operated by the public workforce system.⁵ Additionally, WIOA introduced important changes in the way the workforce system was to work. Highlights of WIOA reforms as described by DOL include:⁶

- Requiring states to strategically align workforce development programs
- Promoting accountability and transparency
- Fostering regional collaboration
- Improving the American Job Center system
- Improving services to employers and promoting work-based training
- Providing access to high quality training
- Enhancing workforce services for the unemployed and other jobseekers
- Improving services to individuals with disabilities
- Making key investments in serving disconnected youth and other vulnerable populations
- Enhancing the Job Corps program
- Streamlining and strengthening the strategic roles of Workforce Development Boards

After the passage of WIOA, state workforce agencies, Workforce Investment Boards (WIBs), and other workforce system stakeholders began working to adapt their operations to meet WIOA requirements and to follow WIOA-related guidance as it became available from DOL. This was not a trivial undertaking, and preparing for the implementation of WIOA quickly became the top priority of state workforce agencies and others. This emphasis is noteworthy because it meant that, starting roughly midway through the grant period, workforce system personnel—such as WDB Directors and staff at DWD—had to balance the time they spent supporting *Skills Wisconsin* with time dedicated to preparing for WIOA implementation.

⁵ Though WIOA was passed in 2014, it did not take effect until one year later.

⁶ This list is taken from DOL's WIOA Overview web page at <https://www.doleta.gov/WIOA/Overview.cfm>; accessed October 11, 2016.

Like the point we noted about our discussion of the unemployment rate and overall economic conditions, it is not clear how WIOA and its implementation might have affected *Skills Wisconsin*, and we make no attempt to identify the effects of WIOA on the program. Instead, we note that WIOA was one of the most significant changes to the public workforce system in a long time. Because of WIOA, *Skills Wisconsin* was implemented at a time when the landscape of the public workforce system was shifting.

1.2 Evaluation Design

Our evaluation of *Skills Wisconsin* consists of three components:

- A qualitative ***process study***
- A quantitative ***impact evaluation***
- An ***outcomes analysis***.

The process study focuses on how implementation of Salesforce affected workforce development stakeholders—including WDBs, economic development agencies, training partners, and employers. The impact evaluation focuses on the effects of Salesforce implementation on jobseekers. The outcomes analysis documents quantitative outcomes related to *Skills Wisconsin* implementation. Brief descriptions of our approach to each component follow.⁷

1.2.1 Process Study

Based on the objectives of the *Skills Wisconsin* grant, the process study is focused on identifying how the grant influenced the answers to three main research questions:⁸

- How do workforce development professionals and stakeholders communicate and share information?
- How do workforce development professionals communicate employer skill needs to the training community?
- How do workforce development professionals and stakeholders ensure that the training received by job seekers will meet employer needs?

To answer these questions, IMPAQ gathered qualitative information from site-visits, telephone interviews and program observations over the course of the evaluation. To establish a baseline understanding of how Wisconsin's workforce system operated before implementation of *Skills*

⁷ The Evaluation Design Report (EDR) prepared in February 2013 provides a more detailed description of the overall design.

⁸ The EDR included a fourth research question related to how the grant affected productivity in the workforce system. The baseline site visits revealed that answering this question directly using qualitative interview data would not be feasible. As a result, we revised the list of research questions, omitting a direct question about productivity. Despite this change, many of our findings from the process study touch on issues related to productivity.

Wisconsin, IMPAQ visited each of the 11 WDAs in October 2012-January 2013. Site visits involved semi-structured in-person interviews with stakeholders and a focus group with a small number of jobseekers. Key topics discussed during interviews included background information about the structure and context of the WDA, communication among various partner organizations, how employer needs are identified, how employer skill needs are communicated to training providers and the general productivity of the workforce.

To understand how *Skills Wisconsin* affected the way Wisconsin's workforce system operated, we conducted a similar round of site visits to all 11 WDAs in June-August 2016. IMPAQ spoke with similar individuals as those who participated in the first site visit and asked about similar topics as the baseline visits. Site visitors also asked interviewees to reflect on any changes to communication, identification of skill needs or development of training programs that may have resulted from implementing *Skills Wisconsin*. Site visitors also asked about the sustainability of various components of the grant.

In addition to a pre-post comparison using qualitative interview data, the process study included a social network analysis (SNA) aimed at comparing communication patterns among workforce system staff from before the implementation of *Skills Wisconsin* to after implementation. Details regarding our approach to the SNA are described in Chapter 3.

1.2.2 Impact Evaluation

The impact evaluation focuses on the effects of the adoption of Salesforce in select WDAs on jobseekers. It addresses three research questions:

- How did Salesforce affect the likelihood of a jobseeker becoming employed?
- How did Salesforce affect the likelihood of a jobseeker retaining a job?
- How did Salesforce affect jobseeker earnings?

To answer these questions, the impact evaluation takes advantage of the phased rollout of Salesforce. The original *Skills Wisconsin* work plan called for Salesforce to be implemented in all 11 WDAs. It was to be piloted first in four WDAs selected by the Consortium, then implemented shortly thereafter among the remaining seven WDAs. Early in the grant period, the work plan was modified slightly to accommodate the impact evaluation. Rather than implementing Salesforce in the four WDAs originally identified by the Consortium, five pilot WDAs were randomly selected to implement Salesforce first. After implementation was completed in the pilot areas, the Consortium waited three months before beginning implementation in the non-pilot areas. Exhibit 3 summarizes the assignment of WDAs to pilot and non-pilot areas.

Exhibit 3: WDA Assignments

Pilot Areas	Non-Pilot Areas
Bay Area North Central Northwest Southeast Southwest	Fox Valley Milwaukee South Central West Central Western Waukesha-Ozaukee-Washington (WOW)

The implementation schedule allows us to estimate the impact of implementing Salesforce on jobseeker outcomes by comparing: (1) the changes in outcomes observed in the pilot areas to (2) changes in the same outcomes observed in non-pilot areas (*before* Salesforce is implemented in the non-pilot areas). To estimate program impacts, we use individual-level administrative data from DWD on jobseekers that received services from Wisconsin's workforce system. We elaborate on our technical approach to the impact evaluation in Chapter 4.

1.2.3 Outcomes Analysis

The focus of the outcomes analysis is to document key quantitative program outcome measures throughout the *Skills Wisconsin* grant period. The main research questions for the outcomes analysis are:

- How did jobseeker outcomes change over time?
- How did employer attitudes and experiences change over time?
- How much was Salesforce used over the grant period?
- What costs were incurred in the implementation of Salesforce?
- How did WDB expenditures and expenditures per jobseeker evolve over the grant period?

We use multiple data sources to answer these questions. Information on jobseeker outcomes are taken from publicly available reports produced by DWD. Data on employer attitudes and experiences come from three waves of an employer survey. The first wave, implemented in Spring 2013, asked employers a short series of questions about their experiences with and opinions of the state's workforce system. The same questionnaire was administered to employers in 2015 and 2016. Data on the use of Salesforce was gathered directly from available Salesforce system data and from the vendor who worked with the Consortium to implement the platform. Data on program costs and grant performance outcomes were taken from quarterly progress reports submitted by the *Skills Wisconsin* team to DOL. Combining all these data enabled us to document how key outcomes changed as the grant was implemented.

It is important to note that our outcomes analysis cannot isolate any causal effects of *Skills Wisconsin* on any of the outcomes we study. This is because other factors besides the grant (such

as general economic conditions or other changes to the workforce system) may also affect these outcomes. Instead, the purpose of outcomes analysis is to observe whether *Skills Wisconsin* is associated with improvement in these measures. This suggestive evidence can thus complement the results of the impact evaluation to provide a more complete picture of the program and its achievements.

1.2.4 Evaluation Timeline

We began the evaluation of *Skills Wisconsin* in August 2012 and will complete it in December 2016. Over the course of the evaluation, we collected and analyzed data from a number of sources.

Exhibit 4 summarizes key evaluation activities.

Exhibit 4: Evaluation Timeline

Calendar		Grant		Evaluation Activities
Year	Quarter	Year	Quarter	
2012	3	1	1	-
	4		2	▪ First round of site visits to all 11 WDAs (October 2012)
2013	1		3	▪ EDR finalized (February 2013)
	2		4	▪ First wave of employer survey (April 2013)
	3	2	1	▪ Salesforce user training observed (July 2013) ▪ Phone interviews with Salesforce trainees (July 2013) ▪ Baseline report delivered (September 2013)
	4		2	▪ First round of individual-level data received from DWD (October 2013) ▪ Telephone follow-up with selected employer survey respondents (November 2013)
2014	1		3	-
	2		4	▪ Collabor8 2014 summit observed (April 2014) ▪ Second round of individual-level data received from DWD (April 2014) ▪ First round of telephone interviews and site visits to 2 WDAs (May 2014)
	3	3	1	▪ Interim report delivered (August 2014)
	4		2	▪ Third round of individual-level data received from DWD (November 2014)
2015	1		3	-
	2		4	▪ Second wave of employer survey (April 2015) ▪ Collabor8 2015 summit observed (April 2015)
	3	4	1	-
	4		2	▪ Second round of telephone interviews and site visits to 2 WDAs (November 2015) ▪ Business services summit in Warrens, WI attended (November 2015)
2016	1		3	▪ Collabor8 2016 summit observed (March 2016) ▪ Fourth round of individual-level data received from DWD (March 2016)
	2		4	▪ Third wave of employer survey (April 2016) ▪ Second round of site visits to all 11 WDAs (June 2016)
	3	Extension	1	-
	4		2	▪ Final report to be delivered (November 2016) ▪ Public-use dataset and documentation to be delivered (December 2016)

2. SKILLS WISCONSIN IMPLEMENTATION

Skills Wisconsin began in July 2012, when DOL awarded the WDB of South Central Wisconsin a grant of \$6 million. The period of performance for the grant was to run from July 2012 through October 2016, with the last 12 months of the grant dedicated exclusively to evaluation activities. Toward the end of the grant period, the period of performance was extended through December 2016—program operations concluded in December 2015 and the remaining 12 months were reserved for the evaluation. In this chapter, we describe the major activities that were part of *Skills Wisconsin*. Section 2.1 presents the overall progression of the grant, noting key accomplishments and their timing. Section 2.2 focuses specifically on one of the most substantial elements of *Skills Wisconsin*—the implementation and use of the Salesforce platform. Section 2.3 summarizes the chapter.

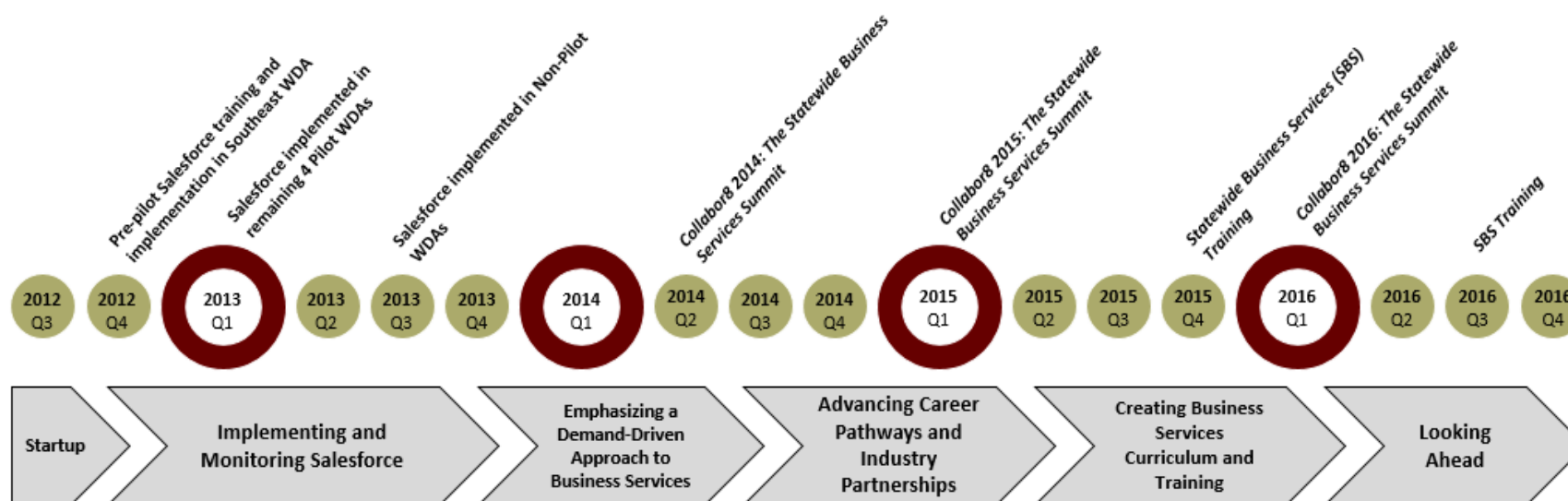
2.1 Skills Wisconsin Milestones

In the first two years of *Skills Wisconsin*, most grant activities after an initial start-up period focused on getting all 11 Wisconsin WDAs online and functioning with Salesforce. Once each WDA had designated staff initially trained with Salesforce, grant resources were used to customize the platform and train users to use Salesforce to meet their specific needs. Also within these first two years, the Statewide Business Services Group (SBSG) planned and hosted Collabor8 2014, the first ever statewide business services summit. Collabor8 2014 brought 20 workforce development professionals from each of Wisconsin's 11 WDAs together for a one-and-a-half day agenda of speakers, training sessions, and discussions focused on business services.

Grant activities in the third and fourth years of *Skills Wisconsin* focused on sustaining the activities of the first two years and further elevating business services throughout the state. *Skills Wisconsin* did this in part by supporting Industry Partnership (IP) activities through mini-grants, developing career pathways curricula, and developing a statewide business services training curriculum. Members of the WWDA SBSG Executive Committee Subcommittee developed and used this curriculum to conduct a statewide training, which they described as the “kick-off event” for a statewide business services training program.

Exhibit 5 presents a timeline of key *Skills Wisconsin* activities for the entire grant period.

Exhibit 5: Timeline of Key *Skills Wisconsin* Activities



Startup. Most of the time during the first quarter of the grant was spent on administrative tasks. One of the first activities was to hire a project director, which was done via a multiple-round interview process with qualified candidates. Concurrently, following a formal procurement process, the grant management team contracted with IMPAQ to conduct the required independent evaluation. During this initial period, the *Skills Wisconsin* team also began negotiating data sharing agreements and other necessary contracts with all 11 WDAs in the state.

One significant development during this period was revision of the grant work plan to accommodate the random assignment of five WDAs to act as pilot WDAs for the rollout of Salesforce. Originally, the Consortium had purposefully selected four WDAs to be the first to implement Salesforce—choosing areas that were similar in their expected capacity to implement the program quickly. Because of the potential for such a selection process to introduce bias into any impact estimates, IMPAQ worked with the Consortium early in the grant period to re-select the pilot WDAs via a random approach. The Consortium also agreed to increase the number of pilot areas to five. Although this change in plan made possible the quantitative impact study, it also meant that the WDAs chosen to implement Salesforce first were not necessarily those that were originally selected by the Consortium because of their preparedness. In fact, some of the WDAs selected for early implementation were somewhat caught off guard, as they had not been expecting to move forward so quickly. Making the resulting adjustments to the grant work plan and outcome projections was not easy and took some time.

Some minor startup activity continued into the fourth quarter of 2012, as an implementation steering committee was formed. The committee included representatives from all project partners and convened its first meeting in December 2012. The purpose of the committee was to guide program implementation and to provide a forum for discussing progress, resolving challenges, and supporting regular communication among grant partners.

Implementing and Monitoring Salesforce. Following grant startup, the focus of *Skills Wisconsin* was to implement Salesforce. The grant team implemented Salesforce in two distinct phases to support the impact evaluation study. The first phase was for five WDAs selected as pilot sites and the second phase was for the remaining six WDAs. The phased rollout of Salesforce and how it was leveraged for the impact evaluation is described in detail in Chapter 4.

The first phase of Salesforce implementation began in December 2012, when Launchpad, the vendor contracted to provide Salesforce licenses and related training, conducted a pre-pilot training and beta testing session in the Southeast WDA. The session focused on describing the main components of the Salesforce platform and on how to use them. In January 2013, Launchpad went live with Salesforce in the five pilot WDAs and, similar to the pre-pilot training, convened a Salesforce kickoff training session focused on how to use the platform. In one departure from the pre-pilot training, however, Launchpad devoted a large part of the pilot site training sessions to presenting an introduction to a demand-driven approach to workforce development. To supplement the Launchpad trainings, the *Skills Wisconsin* team implemented weekly Salesforce online training sessions. In the second quarter of 2013, pilot WDAs began

migrating employer data from their existing systems into Salesforce, and the grant team prepared for Salesforce implementation in the remaining six WDAs.

The second phase of Salesforce implementation began in June 2013, when Launchpad conducted Salesforce training sessions with the remaining six WDAs (the non-pilot WDAs). The first training of this phase consisted of both a kickoff, technology-focused session and a demand-driven session in July. Since participants in the first phase had requested less focus on the demand-driven approach and more attention on how to use Salesforce, Launchpad adjusted the second phase training sessions by making them longer and more balanced between the technology and the demand-driven approach. Data migration activities for the remaining six WDAs began in the fourth quarter of 2013. After Salesforce implementation was complete, the *Skills Wisconsin* team focused on improving Salesforce by monitoring usage and enhancing Salesforce based on user feedback.

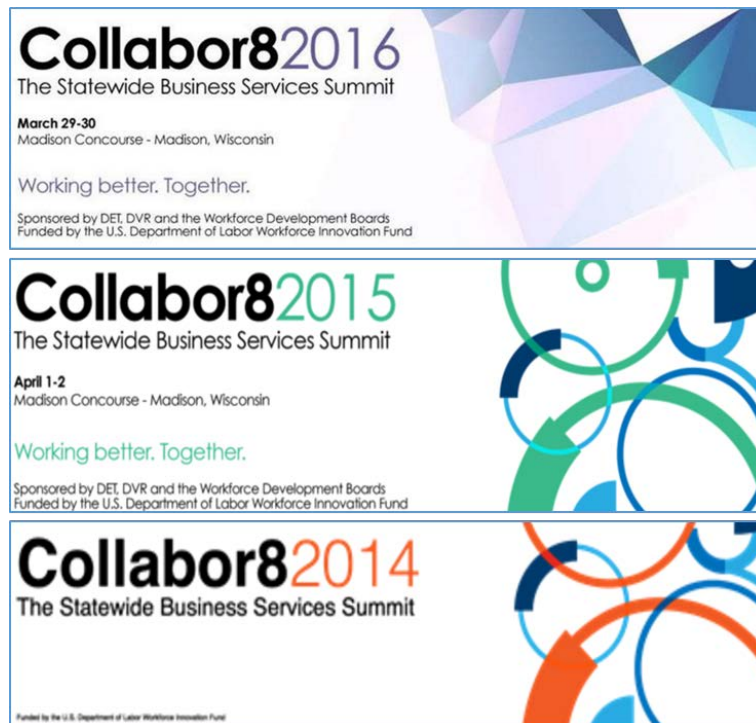
Emphasizing a Demand Driven Approach to Business Services. Following Salesforce implementation, the grant team shifted focus to other grant activities to further emphasize a demand-driven approach. In late 2013 and early 2014, an SBSG subcommittee, along with DWD staff and the *Skills Wisconsin* Project Director, formed a planning group to organize a statewide gathering of business services professionals—an event the SBSG had talked about doing before *Skills Wisconsin*, but were unable to accomplish without the grant’s support. Together, this group organized the first ever statewide business services summit called *Collabor8 2014*. This two-day conference held in Madison in May, 2014 brought together 200 representatives from workforce development partners from all over the state to discuss business services and learn more about implementing demand-driven practices. *Collabor8 2014* included speakers, workshops, and panel discussions. Summit attendees had the opportunity to participate in additional Salesforce training sessions. They also heard from a panel of business representatives, WIB leaders, and state agencies (WIA/Job Service and DWD’s Division of Vocational Rehabilitation [DVR]) about collaborating on business services. The summit provided attendees with an opportunity to talk to their local and state-level colleagues and hear from key leaders in other states that have instituted similar initiatives. Building off the success of *Collabor8 2014*, two subsequent *Collabor8* summits were held in 2015 and 2016. Exhibit 6 shows the branding developed for the three *Collabor8* summits.⁹ As evidence of the perceived success of the summits, planning is under way to host *Collabor8 2017*, which will be held after the WIF grant has ended.

Advancing Career Pathways and Industry Partnerships. Part of *Skills Wisconsin*’s design included support for industry sector strategies within each WDA. *Skills Wisconsin* provided funding for WDAs to work with WTCS to develop sector-based career pathway curricula and training. To support curriculum development, *Skills Wisconsin* developed a grant program through which WDBs could apply for funding to develop new training curricula in collaboration with their local WTCS campuses. As a part of this effort, *Skills Wisconsin* conducted a statewide review of Embedded Technical Diplomas and Certificates in each WDA.

⁹ The WWDA website (www.wwda.org), hosts meeting information and materials from each of the three summits.

Skills Wisconsin also provided funding for industry partnerships within each WDA. The program offered “mini-grants” to enhance Industry Partnerships (IPs) in each WDA. Under this approach, each WDB received additional funding to create or expand industry partnerships, either within its own local area or in partnership with other WDBs. Over the grant period, WDBs developed 20 new training curricula (two of which were funded exclusively by *Skills Wisconsin*), trained over 820 jobseekers in career pathways, and supported 40 IPs.

Exhibit 6: Collabor8 Marketing through the Years



Creating Business Services Curriculum and Training. The WWDA’s SBSG Executive Committee Subcommittee, joined by representatives of DWD, led the creation of a statewide business services curriculum and training. Using WIF grant funding, the Workforce Development Board of South Central Wisconsin contracted with Thomas P. Miller and Associates (TPMA), a workforce development technical assistance provider, to work with them to create the business services curriculum. On November 5th, 2015, over 50 workforce development professionals from across Wisconsin’s 11 WDAs attended the Wisconsin Business Solutions Training. Members of the SBSG Executive Committee Subcommittee planned and provided the full-day training, which took place in Warrens, Wisconsin. The curriculum the trainers presented had five distinct training modules: (1) The Basics of Business Services; (2) A Collaborative Approach; (3) Targeting Businesses & Understanding Industry Trends; (4) Understanding the Customer; and (5) Defining Success.

Looking Ahead. On December 31st, 2015, local WDB operations funded by *Skills Wisconsin* ended. Beginning on January 1st, 2016, *Skills Wisconsin* entered into a no-cost extension period, which focused on the evaluation as well as ongoing coordination, sustainability planning, and oversight

of activities and initiatives first developed by *Skills Wisconsin*. At this time, the WWDA continues to be involved with promoting the use of Salesforce, providing business solutions training, and developing additional training tools. Plans are also currently under way for *Collabor8 2017*, with a few WDAs planning their own regional versions.

2.2 Salesforce Adoption and Use

When the grant proposal for *Skills Wisconsin* was written, the program was envisioned as an effort that would facilitate the adoption and use of Salesforce as the single, shared customer relationship management (CRM) solution for business services across the state. Data on the number of licenses in use and the number of logins enable us to understand how intensively the platform was adopted and used. We first describe how workforce system staff used Salesforce. We then discuss what the quantitative data on Salesforce usage tell us.

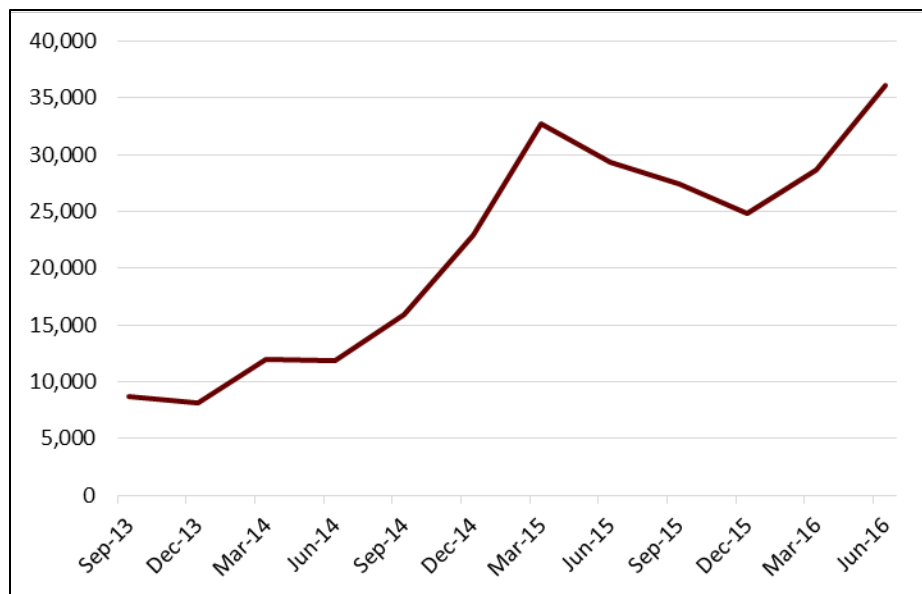
How Salesforce was Used. *Skills Wisconsin* provided 10 grant-funded Salesforce licenses to each WDB for use by business services staff. All but three WDAs chose to purchase additional licenses using their allocations of grant funding. Staff with licenses used Salesforce to document and share information about their interactions with businesses. Some used mobile technology to record their interactions while at a business site using Salesforce1, which is Salesforce’s mobile app. Others preferred to update business accounts by logging into Salesforce once they were back in their offices. Many users have begun to use Salesforce for Outlook, a tool that allows users to integrate communication and information from their Outlook account with Salesforce.

Licensed users talked about how they would log into Salesforce before interacting with a business—to ensure they had the latest information about the company, such as the lead on the account, who last interacted with the business, and the nature of that interaction. All who used Salesforce in this way said this was now their standard operating procedure and a critical component to improving the quality of their interactions with businesses. Many users told anecdotes about how before Salesforce it was not uncommon to visit an employer who may have also recently interacted with another workforce development system partner. There had been no systematic way to record business interactions.

Salesforce Chatter, a free Salesforce application that allows users to work collaboratively together regardless of their role or location, helped business services staff members communicate. Chatter users did not need to have a full Salesforce license to access or share information about business services activities within groups of approved team members. Chatter is built on the Salesforce platform, which enabled licensed users to take action through their account if needed. “Chatter only” users (those that did not have full licenses), did not have access to specific account data, but used Chatter to help keep them connected with general information related to business services. *Skills Wisconsin* Chatter users shared that it helps them keep track of opportunities and business activities in their region and across the state (such as job fairs, job openings, and recruiting sessions).

Salesforce Adoption. To monitor Salesforce use among WDB staff (both direct and contracted staff) who were granted full Salesforce licenses, the Project Director received regular reports from Launchpad, *Skills Wisconsin's* Salesforce vendor. The Project Director monitored these reports and used the data in quarterly reports to DOL. One of the outcomes the Project Director tracked for *Skills Wisconsin* using Launchpad's reports was the number of times a licensed Salesforce user logged into the Salesforce website. Exhibit 7 shows the aggregate number of logins per quarter among all licensed *Skills Wisconsin* Salesforce users.¹⁰ For reference, in an average week during the grant period there were a total of 167 licensed users across the 11 WDAs.

Exhibit 7: Salesforce Logins by Quarter



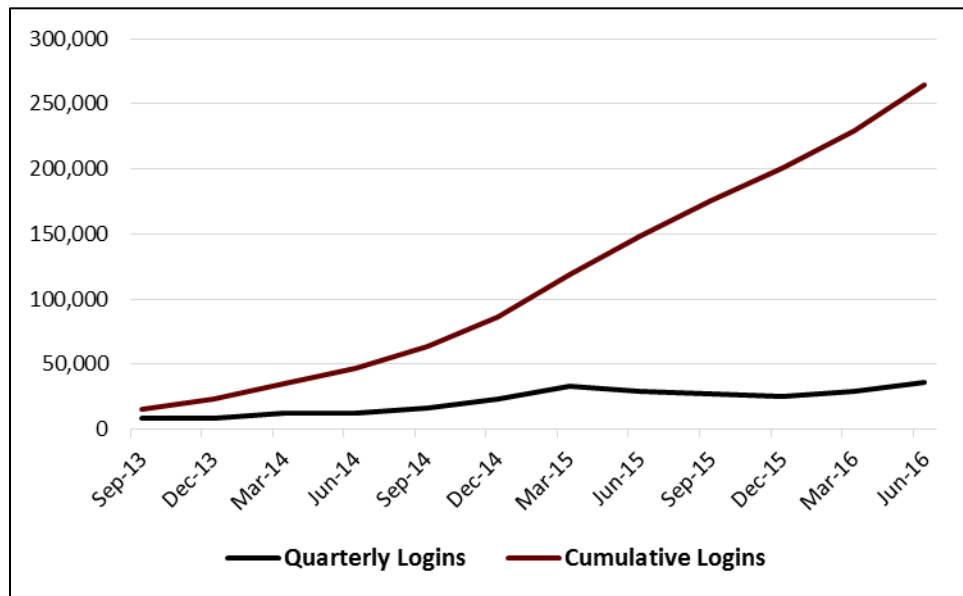
Source: Salesforce system administrative data provided by Launchpad.

The data show that throughout most of the *Skills Wisconsin* grant period the number of Salesforce logins was increasing. The notable exception is for the period from spring, 2015 to the beginning of 2016, when quarterly logins declined. Logins did not reach their previous levels until June of 2016.

Exhibit 8 shows the number of logins per quarter along with the cumulative number of logins during the grant period.

¹⁰ It is worth noting that, although the number of logins represents a good measure of Salesforce activity, it is not necessarily a precise measure of how much Salesforce is used. For example, some users may have maintained continuous Salesforce sessions for long periods of time, without being prompted to log in periodically. Other users may have selected an option for mobile devices that allowed the device to keep the user logged in. In cases such as these, users that only logged into Salesforce once may have used the platform more than users that logged in multiple times. The *Skills Wisconsin* Project Director indicated that Salesforce users cited both of these examples as ways they avoided having to log into Salesforce repeatedly.

Exhibit 8: Salesforce Quarterly and Cumulative Logins



Source: Salesforce system administrative data provided by Launchpad.

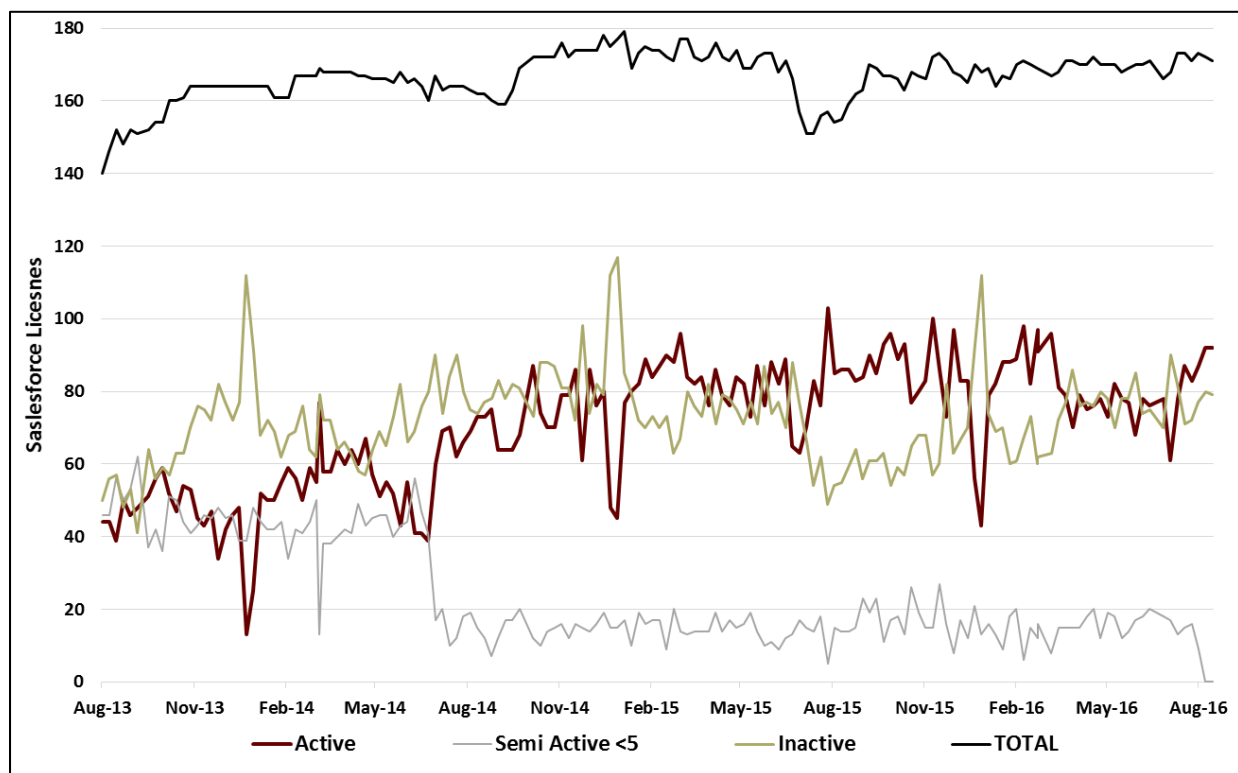
As shown, cumulative logins followed a steady positive trend and the decrease in quarterly logins referenced previously was slight. For the quarter with the lowest logins reported during the decline (quarter ending December, 2015), users still logged into Salesforce nearly 25,000 times.

In addition to tracking the number of user logins, Launchpad produced a weekly report that detailed how frequently *Skills Wisconsin* Salesforce licenses were used across all 11 WDAs. Each report provided weekly figures on the total number of Salesforce licenses allocated to each WDA, as well as information on how frequently these licenses were being used. Each report showed the weekly number of logins per license according to the following three usage categories—Active, Semi-active, and Inactive. Active users logged in five or more times. Semi-active users logged in at least once, but fewer than five times. Finally, users that did not log into Salesforce during the week were classified as Inactive users. Tracking the number of licenses in these categories provided an easy way for the grant team to monitor the extent to which Salesforce license holders statewide used Salesforce.

Exhibit 9 shows *Skills Wisconsin* Salesforce activity for direct business services staff—those who were directly involved with interacting with businesses—aggregated across the 11 WDBs, from August 2013 through August 2016.¹¹

¹¹ At any given time during the grant period there were approximately 10-12 licensed Salesforce users located in the DWD's central office. Because these users were administrative and did not actively contribute to business accounts, the figures reported in Exhibit 9 and discussed below omit these users.

Exhibit 9: Salesforce Activity, 2013-2016



Source: Salesforce system administrative data provided by Launchpad and weekly Wisconsin Adoption Trend Reports produced by Launchpad.

Notes: Active licenses are defined as those for which users log into Salesforce at least five times in the week. Semi-active licenses are defined as those for which users log into Salesforce at least once but fewer than five times during the week. Inactive licenses are defined as those for which users never log into Salesforce during the week.

Total Licenses. During the grant period, a weekly average of 167 total *Skills Wisconsin* Salesforce licenses were available across the WDAs. The number of total licenses increased during the grant period, following a slightly positive trend. In August 2013, *Skills Wisconsin* made a total of 140 Salesforce licenses available. By August 2016 the number of total licenses available throughout the state had increased to 171. During this same time period the number of Salesforce licenses statewide ranged from a minimum of 140 in August 2013 to a maximum of 179 in January 2015.

Active Licenses. A weekly average of 71 licenses were active—that is, users logged in five or more times that week. The number of active Salesforce licenses increased during the grant period, following a positive trend. The number of active licenses ranged from a low of 13 during Christmas week of 2013 to a high of 103, which occurred the last week of August 2015. The last weekly report in August 2016 showed 92 active users.

Semi-Active Licenses. A weekly average of 24 licenses were semi-active—that is, users logged in less than five times that week. The number of semi-active Salesforce licenses decreased, following a negative trend. Semi-active licenses ranged from a low of 0 at the end of the grant period to a high of 62 at the beginning.

Inactive Licenses. A weekly average of 72 licenses were inactive—that is, users did not log in that week.¹² The number of inactive Salesforce licenses slightly increased across the grant period following a positive trend. Inactive licenses ranged from a low of 41 near the beginning of the grant period and a high of 117 just after the 2014 holiday season, in the first week of 2015.

Exhibit 9 depicts a few additional, notable trends. Throughout the grant period, the number of active and inactive licenses are mostly inversely related. Where they are not, the number of semi-active licenses account for the difference. This inverse relationship is most apparent at the end of each calendar year, when the number of active licenses dramatically decreased while at the same time the number of inactive licenses dramatically increased. This pattern is not surprising, as there may be less activity (e.g., events, job fairs, major outreach efforts) around the holidays.

Also of note, there is a dramatic divergence between the active and semi-active license that occurred at the end of June and the beginning of July, 2014. It is likely that these changes can be attributed two factors. First, the *Skills Wisconsin* Project Director monitored the usage reports and redistributed licenses from inactive users to new users. This first occurred at the end of June and the beginning of July, 2014 and continued to the end of the grant period. Second, WDBs began requiring their employees (or contracted agency staff) to use Salesforce in new contract fiscal years, which begin in July.

One common measure used by the Salesforce vendor to assess platform adoption is the ratio of total number of active and semi-active licenses to total number of licenses—referred to as the adoption percentage. This proportion averaged 57 percent from August 2013 to August 2016. For the same period, the adoption percentage ranged from a low of 32 percent in late December 2013 to a high of 73 percent in early September 2013. Adoption was not uniform across WDAs—Salesforce adoption by WDA is presented in Appendix B.

2.3 Summary

Skills Wisconsin was conceived as a program to enhance coordination among workforce system stakeholders, so the system could better serve employers. Following a startup period during which administrative tasks were completed, the focus of *Skills Wisconsin* was to implement and support the Salesforce platform. The purpose of the tool was to allow business services representatives throughout the state to have a shared understanding of interactions between individual employers and the workforce system. The rollout of Salesforce was done in two phases to enable a more rigorous impact evaluation. As WDBs gained access to Salesforce, users were provided with training and support to help them learn how to use it.

Beyond the adoption and use of Salesforce, *Skills Wisconsin* included other activities intended to improve how the workforce system serves businesses. First, the program supported the

¹² Some of the inactive users were likely those who were given Salesforce licenses, but who would only have used the platform for management purposes (such as to produce reports), not to enter data. Such users likely represent a relatively small fraction of the total number of inactive users.

development of training program designed as part of career pathways. Twenty such new curricula were supported by the grant, including two funded exclusively by it. Second, *Skills Wisconsin* supported work by the WDBs to enhance or create industry partnerships. Forty partnerships were created or enhanced through the grant. Third, *Skills Wisconsin* funded the development and successful hosting of three statewide gatherings focused on business services. The three annual Collabor8 summits allowed workforce system staff from around the state to meet their peers from other areas, share their experiences serving businesses with one another, participate in sessions on topics related to business services, and to listen to addresses by speakers including employers, national experts in workforce development, and others.

Workforce staff used Salesforce to document and share information about their interactions with employers. They also made use of extensions to the platform, such as the Salesforce mobile app and a tool that integrates Salesforce with Microsoft Outlook. Users reported that they would often use Salesforce to prepare for meetings or other interactions with employers. Many staff who were not provided with licenses to use the full Salesforce platform made use of the Chatter feature. It allowed users to share information despite not being able to access detailed employer profile information.

Our review of quantitative data shows that the number of Salesforce user logins generally increased over time during the grant period. The number of Salesforce logins by quarter showed a positive trend over the grant period, with one exception from Spring 2015 through the beginning of 2016.

Data on the total number of Salesforce licenses and amount of activity for each license show that the total number of licenses in use ranged from 140 to 179. On average, roughly 43 percent of total licenses in a given week were considered Active, meaning that the user logged into Salesforce at least five times during the week. Fourteen percent of users were considered Semi-active, logging into the platform at least once but fewer than five times. The remaining 43 percent of users in an average week did not log into the platform. Over the grant period, an average of 57 percent of licenses were in use (i.e., either Active or Semi-active) each week. The proportion ranged from as low as 32 percent to as high as 73 percent.

In general, *Skills Wisconsin* was largely implemented as planned. Major grant activities included the successful launch of Salesforce—along with subsequent support for its continued use, training delivered to workforce system staff on how to implement a demand-driven approach to business services, and periodic in-person conferences at which representatives from around the state could meet to share their experiences with one another and discuss common challenges and potential solutions. *Skills Wisconsin* also supported efforts to increase IPs around the state and foster new, strong partnerships between the WDBs and state-level agencies such as DWD/DVR.

3. PROCESS STUDY

The process study component of the evaluation was designed to document how *Skills Wisconsin* was implemented, to understand how operation of the state workforce system changed from before implementation to after, and to identify program successes and lessons learned. Specifically, it focuses on identifying how the grant influenced the answers to three main research questions:

- How do workforce development professionals and stakeholders communicate and share information?
- How do workforce development professionals communicate employer skill needs to the training community?
- How do workforce development professionals and stakeholders ensure that the training received by job seekers will meet employer needs?

This chapter describes the results of the process study. It begins with a brief review of our baseline findings. Next, it summarizes the implementation of *Skills Wisconsin*, identifying key grant achievements and discussing their timing. It then provides an overview of the adoption and use of Salesforce. Section 2.4 presents the results of the SNA and Section 2.5 describes key program successes and lessons learned. The final section of the chapter summarizes the results of the process study.

3.1 Approach

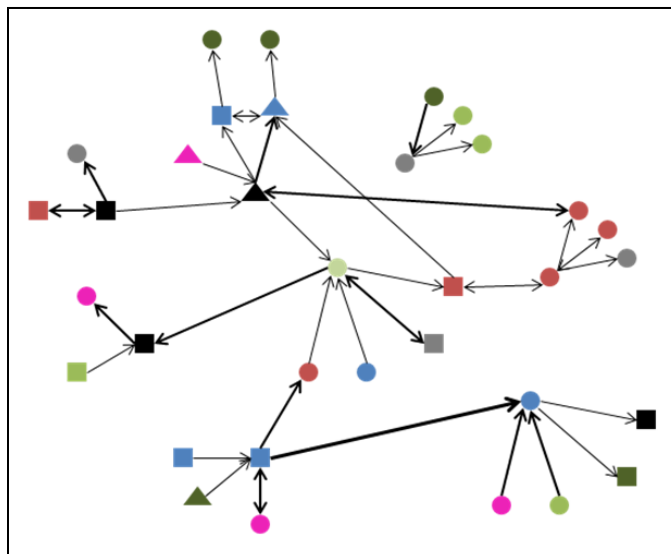
During implementation of *Skills Wisconsin*, we conducted both baseline and follow-up site visits to all 11 WDAs. To supplement these, we also conducted two interim rounds of smaller-scale visits. Each round involved in-person visits to two of the 11 WDAs coupled with telephone interviews with key staff from the other nine. We also interviewed state-level and local workforce staff knowledgeable about the grant, observed three statewide business services summits and attended a Business Solutions Training conference to get updated information about the successes and challenges with implementing *Skills Wisconsin*.

Qualitative data from site visits, telephone interviews, and observations were consolidated and analyzed using content analysis techniques after each major data collection effort. For interviews, responses to the questions were synthesized by topic and analyzed as a whole, as well as by WDA and respondent group—allowing evaluators to identify themes, patterns, and outliers from across the state, within each WDA, and within respondent groups.

Social Network Analysis. One component of the process study is an SNA, to understand how workforce development stakeholders communicate with one another across the state and within each of the 11 WDAs. In an SNA, stakeholders are represented by nodes on a network map and relationships among them by connections between the nodes. Exhibit 10 provides an example of a network map. In the map, nodes are represented by shapes, with different shapes representing

different types of actors. Colors are also used to identify different groups of actors. The arrows connecting the nodes represent connections between two actors and also indicate the direction of communication.

Exhibit 10: A Network Map



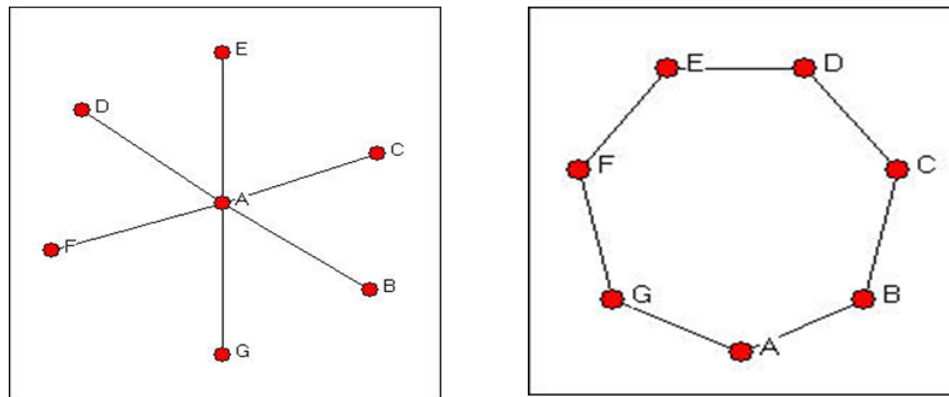
A network map provides visual insights into questions such as: (1) who communicates with whom, (2) what is the frequency of communication between each pair of stakeholders, and (3) the direction of communication between a pair of stakeholders. In addition to the visual information conveyed by a network map, an SNA produces relevant quantitative measures that characterize communication patterns within a network. Relevant measures for evaluating *Skills Wisconsin* include:

- ***In-degree centralization***—a measure of how concentrated the network is in terms of the information flow *to* nodes in the network. In other words, is all the information flowing to a single person?
- ***Out-degree centralization***—a measure of how concentrated the network is in terms of the information flow *from* nodes in the network. In other words, is all the information flowing from a single person?
- ***Betweenness centralization***—a measure of how concentrated the network is in terms of a single node acting as a go-between for other nodes in the network. In other words, how common is it for the only connection between two people in the network to go through a third-party?

Each of the three measures is expressed as a percentage, with 100 percent indicating a completely centralized network. For example, an in-degree centralization equal to 25 means that many of the nodes in the network are receiving information (a value of 100 percent would imply

that only one node receives information). To clarify how to interpret the measures, Exhibit 11 illustrates two centralization extremes—a star network that is completely centralized and a circle network that is completely diffuse.

Exhibit 11: Network Centralization Examples



Data Collection. To support the SNA, we developed a social network questionnaire, which was administered during the 2012 and 2016 rounds of site visits. To prepare the questionnaire, we developed a standardized list of staff roles and asked respondents to indicate how often they receive information from individuals in these roles. Respondents were asked to answer the questions regarding their communications both *within* and *outside* their home WDA. We updated the questionnaire for the 2016 site visits to also include a question asking respondents whether they used Salesforce to send or receive information.

Analysis. Once all the questionnaire data had been collected, we used an SNA software tool called UCINET to create a social network map of communication among *Skills Wisconsin* stakeholders. We created one map based on data collected during our baseline site visit before *Skills Wisconsin* was implemented, and one based on data collected during our second round of site visits, after grant implementation was complete. We also calculated the in-degree centralization, out-degree centralization, and betweenness centralization of the statewide network.

3.2 Review of Baseline Findings

As described in detail in our Baseline Report, we conducted the first round of site visits to all 11 WDAs in the state. The goal of the first round of site visits was to document how the state workforce system operated *before* program implementation.

Key findings from the site visit interview data included the following:

- There was often little coordination among different types of organizations or WDAs, particularly regarding interactions with employers.

- In some cases, sophisticated software tools were used to manage contact with employers. In others, individual staff tracked their own interactions independently using their own ad-hoc method (e.g., a desktop spreadsheet).
- Some organizations guarded information about employer information, because staff viewed employer relationships as highly valuable, taking time and effort to cultivate. In some cases, workforce system stakeholders were hesitant to share employer information because of the perceived risk that doing so would damage their relationships with those employers.
- There were multiple channels by which employer input was translated into actual training programs for jobseekers. Multiple workforce and economic development organizations acted as intermediaries between employers and WTCS or other training providers. Direct communication between employers and the training community was also typical.
- Stakeholders generally thought training programs were responsive to employer needs, though they also felt that they should emphasize soft skills more and that more could be done to increase awareness among employers about the types of services offered through the workforce system.

3.2 Social Network Analysis

To compare patterns of communication among various stakeholders before and after *Skills Wisconsin*, we created social network maps for each WDA (not shown) and the state as a whole, using the questionnaire data collected during the baseline and follow-up site visits. In these maps, each node represents a type of stakeholder (e.g., WDB Director, Job Center Manager, WTCS Representative, employer) and each line indicates communication between two stakeholders, with arrows representing the direction of that communication. Node shapes indicate the position title for the respondent, different colors represent different WDAs, and the size of the node varies depending on its degree (total number of connections a stakeholder has with other stakeholders in the network). Larger nodes represent stakeholders that have more communication (either as a sender or recipient of information) with other stakeholders in the state.

For illustration purposes, Exhibit 12 and Exhibit 13 present the baseline and follow-up maps for a single WDA. There are several notable differences between the baseline and post-implementation maps that are largely reflective of patterns across the state. Overall, the post-implementation map contained more nodes and more connections among stakeholders. First, compared to the baseline visit, respondents in this WDA were more likely to report communication with stakeholders in other WDAs at follow-up. Second, cross-WDA communication tends to occur between stakeholders in a similar role, such as between directors or business services representatives (i.e., most lines connect nodes that are the same shape but different colors). Another important change is reflected in the types of nodes in the maps. Because DWD/DVR became a strong strategic partner over the course of the grant, we added DWD/DVR business service representatives to the sample of respondents during the follow-up survey. As shown in Exhibit 13, the DWD/DVR business service representative in this WDA (the

large purple circle inside a black square in the lower center of the map) communicates with a diverse group of stakeholders, meaning that many new nodes and connections were added to the network as this partnership was solidified over the past few years.

Exhibit 12: Baseline Network Map, Example WDA

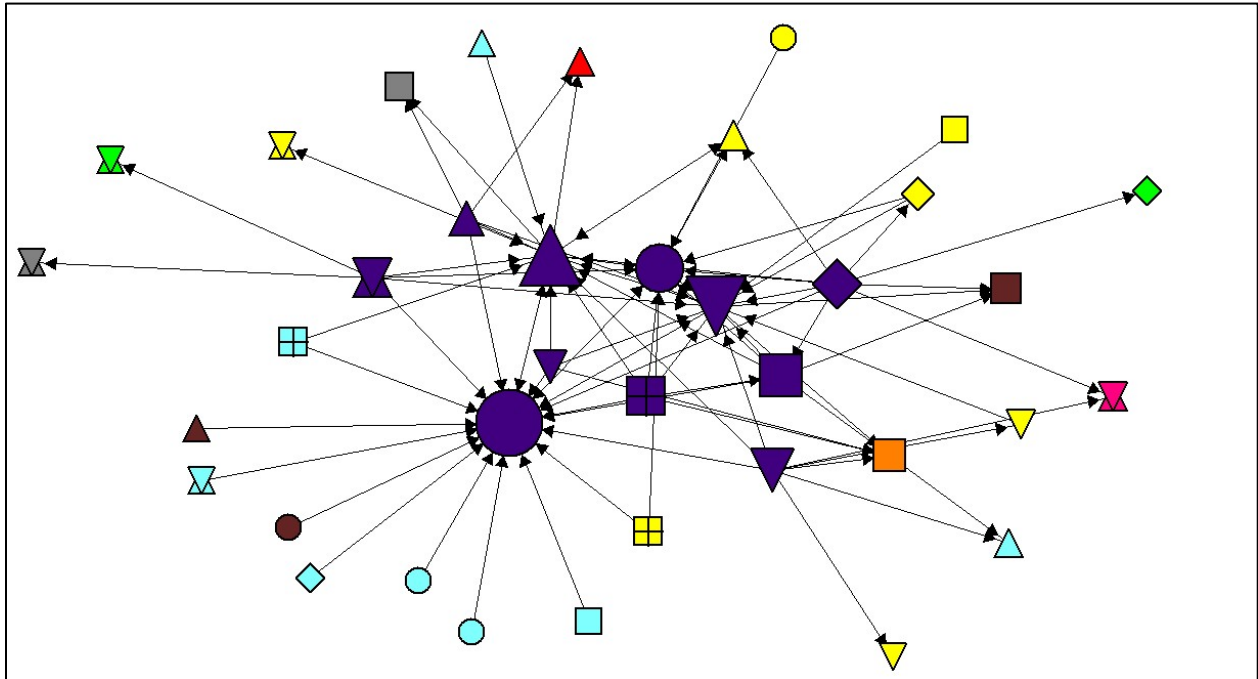


Exhibit 13: Follow-up Network Map, Example WDA

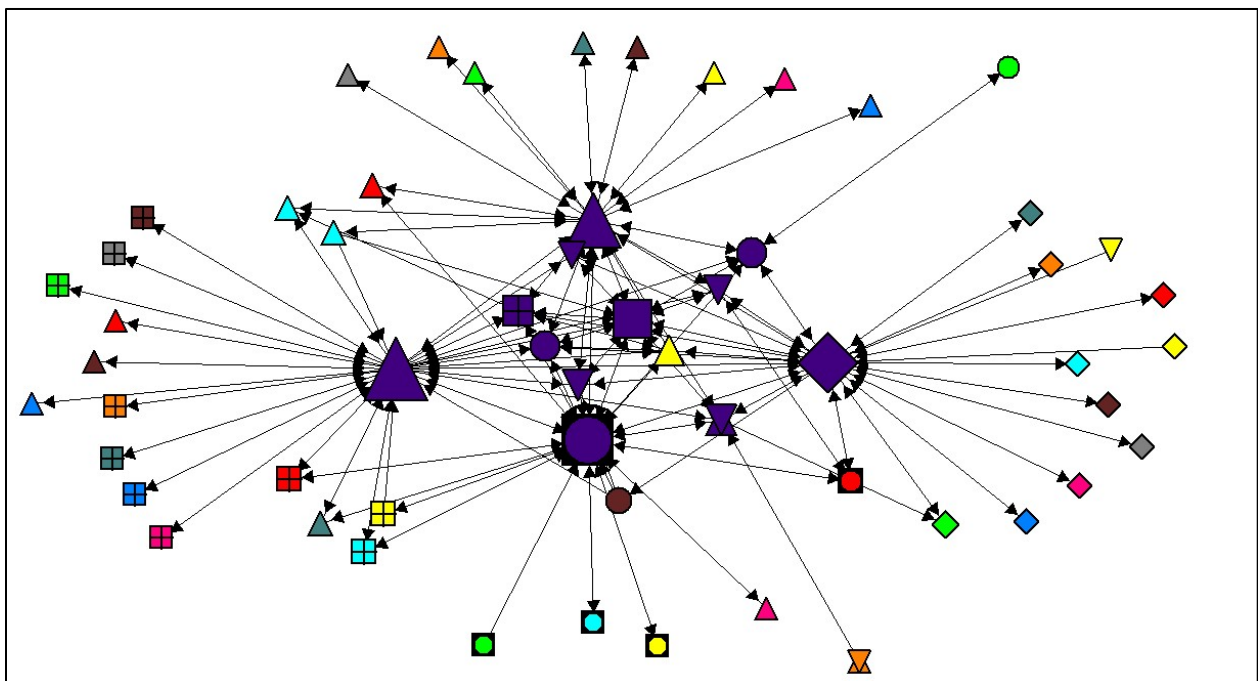


Exhibit 14 shows a statewide social network map of communication among stakeholder types, using data from the baseline site visits. Exhibit 15 shows a statewide map using data from the post-implementation site visits. As shown, communication patterns among workforce system stakeholders in the state were complex. Although the scope of the network may make it difficult to interpret what the picture can tell us, when we combined the quantitative information about the network with the image, interesting results emerged. For example, the maps present information on both communication within particular WDAs and across WDAs. At baseline, 31 percent of relationships identified through the social network questionnaire involved stakeholders from different WDAs. Post-implementation, 44 percent involved stakeholders from different WDAs. This change suggests that the network after *Skills Wisconsin* was more balanced between within-WDA versus cross-WDA communication—and that *Skills Wisconsin* may have helped make communication less siloed within individual areas, and expanded collaboration among stakeholders from different geographic areas.

Exhibit 14: Baseline Statewide Network Map

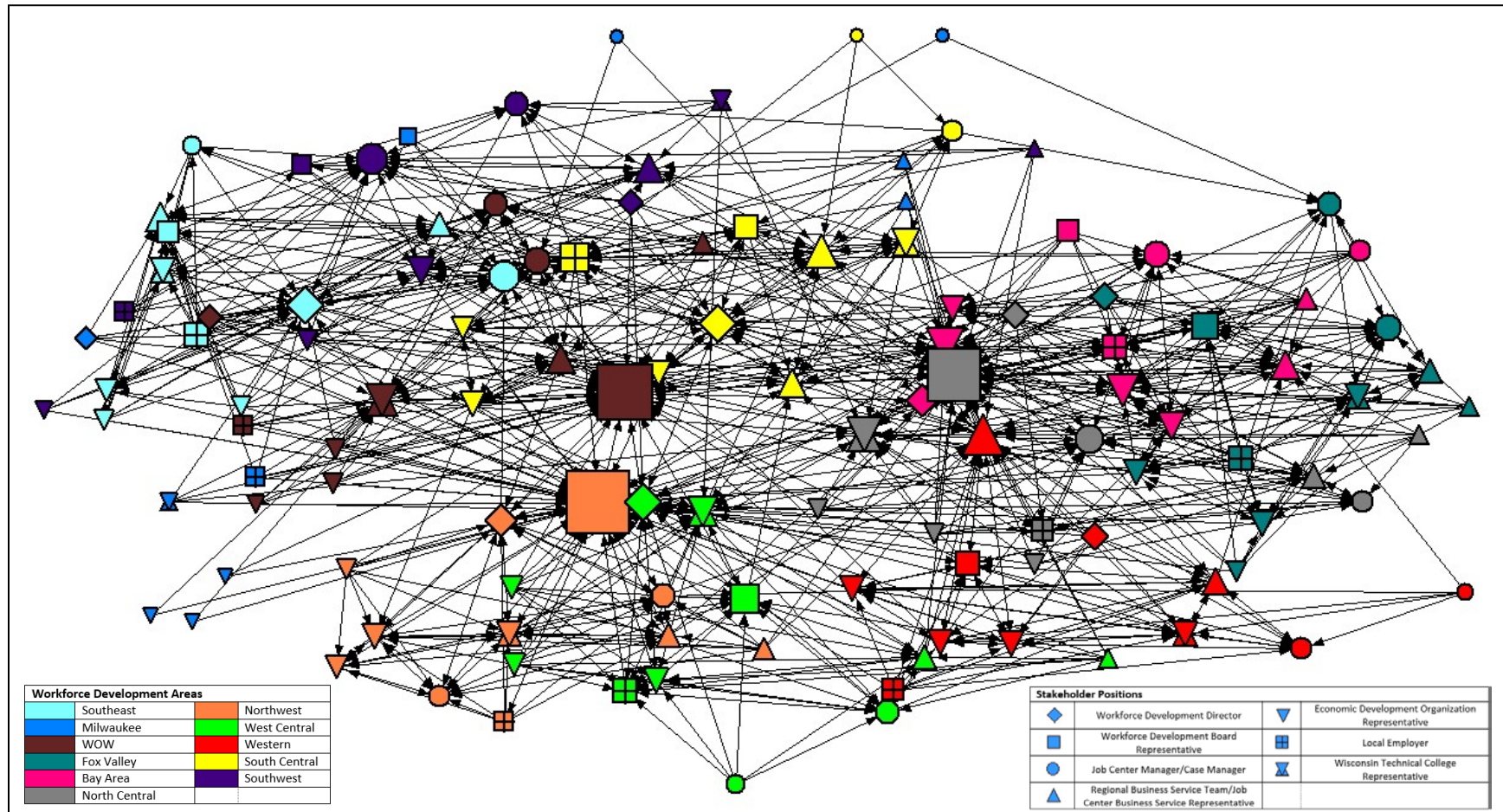
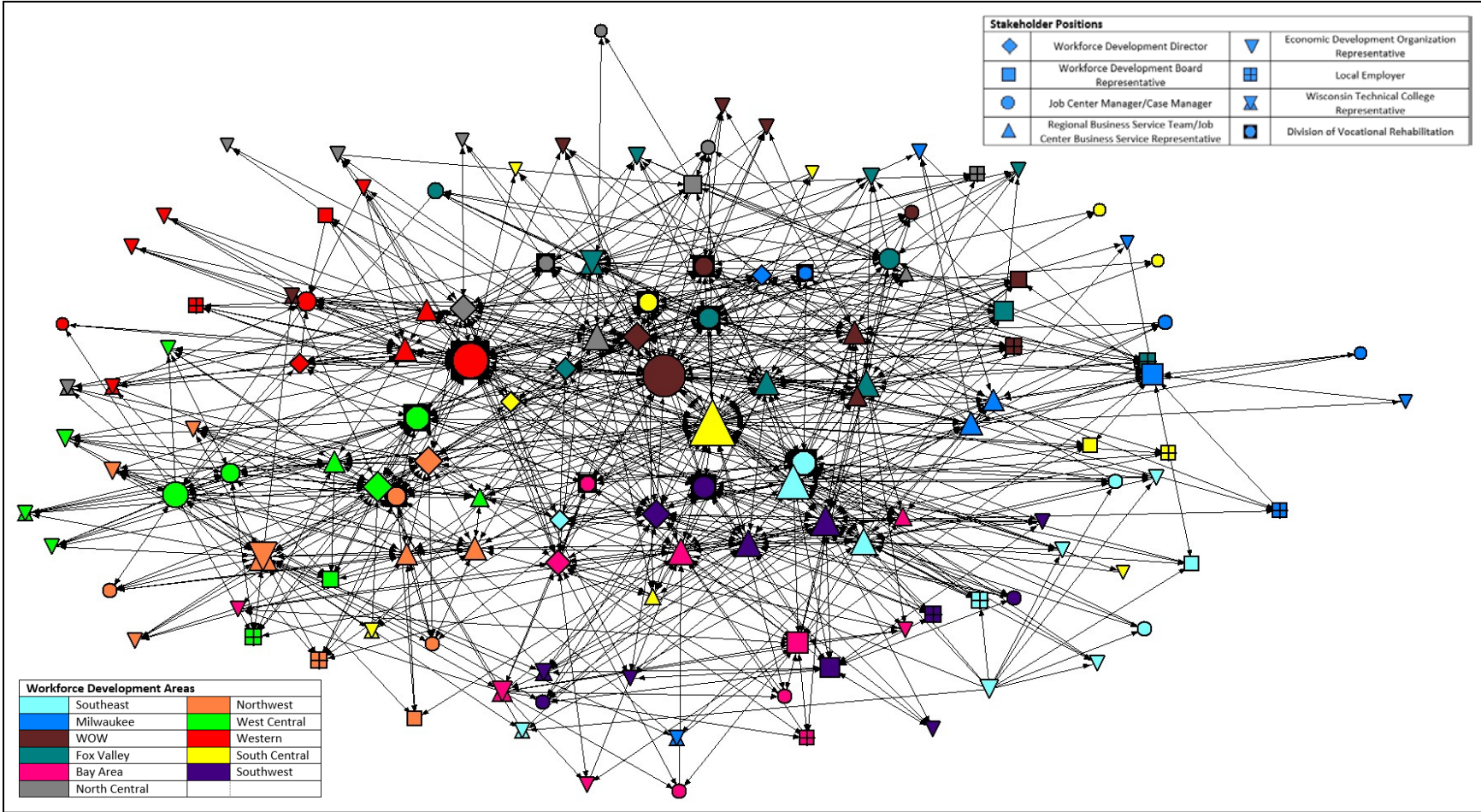


Exhibit 15: Follow-up Statewide Network Map



Our SNA also involves calculating the degree of each node in the network, which helps illustrate who communicates more with other stakeholders in the state. As previously mentioned, the relative size of individual nodes in the network maps correlate with the degree value of a given node. To examine which group of stakeholders tends to communicate with more people, we also calculated the average degree among each type of stakeholder in the state (see Exhibit 16). Notably, the average degree of WDB Directors and Business Services Representatives was markedly higher post-implementation relative to baseline, suggesting that Skills Wisconsin may have been particularly beneficial to these staff. Post-implementation, the average degree among DWD/DVR representatives was the second highest out of all types of stakeholders, meaning they emerged as active communicators and important participants in the network.

Exhibit 16: Average Degree by Stakeholder Type

	Baseline	Post-Implementation
WDB Directors	17.72	31.45
WDB Representatives	23.63	14.91
Job Center Manager/Case Manager	13.72	13.68
Regional Business Services Team/Job Center Business Services Team	15.27	35.18
Economic Development Organization Representatives	11.61	7.68
Employers	11.63	10.27
WTCS Representatives	18.55	13.72
DWD/DVR Representatives	N/A	32.72

Source: Authors' calculations using social network survey data.

While looking at the degree of various nodes helps identify the potential importance of a stakeholder or group of stakeholders, network centralization measures provide insight into the overall structure of a network.

Exhibit 17 includes the in-degree, out-degree, and betweenness centralization for both the baseline and post-implementation networks. To interpret the figures in the exhibit, recall that each of the three network centralization measures is scaled to a range of 0-100, with higher numbers representing more centralized networks. In general, the centralization measures indicate that the post-implementation network has higher centralization than the baseline network, though neither is particularly centralized. In broad terms, the low degree of centralization in the networks suggests that communications within the workforce system included most stakeholders and exhibited low potential for information bottlenecks.

Exhibit 17: Network Centralization Measures

	Baseline	Post-Implementation
In-Degree Centralization	7.17	36.43
Out-Degree Centralization	35.74	34.90
Betweenness Centralization	7.46	22.75

Source: Authors' calculations using social network survey data.

Though not presented in the network maps, we also examined communication via Salesforce within the statewide network. Among the 1,272 information sharing relationships identified in the network, 38 percent involved sharing or receiving information through the Salesforce platform. Thus, Salesforce did not become the dominant mode of communication after implementation of *Skills Wisconsin*. However, as we found in our interviews with stakeholders, workforce system staff often use Salesforce to retrieve or record information about employers, but would follow-up with employers or communicate with colleagues through in-person conversations or email. Therefore, some respondents may use Salesforce in some capacity but not indicate on the questionnaire that they used it to communicate with colleagues and partners.

3.3 Successes and Lessons Learned

Based on our analysis of the information we collected through our interviews and program observations, we identified the following key findings:

- *Skills Wisconsin* enhanced communication among workforce professionals from different WDAs, particularly among Executive Directors and SBSG representatives.
- In several WDAs, *Skills Wisconsin* improved coordination among business services partners and streamlined communication about and with businesses.
- Salesforce has not yet become the universal business services solution that may have been envisioned, though several WDAs have strongly incorporated its use.
- Built-in incentives and senior-level buy-in seemed to increase Salesforce use and participation in *Skills Wisconsin*.
- Efforts to increase the quality and relevance of the *Skills Wisconsin* platform by linking to extant data sources have shown promise, but face ongoing challenges.
- Training programs are generally designed to respond to industry need, but in markets with low unemployment rates, industry and jobseeker needs are not always aligned.
- IPs have helped regions aggregate information about employer need and facilitate development of responsive training programs.
- *Skills Wisconsin* opened up channels of communication among partners, particularly DWD/DVR.

- The decentralized and fragmented nature of Economic Development Organizations statewide continues to create challenges to collaboration.
- *Skills Wisconsin* staff demonstrated flexibility, innovation, and adaptation while implementing the grant.

We describe each of our findings in greater detail below.

Skills Wisconsin enhanced communication among workforce professionals from different WDAs, particularly among Executive Directors and SBSG representatives. Executive Directors regularly communicate with one another through the WWDA, which provides a forum and structure for developing common policy positions or strategizing on how to respond to or implement state and federal directives. The process of implementing Skills Wisconsin, as well as WIOA and other grants and projects, highlighted and reinforced for members the importance of collaborating as a statewide system, and not becoming too consumed with local needs. As one director explained, the challenge facing directors is that “*we get so siloed into our area and what we’re doing in our area that you sometimes lose track that there are 10 other Workforce Boards that are trying to do the same thing.*” Working on Skills Wisconsin and participating in the WWDA forces them to take a broader view.

Skills Wisconsin more directly influenced statewide communication among business services representatives, by reinvigorating the WWDA SBSG. Over the course of the Skills Wisconsin grant, the pre-existing SBSG shifted from a loosely organized ad-hoc group to a focused body with a systematic and concrete agenda for unifying the state’s approach to business services. The group planned the Collabor8 summits and developed a statewide business services training curriculum, both of which have been well received by workforce development staff. Interview respondents overwhelmingly reported appreciation and enthusiasm for Collabor8, and 75 percent of respondents to a post-training survey reported that they would definitely recommend the Business Services training to their colleagues.

According to interview respondents, the primary benefits of increased collaboration among different WDAs are being able to learn about best practices and network with counterparts in other areas. Directors and Business Services staff emphasized the value of learning from other areas and having opportunities to get to know professionals in other areas. For example, one Job Service professional said that Collabor8 “really has helped kind of unite the business services units from across the state. It used to be you didn’t know who they were. It was kind of like the silent minority.” In some cases, business services staff appreciated brainstorming with people from areas with similar challenges—such as serving a geographically dispersed population, workforce shortages in the same industry, or even transportation (which creates barriers to employment in both rural and urban areas). In other cases, business services staff were able to leverage experiences and lessons learned in other areas, such as how to implement on-the-job trainings or convene IPs.

In more limited cases, collaboration across WDAs that border each other allows the workforce development system to better serve businesses and job seekers whose needs and interests span across geographic boundaries. For example, the Waukesha-Ozaukee-Washington (WOW), Milwaukee, and Southeast WDAs have convened quarterly regional meetings, during which workforce professionals build relationships and harness their potential collective impact. This forum led to a regional project to develop a training for a business planning to hire for hundreds of positions in multiple locations.

In several WDAs, Skills Wisconsin improved coordination among business services partners and streamlined communication about and with businesses. Staff and partners who embraced Salesforce found that using the platform led to increased information sharing and a more comprehensive inventory or record of contact with employers. Having the capability to retrieve information on who has been in contact with an employer helps these users coordinate their interactions with businesses. For example, one interviewee explained that,

“[The Skills Wisconsin Salesforce Platform] is the first time I ever saw that focused an effort for everybody to share [and] to make sure that we knew where one another had been and who we’d talk to and what we were doing. So if one of us had been to company X on Monday that’s the first time I ever saw that someone might have a chance to know on Tuesday that you might not want to go back there and have the same conversation.”

These stakeholders also think Salesforce has helped move the workforce system to become more demand driven through increased awareness of one another’s programs. As one interviewee said, the process of having to work together on learning Salesforce helped all the programs become more aware of what each other did:

“I think it’s prompted or forced more collaboration. You know if you’re going to share an account management system all of a sudden you have to be on the same page. There’s protocols, there’s dialogue, there’s training, and it brings anybody whose entering data into that system together. So it kind of forces that collaboration at a very grassroots level.”

In many WDAs, stakeholders had more buy-in to the lessons of Collabor8 and efforts to elevate the importance of business services than they did to the actual Salesforce platform. Before *Skills Wisconsin*, there was no agreement among senior staff at WDBs that all WDBs should have a local business services team. Nor was there agreement about either the membership of such a team or its key functions. Interviewees shared many examples of how local business solutions/services teams have formed or improved the way they operate over the course of the grant. One SBSG representative said that, before *Skills Wisconsin*, their local business services team would just show up for meetings but not talk about anything important. However, the representative said that the group now has a clear purpose. Many interviewees also reported that the business services teams have expanded their membership as a result of the grant.

Interviewees also shared that the messages from Collabor8 have filtered down to their local areas through local business solutions/services teams. Collabor8 introduced and exposed many

stakeholders to other organizations doing similar work and helped break down silos among these organizations. As one respondent explained, *“Skills Wisconsin communicated that we aren’t in silos. Businesses don’t see us that way. They see a Job Center. That has really resonated.”* Furthermore, partners are learning to speak with companies about services available from other organizations. As one business services representative reported, now *“there are big businesses here and now they don’t get 15 people knocking on their door. I can speak for DVR and they can speak to my services.”*

Although there is general satisfaction with Collabor8 and the business solutions training, many stakeholders said they believe improvements are needed to fully implement the lessons from these activities. Several interviewees commented that the business solutions training was “too basic” for experienced business services staff, and are eagerly anticipating the roll-out of a more advanced version. Also, while many stakeholders liked the Collabor8 events themselves, not all WDAs had strong follow-up. For example, one interview said,

“they do an awesome job, you walk away thinking that when you get back to the office, things are going to be different and everyone should be pumped up and ready to go. You get back to the office and it’s just business as usual.”

Salesforce did not become the universal business services solution that may have been envisioned. In general, Salesforce was adopted widely during the grant period. *Skills Wisconsin* Salesforce users created over 87,000 business accounts and 60,000 business contacts. Licensed users logged into Salesforce over a quarter of a million times and all WDAs and staff from multiple state partners—including DWD/DET, DWD/DVR, WTCS, and WEDC—used Salesforce. However, although all WDBs implemented Salesforce, there were large differences across WDAs in the level of adoption and use.

Though Salesforce became an invaluable tool for many, others rarely or never engaged with it. In particular, WDA interviewees reported that buy-in with Salesforce is low among their DWD/DET colleagues in Wisconsin’s Job Centers. Often these staff face a tension between the longer-term benefit of providing high quality information to their organization and colleagues and the immediate burden of inputting information into the system. For example, Job Service Staff and Veteran Services enter information into multiple data systems (i.e., ASSET, JCW, and Salesforce), and some felt that using Salesforce meant having less time to spend serving businesses or job seekers.

Salesforce’s potential was to provide Wisconsin’s workforce development community and other partners involved with business services with accurate and timely information about businesses. Salesforce users expressed frustration with colleagues who are not active on Salesforce approaching them about information that they have already entered into Salesforce. They also reported that the quality of business data was sporadic—accurate, timely, and helpful for some business accounts, but inaccurate, out of date, and incomplete for others.

Built-in incentives and senior-level buy-in seemed to increase Salesforce use and participation in Skills Wisconsin. Salesforce adoption and utilization were highest when using Salesforce was: (1) incentivized through employee review and performance management processes, and (2) supported by senior leaders. For example, DWD/DVR mandates that their business services consultants use Salesforce and look at metrics such as the number of business contacts staff made through Salesforce as part of their performance review. Some WDAs also look at Salesforce metrics as part of staff performance reviews. Although staff in other WDAs expressed a desire to do something similar, lack of direct authority over business services staff is a common obstacle. Many business services staff are contractors to the WDB, though some boards have formally incentivized Salesforce in their sub-contract arrangements.

Senior-level buy-in and leadership have also been important in encouraging Salesforce adoption. In an effort to encourage collaboration among its staff and local partners, DWD issued formal communications to its staff in DWD/DET, DWD/DVR and Veterans Services encouraging staff to utilize Salesforce. At the local level, WDAs with leaders who have supported the creation or sustainability of local business services teams have more readily incorporated Salesforce into their business services approach.

Efforts to increase the quality and relevance of the Skills Wisconsin platform by linking to extant data sources have shown promise, but face ongoing challenges. Throughout the grant period Skills Wisconsin grant leadership worked with DWD and WEDC—two critical partners that also provide business services—to integrate relevant business services information from DWD and WEDC’s existing data systems with the Skills Wisconsin platform. Working with DWD, Skills Wisconsin worked toward integrating employer information from JCW into Salesforce. The goal was to provide business services staff access to recent job posting information—information available to authorized users of JCW—in Salesforce. To achieve this, Skills Wisconsin staff, DWD, and Launchpad developed a system by which DWD provided a link to active job orders on JCW’s site, a link Skills Wisconsin could include in specific business accounts within Salesforce. They also developed new functionality in Salesforce to pull additional information on recent job postings from JCW and post this within Salesforce. In the summer of 2016, however, concerns about security issues led DWD to stop providing links and to request that any information pulled by Salesforce from JCW be removed. As a result, Salesforce does not currently reflect JCW information. Skills Wisconsin staff have attempted to continue discussions with DWD about how to securely share data, but to date DWD has been unresponsive to such communication.

With WEDC, Skills Wisconsin worked to integrate the Skills Wisconsin’s Salesforce platform with WEDC’s partner Salesforce platform, the In Force Network (IFN). WEDC has used Salesforce internally since 2011. In 2015, WEDC created the IFN as a partner platform to engage local economic development organizations and to support data sharing within the workforce system. Early results of the integration between IFN and the Salesforce platform supported by Skills Wisconsin were confusing to users because, instead of business accounts in each system being augmented with data from the other system, the integration created duplicate business accounts. As a result, integration efforts have paused, as WEDC evaluates the best way to share

pertinent information. Though not complete, the integration process revealed gaps in the quality of data available in IFN and *Skills Wisconsin's* Salesforce and the need for cleaner and better data.

Training programs are generally designed to respond to industry need, but in markets with low unemployment rates, industry and jobseeker needs are not always aligned. Most stakeholders reported that in recent years training programs have become more flexible and there is more of a push for programs to address industry need. The Wisconsin Fast Forward program, federal apprenticeship grants, and four Trade Adjustment Assistance and Community College Career Training (TAACCCT) grants to Wisconsin community colleges have helped align training with industry and increase collaboration between technical colleges, businesses, and K-12 educational institutions. This activity has made the specific influence of *Skills Wisconsin* harder to detect. Still, stakeholders generally think that the collective result of all these initiatives is that the state is making important progress.

A key challenge facing the workforce system is that job seeker demand has changed over the past few years. The state has a relatively low unemployment rate, meaning that the current pool of job seekers tend to face barriers to employment, such as little to no work history, and require more time and support services before becoming job-ready. Yet businesses want job-ready candidates immediately. As one interviewee explained,

“You know, five or six years ago when unemployment was at 12 percent here, employers weren’t coming to us at all. They had the pick of the litter basically. But now at times like this when unemployment’s down to 4.8 here, they’re knocking on our door.”

Given this dynamic, many interviewees reported challenges in finding enough job seekers interested in training to fill spots once programs were developed. Also, in rural areas putting together a cohort to train at one location is logistically difficult and staff from both rural and urban areas reported short-term training programs don’t always sufficiently address soft skill deficits. Other reported challenges to collaboration between training providers, workforce development, and employers include lack of data linkages between workforce and the colleges (e.g., WIOA case managers are unable to access attendance data), the length of time it takes to get a training program up and running at a college, and lack of transparency from employers about whom they will realistically hire.

Industry Partnerships have helped regions aggregate information about employer need and facilitate development of responsive training programs. Most WDAs have at least one active IP, though some areas have more fully developed partnerships than others. For example, one WDA has a 503(c) stand-alone manufacturing alliance with dues-paying members, while another was still in the exploratory phase by the time of the last site visit. IPs provide a mechanism for WDBs to build consortiums of companies to meet around common needs. In many cases, they also provide a way for business to develop a unified voice around skill needs, efficiently and strategically get involved with vetting and planning curriculum, develop solutions to workforce needs, and learn about existing training programs in the area. One interview respondent emphasized the benefit of using IPs to engage business in developing job seekers: *“To me that’s*

the biggest benefit of having those [IPs] because I think the traditional model is that workers are going to develop themselves to make themselves more attractive to businesses.”

Some interviewees believed that IPs were complementary to or aligned with *Skills Wisconsin*, but that the grant did not play a role in creating or developing them. Other respondents reported that Salesforce or mini-grants directly supported their IP work. For example, one interviewee said that *Skills Wisconsin* gave the WDB resources to build upon existing partnerships and “to take what we had and take it to the next level.” Other WDBs who received mini-grants used the funds to commission studies and surveys, host events, and conduct labor market analysis. Stakeholders in multiple WDAs also used information stored in Salesforce to identify potential business partners.

Skills Wisconsin opened up channels of communication among partners, particularly DWD/DVR. DWD/DVR was in many ways an unexpected but highly valued partner. At the state level, DWD/DVR leadership embraced Salesforce and a demand-driven approach to business services. DWD is converting the 20 temporary Business Service Consultant positions into nine permanent positions, and mandates that consultants use Salesforce to document interactions with employers. Since 2013, when the Business Service consultants were first hired as a pilot project, they have made over 10,000 direct interactions with business. The consultants have also given visibility to DWD/DVR and their clientele. They have educated businesses about a potential source of talent, building up demand for DWD/DVR services, and have become a subject matter expert on DWD/DVR clients for WDB and Job Service Business Services Representatives.

The decentralized and fragmented nature of Economic Development Organizations statewide continues to create challenges to collaboration. *Skills Wisconsin* provided new opportunities for WEDC and WWDA to work together and share information. The efforts to integrate WEDC’s Salesforce platform (IFN) with the *Skills Wisconsin*’s Salesforce platform helped both WEDC and *Skills Wisconsin* articulate to each other what their respective data and information needs were. At the local level, relationships between workforce development and economic development are mostly between individuals and not institutionalized. Additionally, the quality of collaboration varies from WDA to WDA, and often from entity to entity even within a WDA.

Some WDBs have developed productive collaborations with Economic Development, though note that the various economic development entities do not collaborate with each other—requiring WDB staff to form individual relationships with WEDC as well as with the city, county, and regional representatives. In other WDAs, workforce staff have relationships with some but not all relevant economic development partners. For instance, they may have close collaborations with WEDC, but not local and regional economic development organizations or they may have strong relationships in one county but not another. Another common challenge reported is that workforce development staff feel they provide a lot of information to economic development partners, but do not receive timely information from them. In general, challenges remain to create a trusting, mutually beneficial relationship between the workforce system and economic development entities, but *Skills Wisconsin* seems to have developed a greater sense of awareness of each by the other.

Skills Wisconsin staff demonstrated flexibility, innovation, and adaptation while implementing the grant. For the development of career pathway curricula, the grant planned to make \$220,000 available for WDBs to work with WTCS to develop career pathway curricula. The *Skills Wisconsin* Project Director worked with WTCS to develop an application process to distribute these funds among the technical colleges, which could apply for grants up to \$20k. Boards would coordinate with local WTCS campuses to support the development of a new career pathway curriculum. Unfortunately, *Skills Wisconsin* received only two grant applications under this process. During the same time period WTCS received four different TAACCCT grants, making it unlikely that the *Skills Wisconsin* \$20,000 grants would receive the same level of attention.¹³ Recognizing that DOL had made large investments in WTCS, the *Skills Wisconsin* Project Director sought to leverage these untapped grant funds to support IPs. The IP grant program addressed a need identified in the Industry Partnership Assessment Survey, an assessment created and conducted by the *Skills Wisconsin* grant team. The survey, which inventoried IP activities in each WDA statewide, showed that many businesses wanted to be involved with the workforce system. IPs provided a cost-effective way for WDBs to work with many of these businesses. So WDBs used these IP grants to support IP activities within their WDAs, or across them through regional IP initiatives with other WDBs. In total, *Skills Wisconsin* supported 40 IPs.

3.4 Summary

The goal of the process study was to understand how *Skills Wisconsin* was implemented, describe how the workforce system operated after implementation of the grant, and identify program successes and lessons learned. The approach to the process study included two components: a SNA that documented communication patterns among stakeholders before and after *Skills Wisconsin*, and an analysis of qualitative data gathered through site visits, telephone interviews, and direct observations of grant-supported activities.

The SNA indicates that, after *Skills Wisconsin*, communication across WDAs made up a larger proportion of communication within the statewide network, suggesting that communication may have become more widespread within individual areas. Comparisons to communication before implementation of the grant also suggest that WDB Directors, Business Services Representatives and DWD/DVR representatives communicated with more partners. Additionally, questionnaire respondents reported little use of Salesforce to communicate with partners, providing evidence that email, phone calls, and face-to-face contact continue to be the preferred methods of sharing information.

Analysis of the qualitative data found that compared to before implementation of *Skills Wisconsin*, many aspects of collaboration and business services have improved. Communication

¹³ As an alternative to the original intent of funding the development of career pathway training curricula, *Skills Wisconsin* requested permission to instead report on career pathway training programs offered by WDBs in collaboration with WTCS campuses, even though these were not funded by the WIF grant. DOL approved the request.

across WDAs has increased or improved in quality for many stakeholders. Local or regional business services teams have become more visible and more coordinated in their efforts to address business needs. Additionally, new channels of collaboration have opened up between DWD/DET and DWD/DVR, training programs are flexible and responsive to industry demand, and many stakeholders use Salesforce to track and report information about businesses.

The workforce system also continues to encounter challenges. Due to differing levels of commitment to using Salesforce from both leadership and staff, there is still not universal buy-in for a single approach for tracking and managing communication with businesses. Additionally, workforce staff and training providers continue to strategize about how to best serve job seekers and business when job seeker and business interests diverge. Lastly, partnerships between WDBs and economic development vary in quality across the state, primarily due to the decentralized structure of both the economic and workforce development systems in Wisconsin.

4. IMPACT EVALUATION

The impact evaluation of *Skills Wisconsin* focuses on the impact of implementing Salesforce in pilot WDAs on key labor market outcomes for jobseekers.¹⁴ It addresses three research questions: (1) how did Salesforce affect the likelihood of a jobseeker becoming employed, (2) how did Salesforce affect the likelihood of a jobseeker retaining a job, and (3) how did Salesforce affect jobseeker earnings? Our approach to estimating these impacts makes use of the phased rollout of Salesforce first to one group of WDAs (the pilot areas) and later to the remaining WDAs (the non-pilot areas). Using individual-level data on exiters from WIA Title I and Title III programs between 2011 and 2013, we estimate the impacts of Salesforce in pilot WDAs on three key jobseeker outcomes: employment, job retention, and earnings. In this chapter, we explain our technical approach, describe the data, and present the results.

4.1 Approach

We use a quasi-experimental approach to estimate the impact of *Skills Wisconsin* on jobseeker outcomes. Our analysis focuses on three outcome variables:

1. **Employment**—whether the jobseeker is employed in the first quarter after receiving services from the workforce system
2. **Retention**—conditional on being employed in the first quarter after receiving services, whether or not the jobseeker is employed in both the second and third quarters after receiving services (though not necessarily in the same job)
3. **Earnings**—total earnings in the second and third quarters after receiving services.

Our quasi-experimental approach is commonly referred to as *difference-in-differences*. It involves comparing changes in these outcomes across pilot and non-pilot areas. For each group of WDAs, the change in an outcome is the result of comparing outcomes for jobseekers receiving services from the state workforce system *before* implementation of Salesforce to the same outcomes for jobseekers that received services *after* implementation of Salesforce.¹⁵ If the group of non-pilot WDAs represents a valid comparison group for the group of pilot WDAs, the difference between the *change* in an outcome for jobseekers in pilot WDAs and the *change* in an outcome for jobseekers in non-pilot WDAs provides a reliable estimate of the impact of *Skills Wisconsin* on that outcome.

Our empirical approach to the impact evaluation requires individual-level data on four distinct cohorts of jobseekers. Exhibit 18 summarizes the four cohorts, followed by a simplified example

¹⁴ We consider the pool of jobseekers potentially affected by *Skills Wisconsin* to be the group of all jobseekers receiving services from the state workforce system, though data limitations force us to estimate the impacts of the program on a subset of this group. We also note that the program did not target jobseekers directly. Rather, any impacts of the program on jobseekers would stem from improvements in information sharing and collaboration among workforce system stakeholders, or from improvements in how the workforce system serves businesses.

¹⁵ Note that before and after groups are not the same jobseekers.

to illustrate the intuition behind our technical approach.¹⁶ The last column of the exhibit shows the change in the mean of an outcome variable of interest (Y) for both pilot and non-pilot WDAs. The subscripts 1-4 on the outcome variable denote the four cohorts of jobseekers. The change in the mean outcome for pilot WDAs is equal to Δ_P and the change for non-pilot WDAs is equal to Δ_{NP} . Subtracting the latter from the former gives the estimated program impact, δ .

Exhibit 18: Jobseeker Cohorts and Program Impact

	Before Implementation (Q2 2012)	After Implementation (Q2 2013)	Change in Outcome Y
Pilot WDAs	Cohort 2	Cohort 1	$\Delta_P = Y_1 - Y_2$
Non-Pilot WDAs	Cohort 4	Cohort 3	$\Delta_{NP} = Y_3 - Y_4$
Program Impact			$\delta = \Delta_P - \Delta_{NP}$

To illustrate the intuition behind this approach, consider the employment rate for jobseekers in the first quarter after receiving services from the workforce system. If we observe employment rates in pilot areas of 50 percent *before* implementation and 60 percent *after*—but employment rates in non-pilot areas of 40 percent *before* implementation and 45 percent *after*, we would conclude that *Skills Wisconsin* raised the employment rate by 5 percentage points:

$$\delta = \Delta_P - \Delta_{NP} = (0.6 - 0.5) - (0.45 - 0.4) = 0.1 - 0.05 = 0.05$$

This example simplifies the technical details of our approach, as it is based on aggregate data for pilot and non-pilot WDAs, rather than the individual-level data we will use in our regression models. Nevertheless, the intuition behind the two approaches is the same.¹⁷

4.2 Data

To estimate program impacts, we obtained individual-level administrative data from DWD, covering each of the four cohorts of jobseekers enumerated above. The two cohorts of jobseekers that received services *before* implementation of *Skills Wisconsin* (i.e., Cohorts 2 and 4) consist of all jobseekers age 18 or older who exited Workforce Investment Act (WIA) Title I or

¹⁶ We formally estimate program impacts using multivariate regression models, which models control for jobseeker characteristics (e.g., age, educational attainment) that may influence the outcome variables.

¹⁷ Our actual approach uses individual-level data in regression models, rather than the aggregate data implied by our simplified example. A crucial assumption in our approach is called the *parallel trends assumption*—that there were no external factors (other than implementation of the grant) that differentially affected outcomes in pilot areas. Obviously, if this assumption is violated, the 5 percentage point impact given in the example would not represent the impact of the grant, but rather the impact of both the grant and any such external factors.

Title III programs in the second calendar quarter (Q2) of 2012.¹⁸ The two cohorts of jobseekers that received services *after* implementation of *Skills Wisconsin* (i.e., Cohorts 1 and 3) consist of jobseekers age 18 or older exiting WIA Title I or Title III programs in the second calendar quarter (Q2) of 2013.

The administrative data provide information on four types of variables:

- **Demographic characteristics**—personal characteristics of jobseekers, including age, gender, race, ethnicity, disability status, educational attainment, and veteran status
- **Prior labor market experience**—information on employment and earnings prior to receiving services from the workforce system, including whether employed and whether receiving unemployment insurance (UI) benefits at the time the jobseeker began receiving services; and earnings in the three calendar quarters prior to the start of service receipt
- **Services received**—details regarding the services received from the workforce system, including type of service (e.g., whether staff assisted; whether core, intensive, or training), duration of service, and major WIA program)
- **Labor market outcomes**—information on the labor market experiences of jobseekers *after* receiving services from the workforce system, including whether employed in each of the first two quarters after exit, and earnings in each of the three quarters after exit.

Exhibit 19 shows the number of jobseekers receiving services from the workforce system in each of the four cohorts.¹⁹

Exhibit 19: Number of Jobseekers Exiting WIA Title I and Title III Programs

	Before Implementation (Q2 2012)	After Implementation (Q2 2013)	Total
Pilot WDAs	14,871 (Cohort 2)	33,987 (Cohort 1)	48,858
Non-Pilot WDAs	18,727 (Cohort 4)	33,172 (Cohort 3)	51,899
Total	33,598	67,159	100,757

Source: DWD administrative data.

In the next section, we examine the degree to which the pilot and non-pilot cohorts of jobseekers resemble each other using the four types of data. In the full impact evaluation, we will use each

¹⁸ Exiters are jobseekers who have not received services for a specified period (generally 90 days) and who had no planned gap in services. The date of exit is defined retroactively as the last date services were received.

¹⁹ The figures in Exhibit 19 do not match similar totals reported in the Interim Report because of DWD updates to the data subsequent to the preparation of the Interim Report.

of the first three types of data in multivariate regression models to control for outside factors that may affect jobseeker labor market outcomes.

As noted earlier, our empirical approach to the impact evaluation assumes that changes in labor market factors external to implementation of *Skills Wisconsin* were similar in pilot and non-pilot areas. One way to assess whether this assumption is plausible is to look at whether trends in the two groups of WDAs moved in tandem in the 12-month period prior to the 12-month period we study (i.e., 2011-2012). Though we cannot know with certainty whether our assumption holds, if trends in the two areas moved more or less in parallel in 2011-2012, we can be more confident that a similar pattern held in the following year. Because our regression models will control for jobseeker demographic characteristics, prior labor market experience, and services received, the crucial trends to examine here are changes in labor market outcomes.

Exhibit 20 shows the changes in labor market outcomes for individuals receiving workforce system services for pilot and non-pilot areas in 2011-2012. Differences in the employment and employment retention outcomes are shown as percentage points; changes in earnings are expressed in dollars.

Exhibit 20: Changes in Jobseeker Labor Market Outcomes, 2011-2012

Outcome	Pilot WDAs			Non-pilot WDAs			Difference in Differences
	2011	2012	Difference	2011	2012	Difference	
Employment (%)	65.8	63.0	-2.8	62.1	57.9	-4.3	1.5
Retention (%)	83.7	82.2	-1.5	83.7	81.9	-1.8	0.3
Earnings (\$)	7,619	7,005	-614	7,759	7,092	-667	53
Number of Observations	14,905	14,871	-	15,325	18,727	-	-

Source: DWD administrative data.

As shown, the changes in all three key labor market outcomes were very similar in pilot and non-pilot WDAs. The 2011-2012 change in the employment rate for jobseekers in non-pilot areas was -2.8 percentage points, for example, compared to a change in pilot areas of -4.3 percentage points. For all three outcomes, the 2011-2012 changes in both areas were in the same direction and of similar magnitudes. For employment and retention, the difference in differences between pilot and non-pilot WDAs was less than two percentage points. Changes in jobseeker earnings differed by \$53, less than one percent of earnings. The data show no evidence of differential patterns in the labor market outcomes of jobseekers between pilot and non-pilot WDAs from 2011-2012. These results lend additional credibility to the main assumption behind our technical approach.

To further understand the similarities and differences between jobseekers in pilot WDAs and those in non-pilot WDAs during the implementation period, we can compare the two groups, focusing on the different types of information available in the administrative data.

3.2.1 Comparing Pilot and Non-pilot WDAs before Implementation

Two cohorts of jobseekers we use for the impact evaluation are comprised of jobseekers that received services from Wisconsin's workforce system in Q2 2012—the period *before* Salesforce implementation. In this section, we use the DWD administrative data to compare the two cohorts.

Demographic Characteristics. Exhibit 21 summarizes the demographic characteristics of jobseekers in cohorts 2 (pilot WDAs) and 4 (non-pilot WDAs). Because all the variables are categorical, the entries in the table represent percentages. For example, the exhibit shows that for both cohorts, 26-27 percent of jobseekers were between ages 25 and 34.

The last column shows the percentage-point difference between the two cohorts. The difference is positive for characteristics more prevalent in pilot areas and negative for characteristics more prevalent in non-pilot areas. For example, the difference in the proportion of jobseekers who were white was 12.4, indicating that the percentage of jobseekers in pilot areas that were white was 12.4 percentage points higher than in non-pilot areas. We note statistically significant differences between the two cohorts with asterisks.

As shown, jobseekers in pilot and non-pilot WDAs pre-Salesforce implementation were generally similar, even though several of the differences between the two cohorts are statistically significant.²⁰ For both cohorts, most jobseekers were 45 or older, slightly over half were male, a large majority were white, and over half had a high school degree, GED, or less education. The one demographic difference that appears substantively meaningful is jobseeker race. A higher proportion of jobseekers in pilot areas were white (83 percent) than in non-pilot areas (72 percent). Likewise, a higher proportion of jobseekers in non-pilot areas were black (20 percent) compared to the proportion in pilot areas (7 percent).

²⁰ Because of the large sample size, even very small differences between the two groups can be statistically significant, though not substantively meaningful. Among the statistically significant differences noted in the exhibit, most of the differences are less than 5 percentage points and many less than one percentage point.

Exhibit 21: Jobseeker Demographic Characteristics, 2012

Characteristic	Pilot WDAs (Cohort 2)	Non-Pilot WDAs (Cohort 4)	Difference
Age (%)			
Under 25 years	15.0	11.3	3.7***
25 – 34	26.4	26.6	-0.2
35 – 44	20.5	21.0	-0.5
45 and Older	38.1	41.1	-3.0***
Male (%)	52.3	52.7	-0.5
Race (%)			
White	83.2	71.6	11.7***
Black	6.8	20.0	-13.1***
Hispanic (%)	5.4	5.6	-0.2
Disabled (%)	5.5	5.5	0.0
Veteran (%)	9.4	8.6	0.8
Education (%)			
Less than High School	10.9	9.8	1.1***
High School/GED	49.1	44.3	4.9***
Some College/Bachelors	24.2	27.8	-3.6***
Post-secondary	12.4	12.5	-0.1
Post-graduate	3.3	5.6	-2.3***
Number of Observations	14,871	18,727	-

Source: DWD administrative data.

Notes: * indicates statistical significance at the 10 percent level; ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

Prior Labor Market Experience. Exhibit 22 shows the prior labor market experience of jobseekers in the two cohorts, including employment status, UI claimant status, and wages earned in the three quarters prior to receiving WDA services. As with Exhibit 21, the final column represents the difference between the two cohorts.

Exhibit 22: Jobseeker Prior Labor Market Experience, 2012

Characteristic	Pilot WDAs (Cohort 2)	Non-Pilot WDAs (Cohort 4)	Difference
Employed (%)	20.6	15.2	5.4
UI Claimant (%)			
Claimant	52.1	62.6	-10.5***
Exhaustee	2.1	2.5	-3.8**
Neither	38.0	28.2	9.8***
Prior Wages (\$)			
Quarter 2	3,968	4,461	-493***
Quarter 3	4,198	4,794	-596***
Number of Observations	14,871	18,727	-

Source: DWD administrative data.

Notes: * indicates statistical significance at the 10 percent level; ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

As shown, prior labor market experiences for jobseekers in both cohorts were also somewhat similar, although jobseekers in pilot WDAs were more likely to be employed at the time they began receiving services and less likely to be receiving UI benefits. Over 50 percent of jobseekers in each cohort was either receiving UI or had exhausted their UI benefits when they received services from the workforce system. Differences in quarterly wages prior to service receipt were less than \$600 in each quarter.

Services Received. Exhibit 23 summarizes the services received by the two cohorts of jobseekers. For both, data represent percentage shares of participants by major WIA program type, type of service, and duration of service receipt. For example, the exhibit shows that 31 percent of jobseekers in non-pilot WDAs received WIA core services that were staff assisted, compared to 13 percent in pilot WDAs. Because jobseekers may have received multiple services, the total across the different service types equals more than 100 percent.

Exhibit 23: Services Received by Jobseekers, 2012

Characteristic	Pilot WDAs (Cohort 2)	Non-Pilot WDAs (Cohort 4)	Difference
Program (%)			
WIA Title 1 Adult	0.2	0.6	-0.4***
WIA Title 1 Dislocated Worker	0.2	0.3	-0.1**
WIA Title 1 Youth	0.1	0.1	0.0
WIA Title 3	99.5	99.0	
Services (%)			
Core	89.6	93.4	-3.8***
Intensive	10.3	6.4	3.9***
Other	0.2	0.2	-0.0
Duration (%)			
Less than 1 Week	52.6	58.6	-6.0***
1 week - 1 Month	15.7	16.1	-0.4
1 Month - 6 Months	19.7	16.7	3.1***
More than 6 Months	12.0	8.6	3.3***
Number of Observations	14,871	18,727	-

Source: DWD administrative data.

Notes: * indicates statistical significance at the 10 percent level; ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

As shown, jobseekers in both non-pilot and pilot WDAs received roughly the same types of WIA services. The vast majority of each cohort (over 99 percent) received Title III services. However, the percentage of jobseekers who received core services was higher in non-pilot WDAs. In terms of the duration of service receipt, over half of jobseekers in each group received services for less than 1 week.

Labor Market Outcomes. Exhibit 24 shows the three main labor market outcomes—employment, retention, and earnings—for jobseekers in the two cohorts, measured *after* receiving WIA services.

Exhibit 24: Jobseeker Labor Market Outcomes, 2012

Characteristic	Pilot WDAs (Cohort 2)	Non-Pilot WDAs (Cohort 4)	Difference
Employment (%)	63.0	57.9	5.1***
Retention (%)	82.2	81.8	0.4
Earnings (\$)	7,005	7,092	-87
Number of Observations	14,871	18,727	-

Source: DWD administrative data.

Notes: * indicates statistical significance at the 10 percent level; ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

As with the other types of jobseeker data, labor market outcomes before implementation of Salesforce were generally similar for both cohorts. Around 60 percent of jobseekers in each were employed in the first quarter after exit, and more than 80 percent retained jobs through the three quarters after exit. Similarly, earnings in the second and third quarters after exit were similar, differing by only \$87. In fact, despite the large sample sizes, only the difference in employment was statistically significant.

Overall, comparing the characteristics, services received, and labor market outcomes for the two cohorts of jobseekers that received workforce system services *before* implementation of Salesforce reveals relatively minor differences. In the next section, we make the same comparisons for the two cohorts of jobseekers that received services *after* the implementation of Salesforce (cohorts 1 and 3).

3.2.2 Comparing Pilot and Non-pilot WDAs after Implementation

Demographic Characteristics. Exhibit 25 summarizes the demographic characteristics of jobseekers in pilot WDAs (cohort 1) and non-pilot WDAs (cohort 3) *after* implementation of Salesforce. The characteristics shown are the same as those displayed in Exhibit 21.

Exhibit 25: Jobseeker Demographic Characteristics, 2013

Characteristic	Pilot WDAs (Cohort 1)	Non-Pilot WDAs (Cohort 3)	Difference
Age Group (%)			
Under 25 years	16.5	13.1	3.4***
25 – 34	28.8	28.4	0.4
35 – 44	22.0	22.0	0.0
45 and Older	32.8	36.6	-3.7***
Male (%)	48.4	51.9	0.2
Race (%)			
White	83.0	77.4	5.6***
Black	6.0	13.3	-7.3***
Hispanic (%)	5.2	5.3	-0.1
Disabled (%)	4.9	5.4	-0.5***
Veteran (%)	6.9	6.9	0.0
Education (%)			
Less than High School	9.4	8.5	0.9***
High School/GED	43.6	40.5	3.2***
Some College/Bachelors	27.6	30.3	-2.6***
Post-secondary	14.9	13.8	1.1***
Post-graduate	4.5	7.0	-2.5***
Number of Observations	33,987	33,172	-

Source: DWD administrative data.

Notes: * indicates statistical significance at the 10 percent level; ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

As was the case for the cohorts of jobseekers that received services *before* the grant period, jobseekers in pilot and non-pilot WDAs receiving services *after* implementation were generally similar. About one-third or more of each cohort was over 45, and about half were male. Both were also mostly white, and had similar levels of education. Also as before, the only characteristic that differed notably between the two cohorts is race. While the differences are not as large as in those prior to implementation of Salesforce, non-pilot areas still had a larger proportion of black jobseekers (13 percent) than pilot areas (6 percent).

Prior Labor Market Experience. Exhibit 26 summarizes the prior labor market experience for the two cohorts *after* implementation of Salesforce in pilot areas.

Exhibit 26: Jobseeker Prior Labor Market Experience, 2013

Characteristic	Pilot WDAs (Cohort 1)	Non-Pilot WDAs (Cohort 3)	Difference
Employed (%)	40.4	32.2	8.2***
UI Claimant (%)			
Claimant	32.4	45.8	-13.4***
Exhaustee	2.1	1.9	0.2**
Neither	64.4	51.2	13.1***
Prior Wages (\$)			
Quarter 2	4,348	4,868	-520***
Quarter 3	4,368	5,035	-667***
Number of Observations	33,987	33,172	-

Source: DWD administrative data.

Notes: * indicates statistical significance at the 10 percent level; ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

As shown, jobseekers in non-pilot areas had relatively weaker prior labor market experiences than those in pilot areas, a similar pattern as noted for jobseekers that received services *before* implementation. Employment among jobseekers in non-pilot WDAs was eight percentage points lower than for jobseekers in pilot WDAs, and more jobseekers in non-pilot WDAs (45 percent) were receiving UI benefits than in pilot WDAs (32 percent).

Services Received. Exhibit 27 on the next page summarizes the services received by jobseekers in the two cohorts *after* implementation of Salesforce in pilot areas.

Again mirroring the patterns observed when comparing jobseekers receiving services *before* Salesforce was implemented, jobseekers in pilot and non-pilot WDAs generally received similar types of services *after* implementation. For both cohorts, nearly all of the jobseekers in our sample participated in WIA Title III and received core services (with slightly higher proportions of each in the non-pilot WDAs), and most jobseekers in the two areas received services for less than one week.

Exhibit 27: Services Received by Jobseekers, 2013

Characteristic	Pilot WDAs (Cohort 1)	Non-pilot WDAs (Cohort 3)	Difference
Program (%)			
WIA Title 1 Adult	0.3	0.1	-0.2***
WIA Title 1 Dislocated Worker	0.1	0.1	-0.1***
WIA Title 1 Youth	0.0	0.0	0.0
WIA Title 3	99.6	99.9	0.3***
Services (%)			
Core	93.1	95.5	2.4***
Intensive	6.8	4.5	-2.3***
Other	0.1	0.0	0.0**
Duration (%)			
Less than 1 Week	51.3	47.0	-4.3***
1 week - 1 Month	12.7	11.6	-1.1***
1 Month - 6 Months	20.7	21.9	1.3***
More than 6 Months	15.4	19.4	4.1***
Number of Observations	33,987	33,172	-
Source: DWD administrative data. Notes: * indicates statistical significance at the 10 percent level; ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.			

Comparing the demographic characteristics, prior labor market experiences, and services received for jobseekers receiving services *after* implementation of Salesforce shows few differences between pilot and non-pilot WDAs. Further, combined with similar findings described in Section 3.2.1, the data provide no evidence of systematic, differential changes in any of the three categories of variables. This provides further evidence that the assumption underlying our empirical strategy—that the pilot and non-pilot WDAs are comparable—is reasonable.

The next section presents the results of the impact evaluation.

4.3 Results

To estimate the impact of Salesforce on jobseeker outcomes, we used the individual-level data on jobseekers that had received WIA Title I or Title III services to estimate a multivariate regression model based on our DID strategy. The regression model is as follows, where the subscript i indexes individual jobseekers and the subscript t indexes time periods:

$$Y_{it} = \alpha + \beta T_{it} + \gamma F_{it} + \delta(T_{it} \cdot F_{it}) + \lambda X_{it} + \varepsilon_{it}$$

The baseline period ($t = 0$) in these models represents the period *before* Salesforce was implemented (i.e., 2012). The follow-up period ($t = 1$) represents the period *after* Salesforce was

implemented in pilot areas but *before* implementation in non-pilot areas (i.e., 2013). The left-hand side of the equation reflects the outcome of interest for individual jobseekers.

The variables on the right-hand side of the regression equation include:

- A constant term, α .
- A dummy variable T , which equals 1 if the jobseeker is in a pilot area and zero otherwise. The estimate of β captures the group effect. In other words, β estimates differences in the outcome variable that are associated with being in the group of pilot WDAs.
- A dummy variable F , which equals 1 for jobseekers in the follow-up period ($t = 1$) and zero otherwise. The estimate of γ captures the time effect. In other words, γ estimates changes in the outcome variable occurring over time that are due to factors common to both pilot and non-pilot areas.
- An interaction term ($T \cdot F$), which equals 1 if both dummy variables are equal to 1 and zero otherwise. This term will equal 1 only for jobseekers in pilot areas during the follow-up period (i.e., those that receive services *after* implementation of the program). The estimate of δ captures the impact of Salesforce on the outcome variable—this is the parameter of interest.
- X is a vector of relevant explanatory variables that may be related to the outcome of interest (such as the jobseeker's age and gender). The estimate of λ captures the effect of these explanatory variables on the outcome variable.
- A mean-zero disturbance term, ε .

We estimated all of the regression models using ordinary least squares regression, despite the fact that two of the outcomes of interest (employment and retention) are binary variables. For those two outcomes, the advantage of being able to easily interpret the regression results outweighed the potential benefits of using common regression models that explicitly account for the binary nature of the dependent variable (e.g., Probit or Logit).

Exhibit 28 summarizes our DID estimates of the impact of Salesforce implementation on the three jobseeker labor market outcomes of interest.

**Exhibit 28: Estimated Impacts of Salesforce Implementation in Pilot WDAs
on Jobseeker Outcomes**

	Employment	Retention	Earnings
Impact	-0.02*** (0.01)	-0.00 (0.01)	-262** (109)
R-squared	0.14	0.05	0.36
Number of observations	100,757	67,778	100,757

Source: DWD administrative data.

Notes: * indicates statistical significance at the 10 percent level; ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

The results show that the implementation of Salesforce in pilot WDAs had statistically significant effects on two of the three outcomes: employment and earnings. Our estimate of the effect of implementation on employment means that implementation of Salesforce in pilot areas decreased the likelihood of employment among WIA Title I and Title III exiters by 2 percentage points. This is equivalent to a 3 percent decrease when compared to the employment rate for exiters in pilot WDAs prior to implementation (63 percent). Our estimate of the impact on earnings indicates that the implementation of Salesforce in pilot WDAs led to a reduction in total earnings in the second and third calendar quarters after exit of \$262. Compared to the baseline mean of \$7,005 in earnings for jobseekers in pilot WDAs, this change represents a 4 percent decrease.

The result that the implementation of Salesforce in pilot WDAs led to slight decreases in both the likelihood of employment and in earnings is surprising. One potential complicating factor is that the group of jobseekers that comprise Cohort 1 (i.e., jobseekers in pilot areas who exited WIA programs *after* the implementation of Salesforce in those areas) could differ in systematic, meaningful ways from the other Cohorts. Our discussion in Section 4.2 concluded that there were few substantive differences between cohorts from pilot areas and those from non-pilot areas, but the Cohorts were not identical in every regard. To the extent that the groups of WIA Title I and Title III exiters changed differentially between pilot and non-pilot areas between 2012 and 2013, our results will confound the impacts of the program with the effects of such compositional changes.

One way to control for potential changes in the composition of the Cohorts is to use matching methods. Stuart et al. (2014) describe a framework for using propensity scores in difference-in-differences models as a way to balance the four groups defined by time and treatment status (i.e., our Cohorts).²¹ The method involves a 4-step process:

²¹ Stuart, E. A., H. A. Huskamp, K. Duckworth, J. Simmons, Z. Song, M. Chernew, and C. Barry. "Using Propensity Scores in Difference-in-Differences Models to Estimate the Effects of a Policy Change," *Health Services and Outcomes Research Methodology*, December 2014, 14 (4): 166-182.

1. Estimate a multinomial Logit regression model in which the dependent variable is given by Y_i :

$$Y_i = \begin{cases} 1, & \text{if individual } i \text{ is in Cohort 1} \\ 2, & \text{if individual } i \text{ is in Cohort 2} \\ 3, & \text{if individual } i \text{ is in Cohort 3} \\ 4, & \text{if individual } i \text{ is in Cohort 4} \end{cases}$$

2. Use the estimated regression coefficients from step 1 to calculate four predicted probabilities for each individual, each of which corresponds to the predicted likelihood that the individual is in each of the four Cohorts:

$$p_j = \Pr(Y_i = j)$$

3. Calculate a weight for each individual using the following formula, where i indexes individuals, j indexes Cohorts, and J_i represents the Cohort to which individual i belongs:

$$w_i = \frac{p_2}{p_{j=J_i}}$$

4. Estimate a weighted regression model for which the dependent variable is the outcome of interest, using the weights derived from step 3.

The intuition for the process is that by constructing the weights in this manner, the observable characteristics for all four Cohorts are balanced when compared to Cohort 2 (i.e., the group that represents the pre-intervention baseline for the group exposed to the intervention).

Following this procedure, we estimated the regression models for all three outcomes of interest. Exhibit 29 summarizes the results.²²

²² Slightly fewer observations are used in these models due to the need to enforce a technical requirement known as the common support assumption.

**Exhibit 29: Estimated Impacts of Salesforce Implementation in Pilot WDAs
on Jobseeker Outcomes, Weighted Regressions**

	Employment	Retention	Earnings
Impact	0.03*** (0.01)	0.00 (0.01)	263 (192)
R-squared	0.08	0.00	0.00
Number of observations	100,668	67,705	100,668

Source: DWD administrative data.

Notes: * indicates statistical significance at the 10 percent level; ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

The results in Exhibit 29 differ from the results presented in Exhibit 28 in two respects. First, the results show that the implementation of Salesforce in pilot WDAs had a slight positive effect (3 percentage points) on the likelihood of employment for WIA Title I and Title III exiters, a result that is statistically significant. The result represents an increase of 6 percent compared to the employment rate among WIA exiters in pilot areas in 2012 (63 percent). Compared to the result from our baseline regression model (a 2 percentage point decrease), the result from the revised model incorporating a weighting procedure is roughly the same magnitude but has a different sign. Second, the results show that the implementation of Salesforce in pilot areas had no effect on earnings. Similar to how our results for the employment outcome changed, the point estimate of the impact on earnings has a similar magnitude to our baseline estimate, but has the opposite sign. However, when incorporating the weighting procedure, the estimate is no longer statistically significant. One common thread across the two sets of estimates is that there was clearly no impact on retention.

Taken together, the baseline and weighted regression results suggest that there were relevant compositional differences among Cohorts that bias our results in the absence of the weighting procedure. When these differences are corrected via weighting, the results indicate that the implementation of Salesforce in pilot WDAs had a slight positive impact on the likelihood of employment for WIA Title I and Title III exiters and had no impact on either retention or earnings. This makes intuitive sense. Because the program would have effected jobseekers only indirectly, through improvements to information sharing or how businesses are served, we would expect any impacts to be relatively small. Moreover, it is reasonable to think that the sort of information sharing and collaboration fostered by Salesforce could make it easier for jobseekers to be placed in jobs, but it is not as obvious how Salesforce could improve retention or increase earnings.

Considerations. There are several important considerations to bear in mind when interpreting the results of our impact analysis. First, the figures represent the estimated impacts of only an isolated component of *Skills Wisconsin*—the early implementation of Salesforce among a group of WDAs. They do not represent the impacts of the overall grant program. Second, our empirical approach captures only short-term impacts associated with the introduction of Salesforce in the

pilot WDAs. In these areas, Salesforce was introduced in Q1 2013. For our analysis, the post-implementation period ($t = 1$) is defined as Q2 2013. Therefore, the only program impacts our analysis can detect are those that manifest within one calendar quarter following the introduction of Salesforce. To the extent that it takes time for Salesforce to be used effectively or for it to facilitate more responsiveness to the demand side of the labor market, we might expect its impacts on jobseekers to take longer to develop. Third, the individuals in our data are WIA Title I and Title III program exiters. Our results may not generalize to the larger population of jobseekers who receive services from the workforce system. To the extent that the implementation of Salesforce affected the labor market outcomes of jobseekers who have not yet exited WIA programs, our estimates may be biased. Finally, despite the fact that our review of 2011 and 2012 data suggests that outcome trends for pilot and non-pilot areas were similar *before* the implementation of Salesforce, it is impossible to formally test whether the parallel trends assumption holds. To the degree that conditions between 2012 and 2013 changed differentially in pilot areas versus non-pilot areas in ways that affected jobseeker outcomes, our estimates will capture not only the impact of Salesforce implementation but also the effect of such changes.

Despite the potential limitations of our results, our best assessment is that the early adoption of Salesforce in pilot WDAs slightly increased the rate of employment among WIA Title I and Title III exiters and had no impacts on either of the other two jobseeker outcomes considered.

4.4 Summary

Our empirical approach to the impact evaluation uses individual-level data on jobseekers who exited WIA Title I and Title III programs both *before* implementation of Salesforce in the pilot WDAs and *after* it. Further, we rely on the phased rollout of Salesforce to compare outcomes for jobseekers who received services in pilot WDAs to outcomes for jobseekers who received services in non-pilot WDAs. Our approach relies on the assumption that trends in labor market outcomes for jobseekers would have been similar in the two groups in the absence of *Skills Wisconsin*. We focus on three key labor market outcomes—employment, job retention, and earnings. To estimate the impacts of Salesforce implementation in the pilot WDAs we use administrative data provided by DWD.

It is not possible to formally test the underlying assumption of parallel trends between pilot and non-pilot WDAs. One way to judge whether the assumption is plausible is to look at whether trends in the two groups of WDAs moved in tandem between 2011 and 2012. Though we cannot know with certainty whether our assumption holds, if trends in the two areas moved more or less in parallel from 2011 to 2012, we can be more confident that a similar pattern held between 2012 and 2013. Data from 2011-2012 indicate that changes in all three key labor market outcomes were similar in pilot and non-pilot WDAs. The 2011-2012 change in the employment rate for jobseekers in non-pilot areas was -2.7 percentage points, compared to a change in pilot areas of -1.5 percentage points. For all three outcomes, the 2011-2012 changes in both areas were in the same direction and were similar in magnitude. For employment and retention, the difference in differences between pilot and non-pilot WDAs was less than two percentage points.

Changes in jobseeker earnings differed by less than two percent (\$113). Overall, the data show no evidence of differential patterns in the labor market outcomes of jobseekers between pilot and non-pilot WDAs in 2011-2012. To the extent that a similar pattern held for the 2012-2013 period, these results lend additional credibility to the main assumption behind our technical approach to the impact evaluation.

To understand how pilot and non-pilot WDAs compare to one another, we use the data to compare jobseekers' demographic characteristics, prior labor market experiences, services received, and labor market outcomes, both before and after the implementation of Salesforce. Our comparisons between the two groups that received services *before* implementation of Salesforce reveals only minor and non-systematic differences between jobseekers in pilot (cohort 4) and non-pilot WDAs (cohort 2). Our comparisons of the same information between the two groups that received services *after* Salesforce implementation in the pilot areas likewise show few meaningful differences. Combined, the results provide no evidence of systematic, differential changes in any of the three categories of jobseeker variables—giving us further confidence that the assumption underlying our empirical strategy is reasonable.

We use multivariate regression models to estimate the impact of the implementation of Salesforce in the pilot areas on the jobseeker outcomes of interest. Our baseline results show that Salesforce implementation in the pilot areas led to (1) a two percentage-point decrease in the likelihood of employment and (2) a \$294 decrease in the cumulative earnings of jobseekers in the second and third calendar quarters after program exit. Using a matching technique that controls for observable differences among jobseeker cohorts, we find instead that implementation in pilot areas led to a three percentage-point increase in the likelihood of employment for WIA Title I and Title III exiters, but had no effect on either of the other two outcomes considered.

We note several considerations to bear in mind when interpreting our results. First, the figures represent the estimated impacts of only an isolated component of *Skills Wisconsin*—the early implementation of Salesforce among a group of WDAs. They do not represent the impacts of the overall grant program. Second, our empirical approach captures only short-term impacts associated with the introduction of Salesforce in the pilot WDAs. Third, the individuals in our data are WIA Title I and Title III program exiters. Our results may not generalize to the larger population of jobseekers who receive services from the workforce system. Finally, despite the fact that our review of 2011 and 2012 data suggests that outcome trends for pilot and non-pilot areas were similar *before* the implementation of Salesforce, it is impossible to formally test whether the parallel trends assumption holds. To the degree that conditions between 2012 and 2013 changed differentially in pilot areas versus non-pilot areas in ways that affected jobseeker outcomes, our estimates will capture not only the impact of Salesforce implementation but also the effect of such changes.

Despite the potential limitations of our results, our best assessment is that the early adoption of Salesforce in pilot WDAs slightly increased the rate of employment among WIA Title I and Title III exiters and had no impacts on either of the other two jobseeker outcomes considered.

5. OUTCOMES ANALYSIS

The outcomes analysis component of the evaluation was intended to document and analyze quantitative data on key outcomes and how they evolved over the grant period. It was also designed to include a review of program costs, both overall and specifically associated with the implementation of Salesforce. The main research questions for the outcomes analysis are:

- How did jobseeker outcomes change over time?
- How did employer attitudes and experiences change over time?
- How much was Salesforce used over the grant period?
- What costs were incurred in the implementation of Salesforce?
- How did WDB expenditures and expenditures per jobseeker evolve over the grant period?

Unlike the impact evaluation, the purpose of the outcomes analysis is not to isolate the causal impacts of *Skills Wisconsin* on any of the outcomes considered. Indeed, it is not possible to do so, as other factors likely contributed to any changes we observe and we cannot control their effects. Rather, the focus of the outcomes analysis is to document whether trends in key outcome measures are consistent with *Skills Wisconsin* achieving its goals. This chapter of the report describes the results of the outcomes analysis. Section 5.1 describes outcomes related to employer sentiment about several aspects of how the workforce system serves businesses, using data from three waves of an employer survey. Section 5.2 examines grant performance measures that were regularly reported to DOL as well as program costs. The final section gives a brief summary.

5.1 Employer Satisfaction with the Workforce System

One of the motivations for *Skills Wisconsin* was to help the workforce system improve the service it provides to employers. As evidence of the need for better coordination among workforce development, economic development, and training providers, program developers cited anecdotal evidence that employers are often contacted by different workforce system stakeholders and that the different organizations are seldom aware of interactions between the employer and other organizations. For example, someone from a local Job Center might speak to an employer on Monday and ask whether the employer is looking for workers. On Tuesday, the same employer might be contacted by another workforce agency with similar questions. The volume of uncoordinated contact was viewed as burdensome to employers and often turned them off to working with the workforce system. One of the primary goals of *Skills Wisconsin* was to improve coordination among workforce system stakeholders so as to better manage their relationships with employers. The thinking was that reducing these duplicated efforts would lead to improved employer attitudes toward the workforce system.

To judge how employer perceptions of the workforce system changed after *Skills Wisconsin* was implemented, we periodically gathered data on employer attitudes and experiences using a short

survey. The first wave of the survey was sent to a random sample of employers in spring 2013. Its purpose was to establish a baseline understanding of employer sentiment *before* implementation. A second wave of the survey was fielded in spring 2015, and a third and final wave was fielded in spring 2016. The 2016 wave captures employer opinions *after* implementation. It also includes employers from two different sources—those that met the same criteria used in the first two waves, plus employers for which profile information had been entered into Salesforce. Comparing the results of the three survey waves (excluding the Salesforce sample from the 2016 wave) allows us to observe whether employer perceptions of the workforce system improved in the intervening years. Comparing the results of the 2016 survey among data sources allows us to see how the perceptions of employers more directly affected by *Skills Wisconsin* compare to those of less affected employers.

These comparisons will show whether and how important measures of employer satisfaction have evolved over time. However, we cannot attribute any changes observed to *Skills Wisconsin* alone. Numerous other factors may have influenced how employers felt about the workforce system (e.g., general economic conditions, other changes to how the workforce system operates). The purpose of the employer survey was not to isolate the effect of *Skills Wisconsin* from all other potential influences. Rather, the survey was intended simply to provide an idea of whether key measures of employer attitudes evolved in a manner we would expect, were *Skills Wisconsin* to be successful in its goals.

5.1.1 Survey Implementation

Not all employers in Wisconsin interact with the workforce system. To reach those employers with some experience working with the workforce system, we used as a sampling frame all employers in the state of Wisconsin that had an open job order on the Job Center of Wisconsin (JCW) website at any time during the two-month December-January period immediately preceding survey implementation. Sampling from the universe of employers with open job orders reduced the chance that we would send surveys to employers that had never come into contact with the workforce system and would thus have little information to contribute to the analysis.

For each wave of the survey, we selected a stratified (by WDA) random sample of employers from the sampling frame of all employers with open job orders on JCW.²³ Exhibit 30 summarizes the samples for the three waves of the employer survey.²⁴

Among the employers that comprised our survey sampling frame, most were from WDAs with larger populations. The Bay Area WDA consistently had the most employers in the data—1,685 of the 10,677 employers in the 2013 sampling frame (about 16 percent) were from this WDA, increasing to 22 percent in the 2016 sampling frame. The distribution across WDAs was also fairly

²³ For the 2015 wave of the survey, the sampling frame was sufficiently small that we elected to survey the entire population rather than a random sample from it.

²⁴ Figures in the exhibit exclude employers surveyed in 2016 that were identified in the Salesforce system, except for those that also had open job orders on JCW. Section 4.1.3 analyzes the 2016 survey separately, focusing on the different populations of employers.

stable across the three survey waves. After Bay Area, the WDAs with the next highest representation were South Central, Fox Valley, and North Central. Northwest had the fewest employers in the sampling frames, accounting for only 2-3 percent of employers for any single wave. As expected due to the random selection of the survey sample, the distribution of employers among WDAs in each survey sample mirrored the distribution for the corresponding sampling frame.

Exhibit 30: Employer Survey Samples

WDA	2013		2015		2016	
	Sampling Frame	Sample	Sampling Frame	Sample	Sampling Frame	Sample
Southeast	639 (6.0%)	299 (6.0%)	234 (5.1%)	234 (5.1%)	327 (5.6%)	257 (5.6%)
Milwaukee	1,054 (9.9%)	493 (9.9%)	485 (10.7%)	485 (10.7%)	639 (10.9%)	486 (10.6%)
WOW	1,073 (10.0%)	502 (10.1%)	392 (8.6%)	392 (8.6%)	572 (9.8%)	454 (9.9%)
Fox Valley	1,380 (12.9%)	646 (12.9%)	446 (9.8%)	446 (9.8%)	496 (8.5%)	373 (8.2%)
Bay Area	1,685 (15.8%)	789 (15.8%)	827 (18.2%)	827 (18.2%)	1,270 (21.7%)	1,005 (22.0%)
North Central	1,222 (11.4%)	572 (11.5%)	528 (11.6%)	528 (11.6%)	614 (10.5%)	477 (10.5%)
Northwest	326 (3.1%)	152 (3.0%)	121 (2.7%)	121 (2.7%)	121 (2.1%)	95 (2.1%)
West Central	727 (6.8%)	340 (6.8%)	346 (7.6%)	346 (7.6%)	364 (6.2%)	243 (5.3%)
Western	526 (4.9%)	246 (4.9%)	207 (4.5%)	207 (4.5%)	265 (4.5%)	249 (5.5%)
South Central	1,567 (14.7%)	733 (14.7%)	775 (17.0%)	775 (17.0%)	980 (16.7%)	760 (16.7%)
Southwest	478 (4.5%)	223 (4.5%)	191 (4.2%)	191 (4.2%)	209 (3.6%)	165 (3.6%)
Total	10,677 (100%)	4,995 (100%)	4,552 (100%)	4,552 (100%)	5,857 (100%)	4,564 (100%)

The survey was fielded the same way each wave. In April, the employers selected for the sample were mailed a paper copy of the survey instrument along with a cover letter explaining its purpose. The cover letter also included a web address for the online version of the survey that respondents could use instead of sending back the paper survey. About three weeks after the first mailing, a second (identical) mailing was implemented; all employers that had yet to respond to the survey received the second mailing. Data collection was closed in June. Response rates for the three survey waves were relatively consistent and are summarized in Exhibit 31.

Exhibit 31: Employer Survey Response Rates by Wave

Survey Wave	Sample	Responses	Response Rate
2013	4,995	1,193	23.8%
2015	4,552	1,200	26.4%
2016	4,564	941	23.6%

Response was highest in both absolute and percentage terms for the 2015 wave of the survey—of the 4,552 employers that were mailed the survey instrument, 1,200 responded, for a response rate of just over 26 percent. Given that response rates to employer surveys are typically on the order of 10 percent, the response rates for the three survey waves are relatively high.

One concern in analyzing the employer survey data is the potential bias introduced by the substantial survey non-response. If employers that responded to the survey are systematically different from those who did not respond, the results can present a skewed picture of sentiment among the larger group of employers that make up the overall survey sample. One way to assess the potential for non-response bias is to compare survey respondents to non-respondents. In addition to employer names and addresses, the data file that provided the sampling frame also included information on industry and number of employees. Appendix C presents a series of tables comparing respondents to non-respondents for each of the three survey waves.

To ensure that our estimates are valid for the overall survey sample for each wave, not just the population of employers that responded to the survey, we incorporated non-response weights into all of our analyses.²⁵ Because the focus of *Skills Wisconsin* is to improve the workforce system for the state as a whole, our analyses focus on results for the entire state.

5.1.2 Changes in Employer Satisfaction, 2013-2016

Tabulations of responses to all employer survey questions from all three survey waves are presented in Appendix D. Below, we describe the survey results as they pertain to several key topics:

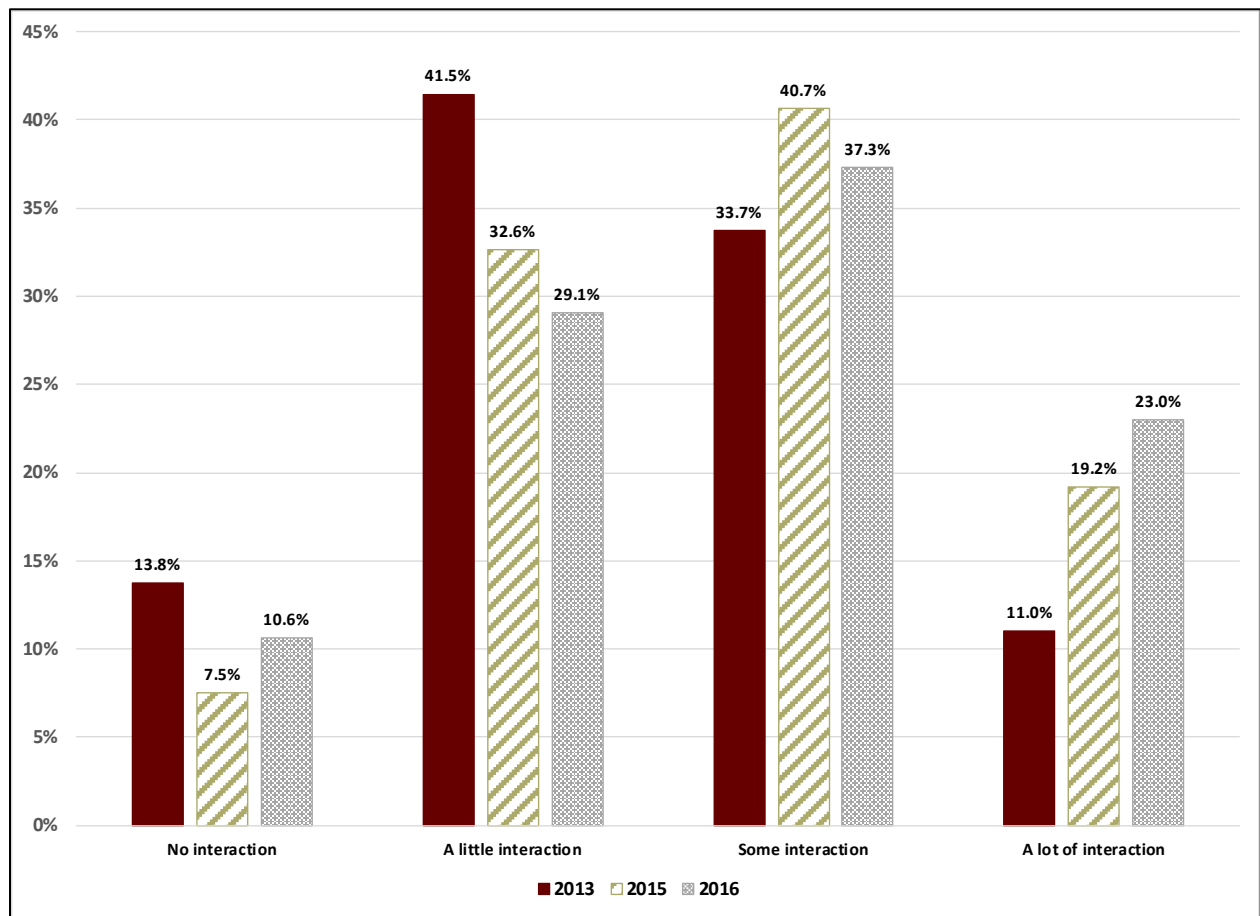
- Interaction with the workforce system
- Satisfaction with the ability of the workforce system to provide skilled workers
- Perceptions of jobseeker quality

²⁵ The process for computing the non-response weights involved three steps. First, we estimated a regression model where the dependent variable was an indicator variable equal to 1 for employers that returned the survey and 0 otherwise. Dependent variables included a constant, a set of indicator variables for WDAs, a set of indicator variables for industry, and a set of indicator variables for number of employees. Second, we used the estimated parameters from the regression model to predict the probability of completing a survey for each employer in the sample. Finally, we set the non-response weight for each employer equal to the inverse of the predicted probability from step 2. This process was replicated separately for each survey wave.

- Experiences regarding the time needed to fill job openings
- Satisfaction with services received from the workforce system
- Overall ratings of how well the state’s workforce system serves businesses

Interaction with the Workforce System. One of the survey questions asked respondents to report how much they interacted with the workforce system in the past year—not at all, a little, some, or a lot (see Exhibit 32).

Exhibit 32: Employer Interaction with the Workforce System



Across all three survey waves, a large majority of respondents reported having at least a little interaction with the workforce system—in 2013 roughly 86 percent were in this group, with 45 percent reporting some or a lot of interaction.²⁶ The proportion of employers reporting some or

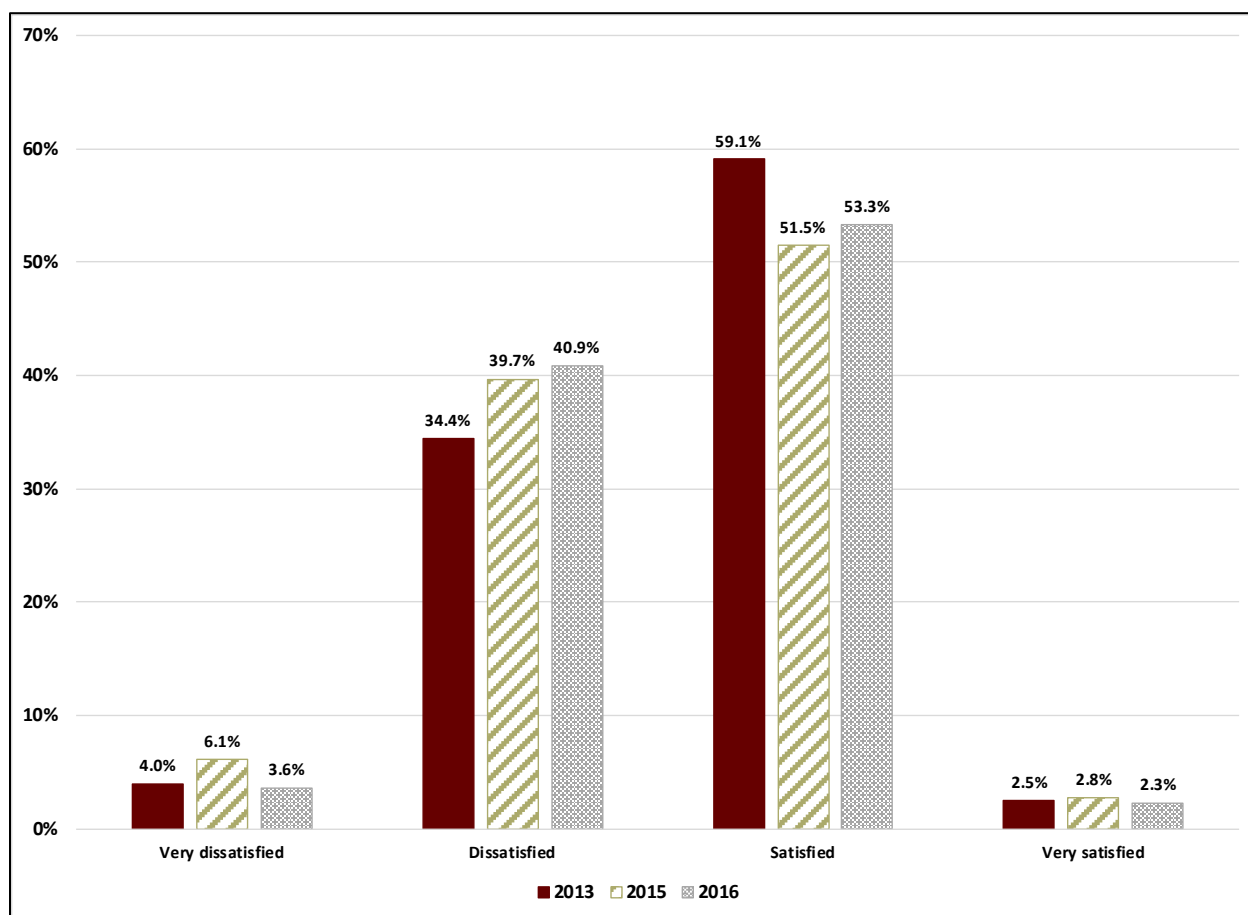
²⁶ Not all employers reported interaction with the workforce system despite the fact that all employers in each sampling frame had an open job order in the December-January months preceding the survey. In addition to other potential causes, this could be because not all job orders were necessarily placed through direct interaction with the workforce system. Some could have been posted online and then passively captured by the database we used for the sampling frame.

a lot of interaction with the workforce system grew over time. By 2016, 60 percent of employers reported such high levels of interaction. A statistical test of the changes between 2013 and 2016 indicates that differences between the two distributions are statistically significant.²⁷ Such high proportions of employers reporting contact with the workforce system in each survey wave is encouraging, in that it suggests the employer perceptions reflected in the survey results are based on actual experiences with the system.

Ability to Provide Skilled Workers. Exhibit 33 shows how employers rated their satisfaction with the ability of the workforce system to provide skilled workers. Across all three survey waves, the majority of employers were satisfied in this regard, though the proportion that reported that they were satisfied decreased slightly over time. In 2013, 59 percent of employers were satisfied with the ability of the workforce system to provide skilled workers; in 2016 just over 53 percent were satisfied. The decrease in the proportion of employers that were satisfied was mirrored by an increase in the proportion that reported being dissatisfied. In 2013, 34 percent of employers were in this group; by 2016 41 percent were. The proportion of employers reporting more intense sentiment—either very dissatisfied or very satisfied—did not change appreciably between the first and last survey waves.

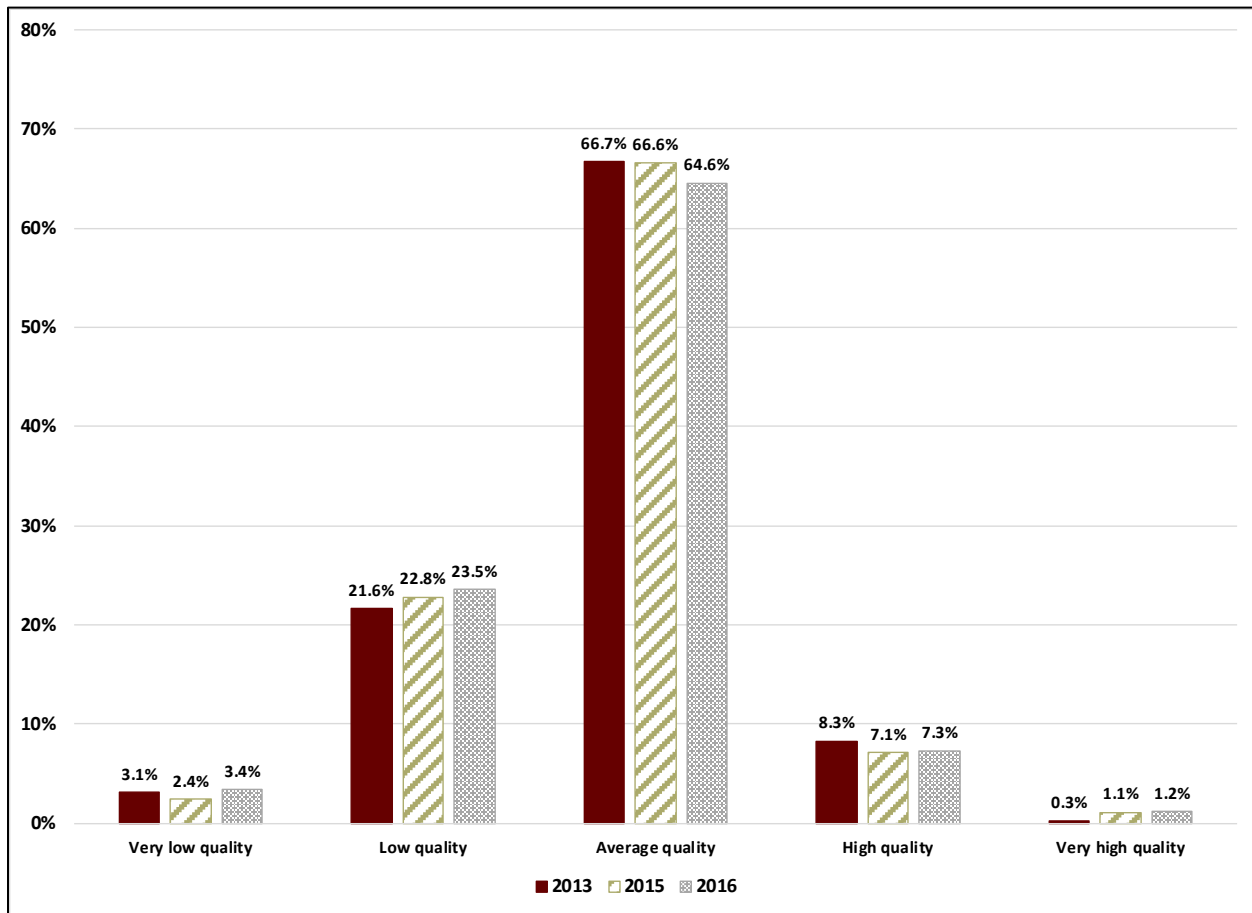
²⁷ The value of the Pearson's chi-squared test statistic, with three degrees of freedom, is 66.72.

Exhibit 33: Employer Satisfaction with Ability of Workforce System to Provide Skilled Workers



Jobseeker Quality. An important objective of *Skills Wisconsin* was to increase the capability of the workforce system to deliver qualified jobseekers to fill open positions in Wisconsin businesses. Employer perceptions of the quality of jobseekers referred by the workforce system is therefore a valuable indicator of whether the program was successful. To speak to this aspect of the program, the survey asked employers to rate the overall quality of jobseekers referred by the workforce system to Wisconsin businesses. Ratings were given on a 5-point scale: 1) very low, 2) low, 3) average, 4) high, and 5) very high quality. Exhibit 34 shows the distribution of employer responses to this question.

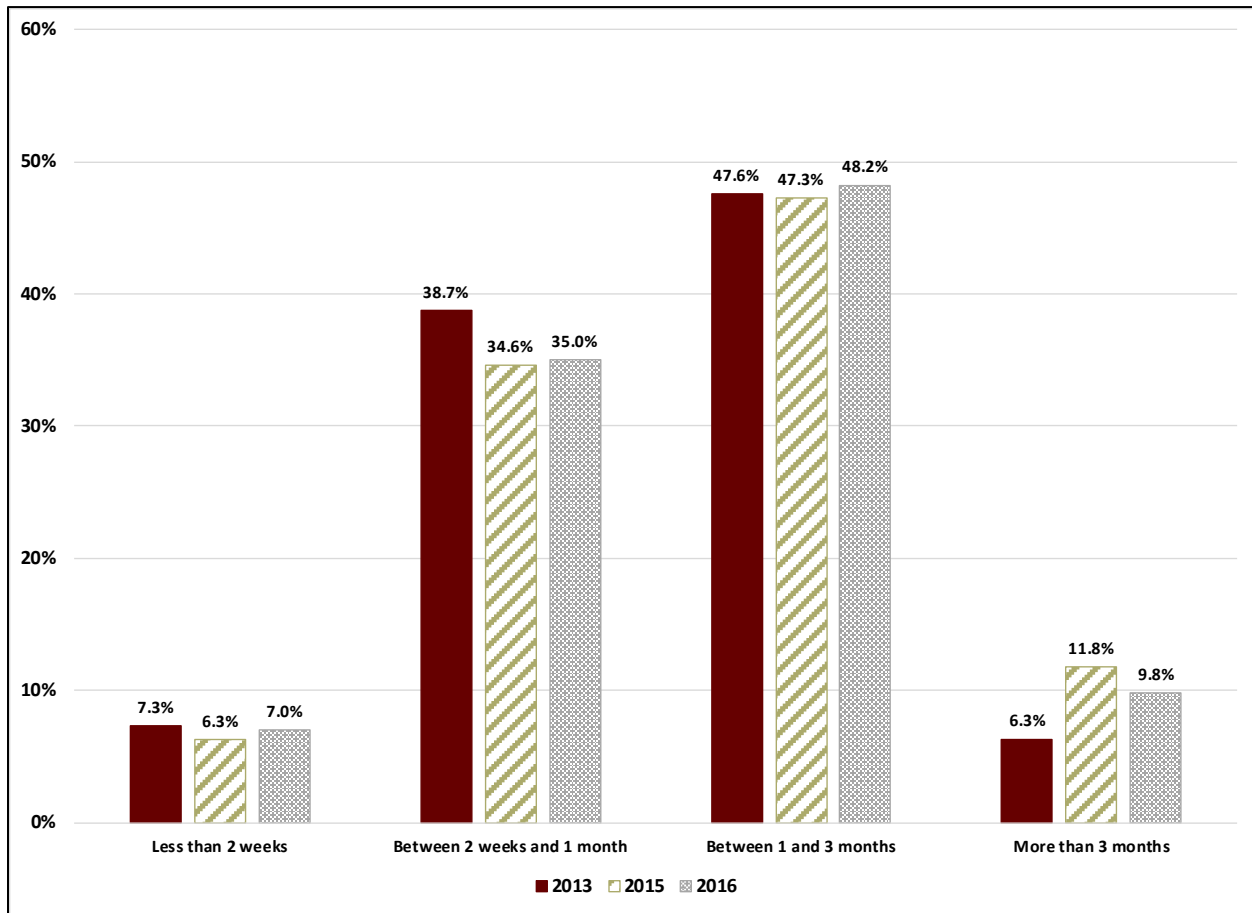
Exhibit 34: Employer Ratings of Jobseeker Quality



The distribution of employer perceptions of jobseeker quality was largely stable during the grant period. Across all three survey waves, roughly two-thirds of employers rated jobseekers referred by the workforce system as being of average quality. Among the rest, a larger proportion of employers reported that jobseekers were below average quality (about 25 percent) than above average quality (8-9 percent).

Time Needed to Fill Job Openings. Were *Skills Wisconsin* able to foster improved communication among stakeholders in the workforce system, one potential impact would be to reduce the time it takes employers to fill open jobs through the workforce system. One question on the survey asked employers to report on the time it took to fill job openings when working with the workforce system. Exhibit 35 shows the distribution of employer responses for each of the three survey waves.

Exhibit 35: Employer Experiences with Time to Fill Job Openings

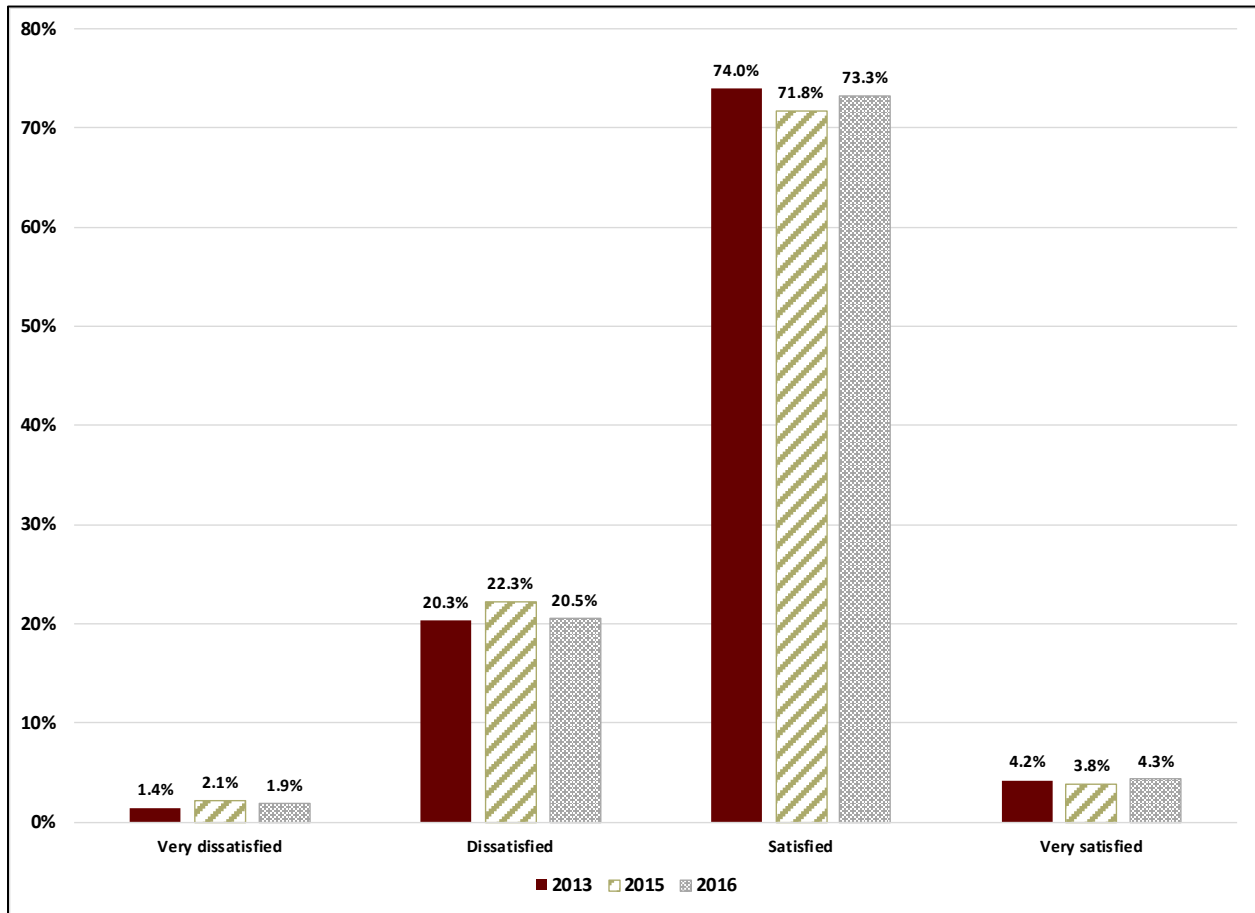


For nearly half of employers, it took between one and three months to fill a job opening when working with the workforce system. The proportion was generally stable between 2013 and 2016. Exhibit 35 shows one shift of note. Compared to 2013, a higher proportion of employers in 2016 reported needing more than 3 months to fill a job opening—10 percent versus 6 percent. Similarly, a lower proportion reported needing between two weeks and 1 month (35 percent versus 39 percent). Taken together, these results suggest that employers were taking more time to fill job openings through the workforce system in 2016 than they were in 2013.

Satisfaction with Services Received. Beyond understanding how employers feel about the jobseekers referred to them by the workforce system, another focus of the employer survey was to gather data on how employers feel in general about the services provided to them by the workforce system. Employers were asked to report their level of satisfaction with the services they had received from the workforce system in the prior year using a four-point scale: 1) very dissatisfied, 2) dissatisfied, 3) satisfied, and 4) very satisfied. Exhibit 36 shows the estimated proportions of all employers falling into each category.²⁸

²⁸ The results for each survey wave exclude employers that reported having had no interaction with the workforce system during the prior year.

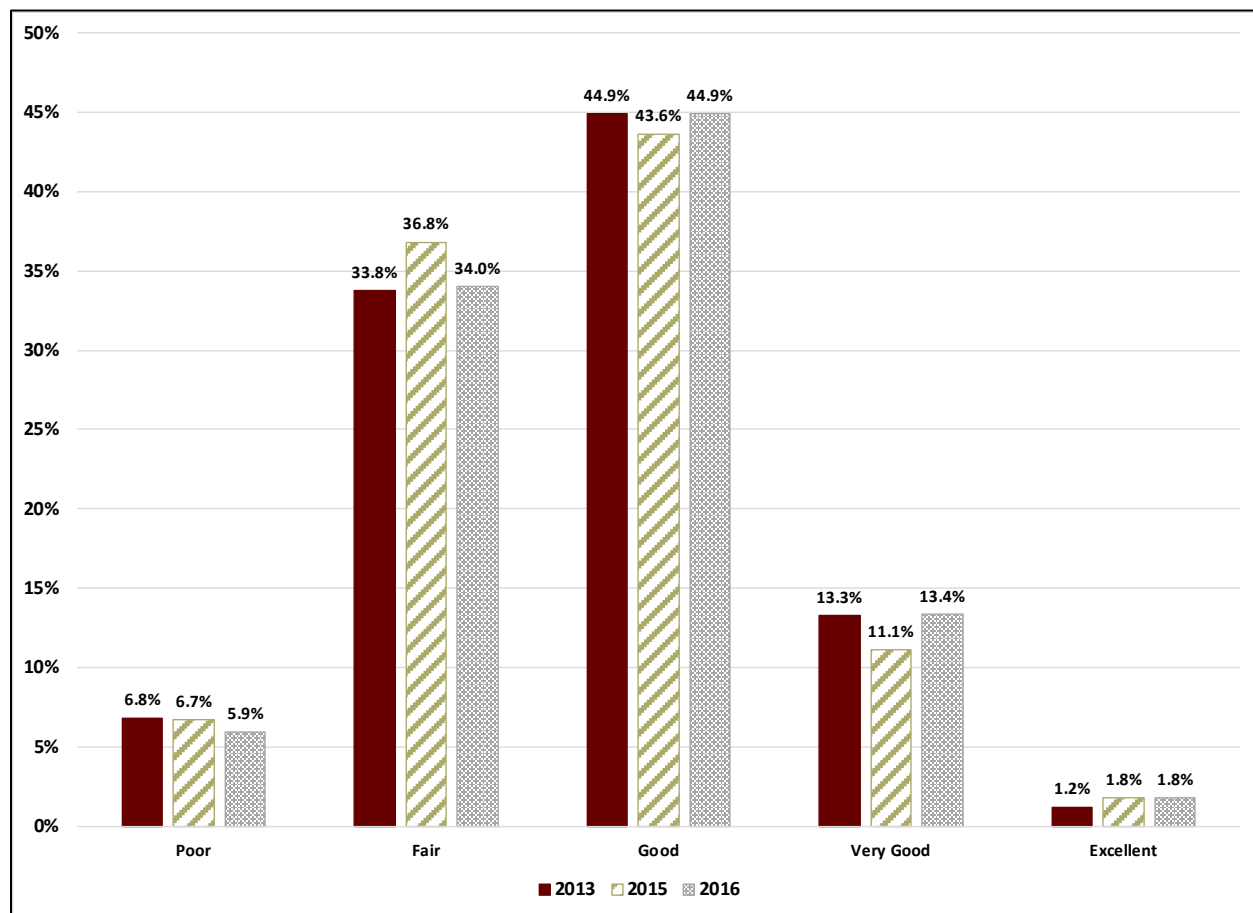
Exhibit 36: Employer Satisfaction with Services Received



Employer satisfaction with the services received from the workforce system was virtually unchanged during the grant period. In each survey wave, about three-quarters of employers reported being either satisfied or very satisfied with the services they received from the workforce system. Twenty-five percent or less of employers reported being either dissatisfied or very dissatisfied.

Rating of Service to Businesses. Broadly speaking, the overall goal of *Skills Wisconsin* is to improve the ability of the workforce system to meet the needs of employers in the state. At the end of the survey, respondents were asked to give their opinions of how well the workforce system serves businesses in the state. Possible responses were: 1) poor, 2) fair, 3) good, 4) very good, and 5) excellent. Exhibit 37 shows the distribution of employer responses to this question.

Exhibit 37: Employer Ratings of How Well the Workforce System Serves Businesses



As with the results for many of the other survey questions, the pattern of responses was generally similar across all three waves of the survey. The most common response among employers was that Wisconsin’s workforce system does a good job serving businesses in the state, with about 45 percent expressing this view in each survey wave. However, a substantial proportion of employers reported less positive views of the workforce system—40-44 percent rated the workforce system as doing either a poor or fair job serving businesses. Only about 15 percent said the system is doing a very good or an excellent job, though the proportion was slightly higher in 2016 than in 2013.

5.1.3 Satisfaction among Employer Groups, 2016

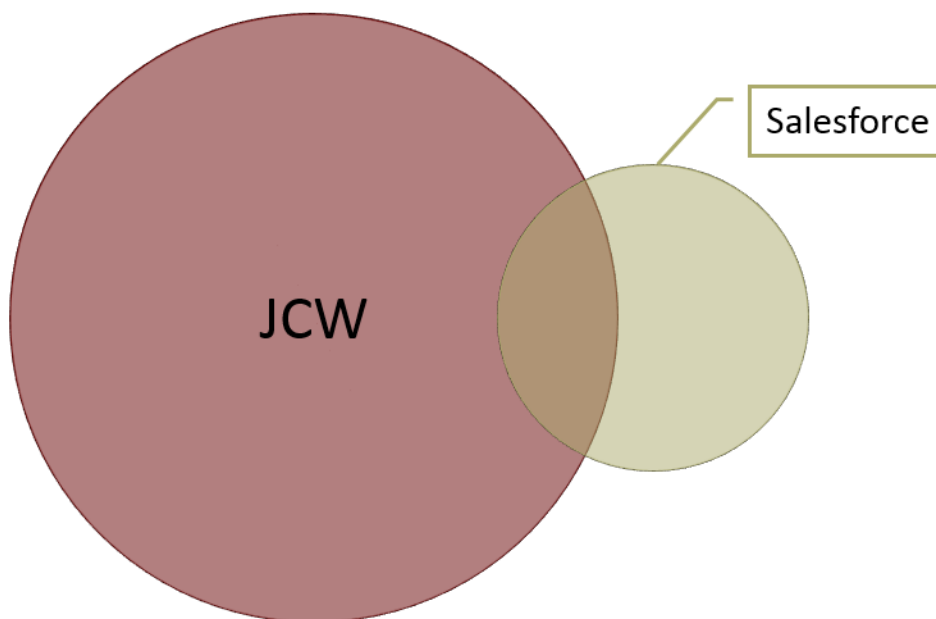
As noted, the 2016 survey was administered to employers identified from two sources: (1) employers with open job orders on JCW that met the same criteria as used in the 2013 and 2015 waves, and (2) employers identified from the Salesforce system implemented by *Skills Wisconsin*. The reason for augmenting the 2016 survey was to understand how sentiment among employers more directly affected by *Skills Wisconsin* compared to sentiment among the broader group of employers who had posted job orders on JCW (many of which may have had no other contact

with the workforce system aside from logging into JCW to post a job order). When reviewing the results of the 2015 wave of the employer survey, representatives of the WWDA noted that the JCW-based survey might not reflect how the grant had affected employers. The group was interested in using the survey to look at how employers that were more directly affected by *Skills Wisconsin* felt about the workforce system.

Because the goals of *Skills Wisconsin* were expressed in terms of improving how the state workforce system serves businesses in general, our primary analyses (described in Section 4.1.2) focus on trends in employer satisfaction over time using the JCW survey sample. However, we agreed with the *Skills Wisconsin* leadership team that augmenting the final wave of the survey to include employers from Salesforce would enhance the outcomes study. Moreover, to do so required little additional effort. To enhance the 2016 wave of the survey, we worked with the *Skills Wisconsin* project director to gather data on employers in Salesforce that we could incorporate into the survey sample.

Sample Design. The sample for the 2016 wave of the employer survey was comprised of three types of employers: (1) those that had open job orders on JCW but were not identified in Salesforce, (2) those that appeared in Salesforce but did not have open job orders on JCW, and (3) those that both had open job orders on JCW and were identified in Salesforce. Exhibit 38 provides a graphic representation of the data sources.

Exhibit 38: 2016 Survey Wave Sampling Data Sources



Because there were relatively few employers from Salesforce, we chose to sample all Salesforce employers. For employers from JCW, we selected a stratified (by WDA) random sample of

employers. It is most informative to consider each of the three groups as a separate sampling frame. Exhibit 39 summarizes the sample sizes and response rates for the three groups.²⁹

Exhibit 39: Sampling and Response Rates by Data Source, 2016 Wave

Data Source	Sampling Frame	Sample	Responses	Response Rate
JCW Only	5,715	4,422	894	20.2%
Salesforce Only	1,287	1,287	323	25.1%
Both JCW and Salesforce	184	184	61	33.2%

Although the JCW-only group was the largest group in absolute magnitude, it is interesting to note that response rates were higher among surveyed employers that were also in Salesforce. In fact, the response rate for employers that appeared in both data sources (33 percent) was 13 percentage points higher than the rate for employers not in Salesforce. Appendix E presents a series of tables comparing respondents to non-respondents for each of the three data sources.

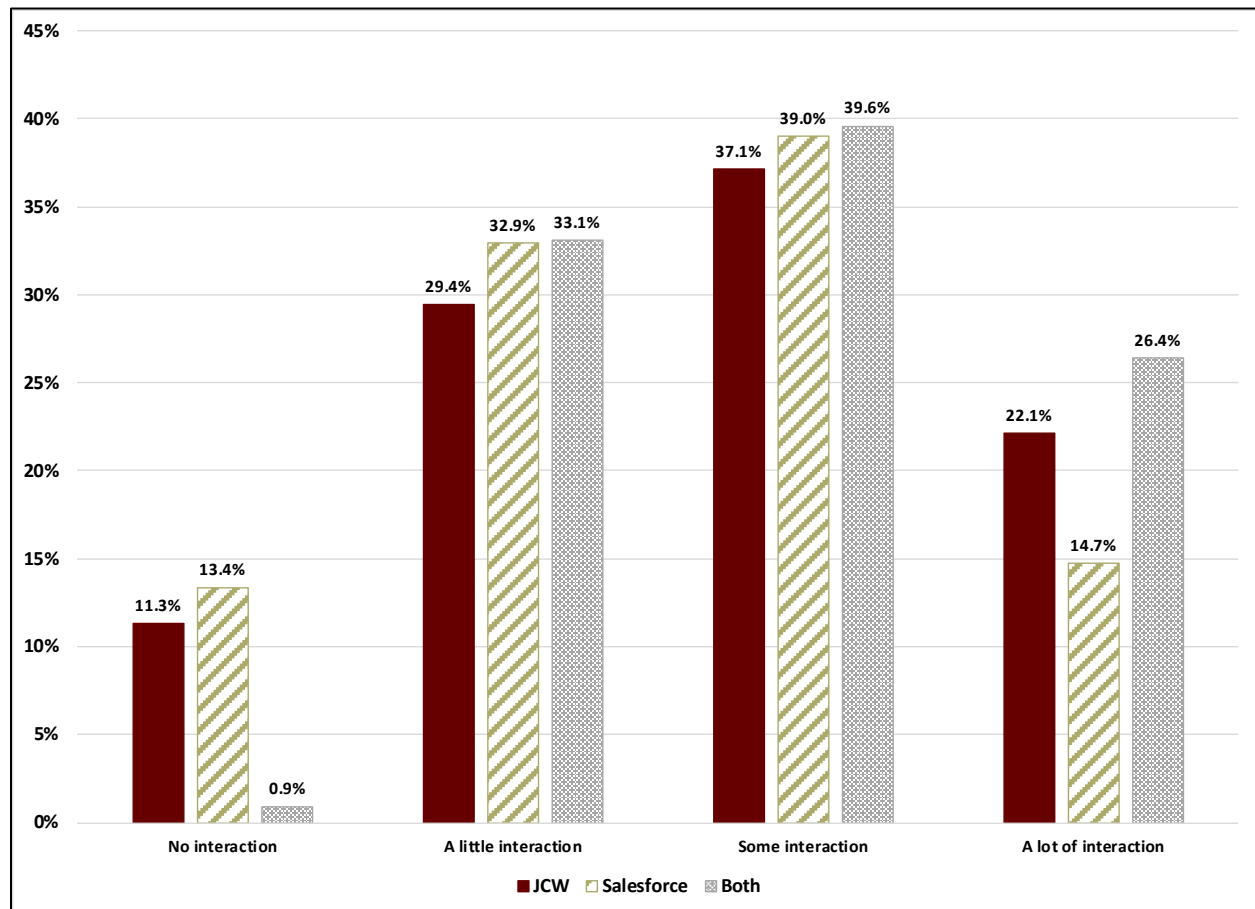
Tabulations of responses to all employer survey questions from all three groups of employers (i.e., by data source) are presented in Appendix F. Using data from the 2016 wave of the survey, we examined the same measures presented in Section 4.1.2.³⁰

²⁹ The results presented in Section 4.1.2 were representative of employers with open job orders on JCW. Though Exhibit 39 shows a total of 4,606 employers had open job orders in 2016 (of which 184 were also identified in Salesforce), the results in Section 4.1.2 show a sample size of only 4,564. This is because we did not include all of the 184 joint JCW/Salesforce employers in those analyses. Rather, we randomly selected 142 of the 184 to use, so that the sampling proportion was uniform for all employers with open job orders in JCW (i.e., the analysis sample included $4,422/5,715 = 0.77375$ of the JCW-only employers and $0.77375 * 184 \cong 142$ employers that were in both JCW and Salesforce).

³⁰ All tabulations presented in this section incorporate non-response weights derived from the same process described in footnote 22. Separate weights were calculated for employers from each data source.

Interaction with the Workforce System. Exhibit 40 summarizes employer interaction with the workforce system among the three employer data sources.

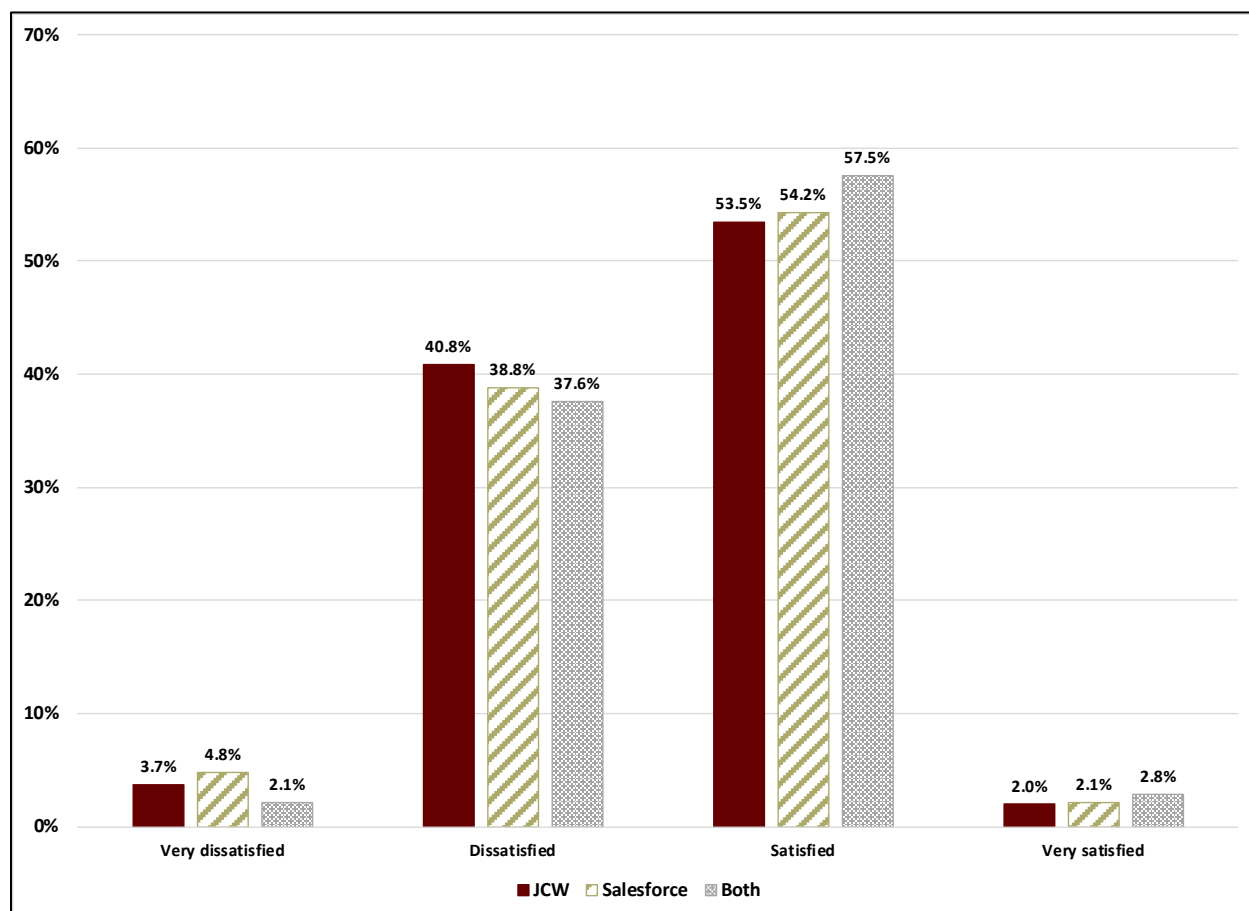
Exhibit 40: Employer Interaction with the Workforce System by Data Source, 2016 Wave



The most striking pattern among the response data is that employers that both had an open job order on JCW and were in the Salesforce database reported much higher levels of interaction with the workforce system. Over one-quarter of such employers reported having a lot of interaction with the workforce system, compared to 22 percent of employers in the JCW-only group. Moreover, less than one percent of employers in the Salesforce group reported having had no interaction with the workforce system, compared to 11 percent of employers not in Salesforce.

Ability to Provide Skilled Workers. Exhibit 41 presents the response data for the survey question asking about employers' satisfaction with the ability of the workforce system to provide skilled workers.

Exhibit 41: Employer Satisfaction with Ability of Workforce System to Provide Skilled Workers by Data Source, 2016 Wave

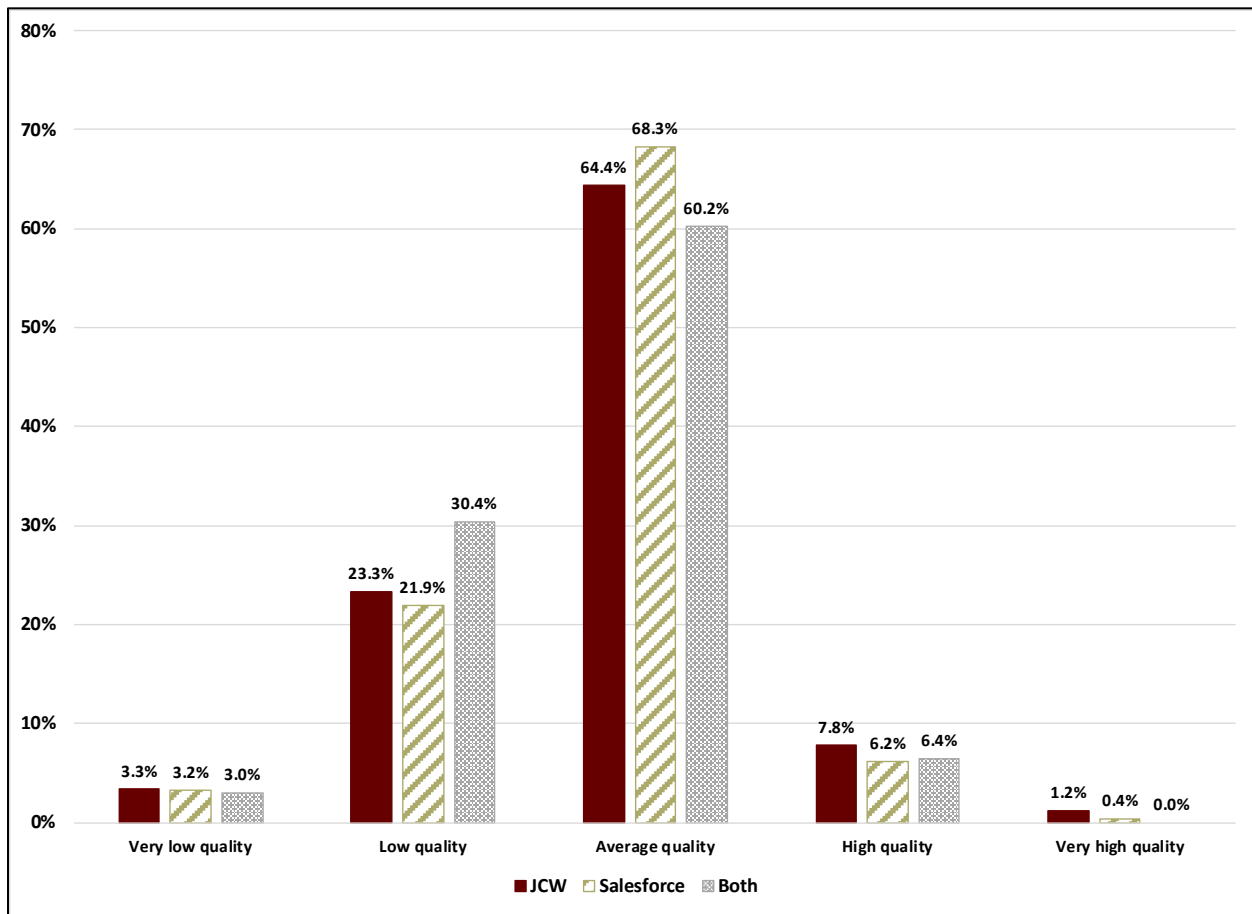


Mirroring the comparison of the three survey waves, most employers reported being satisfied with the ability of the workforce system to provide skilled workers. Between 55 percent and 60 percent of employers reported being either satisfied or very satisfied; 40 percent to 45 percent reported being dissatisfied or very dissatisfied.

There are some differences in employer satisfaction across the data sources, but the differences are not great. Employers with records in both data sources were more satisfied with the ability of the workforce system to provide skilled workers than employers in the other two groups. For example, 57 percent of such employers said they were satisfied in this regard, compared to 54 percent of JCW-only employers. Employers in the Salesforce-only group had slightly more negative views than the other employers—with 5 percent of this group reporting being very dissatisfied with the ability of the workforce system to provide skilled workers, compared to less than 4 percent for either of the two other groups.

Perceptions of Jobseeker Quality. Exhibit 42 shows how employers feel about the quality of jobseekers referred by the workforce system.

Exhibit 42: Employer Perceptions of Jobseeker Quality by Data Source, 2016 Wave

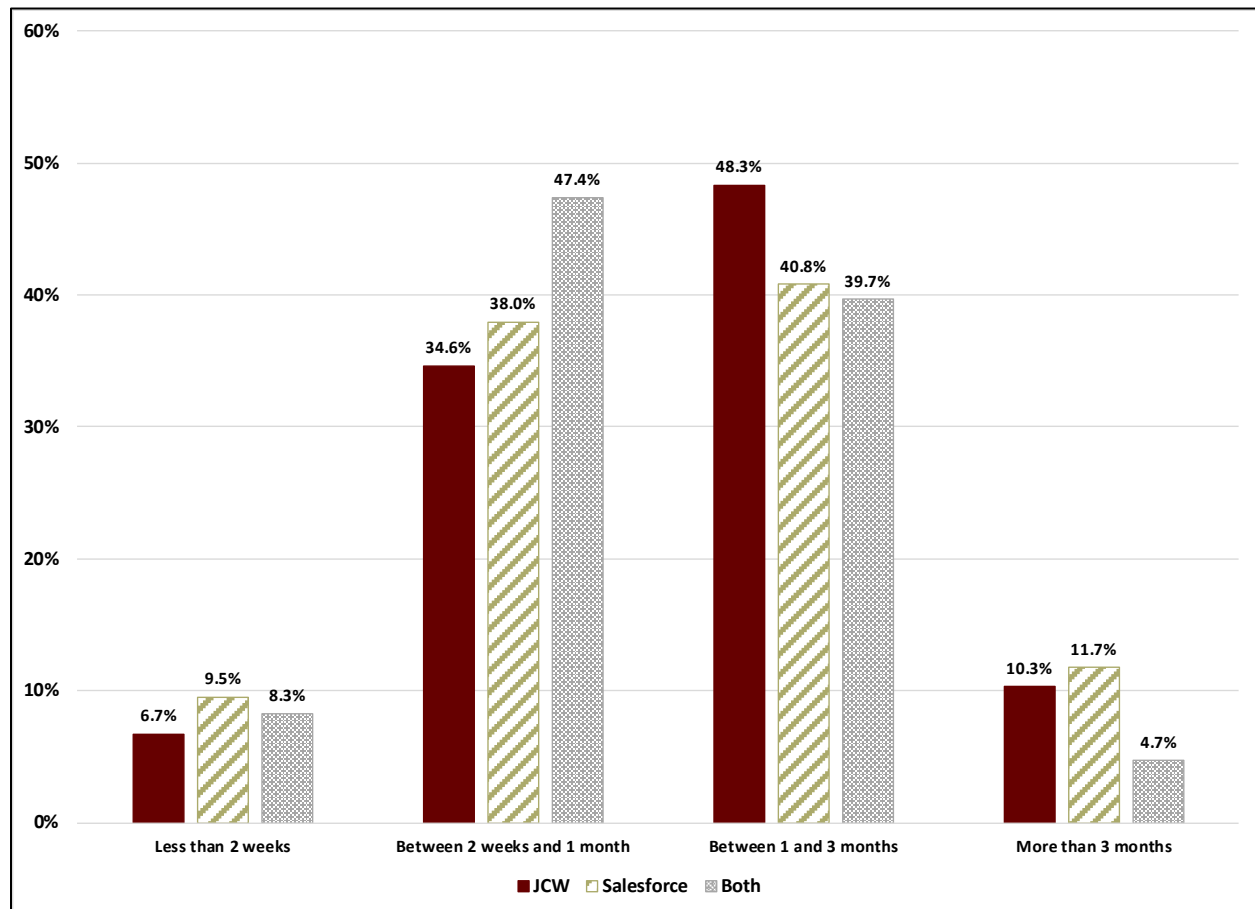


There is no clear relationship between employer perceptions of jobseeker quality and whether the employer was in Salesforce. A slightly higher proportion (68 percent) of employers that were in Salesforce but did not have open job orders on JCW rated jobseekers referred by the workforce system as average quality, compared to JCW-only employers and employers in both systems (60-64 percent). Interestingly, a larger share of employers that were both in Salesforce and in JCW rated jobseekers as low quality (30 percent) than employers in the other two groups (22-23 percent). Employers in the JCW-only group were the only ones to give jobseekers the highest quality rating, but very few even of this group (1 percent) did so.

Experiences with the Time Needed to Fill Job Openings. Exhibit 43 summarizes, for the 2016 wave, employer experiences with the time it takes to fill job openings when working with the workforce system. Comparing the results by data source reveals employers in Salesforce filling job openings substantially faster than the non-Salesforce (i.e., JCW-only) employers. Of the JCW group, for example, 59 percent took *longer than one month* on average to fill job openings, compared with 53 percent for Salesforce-only and 44 percent for the group in both. This pattern, as should be expected, is opposite to the distribution of employers taking *one month or less* on average to fill job openings—with only 41 percent of the JCW group averaging less than one

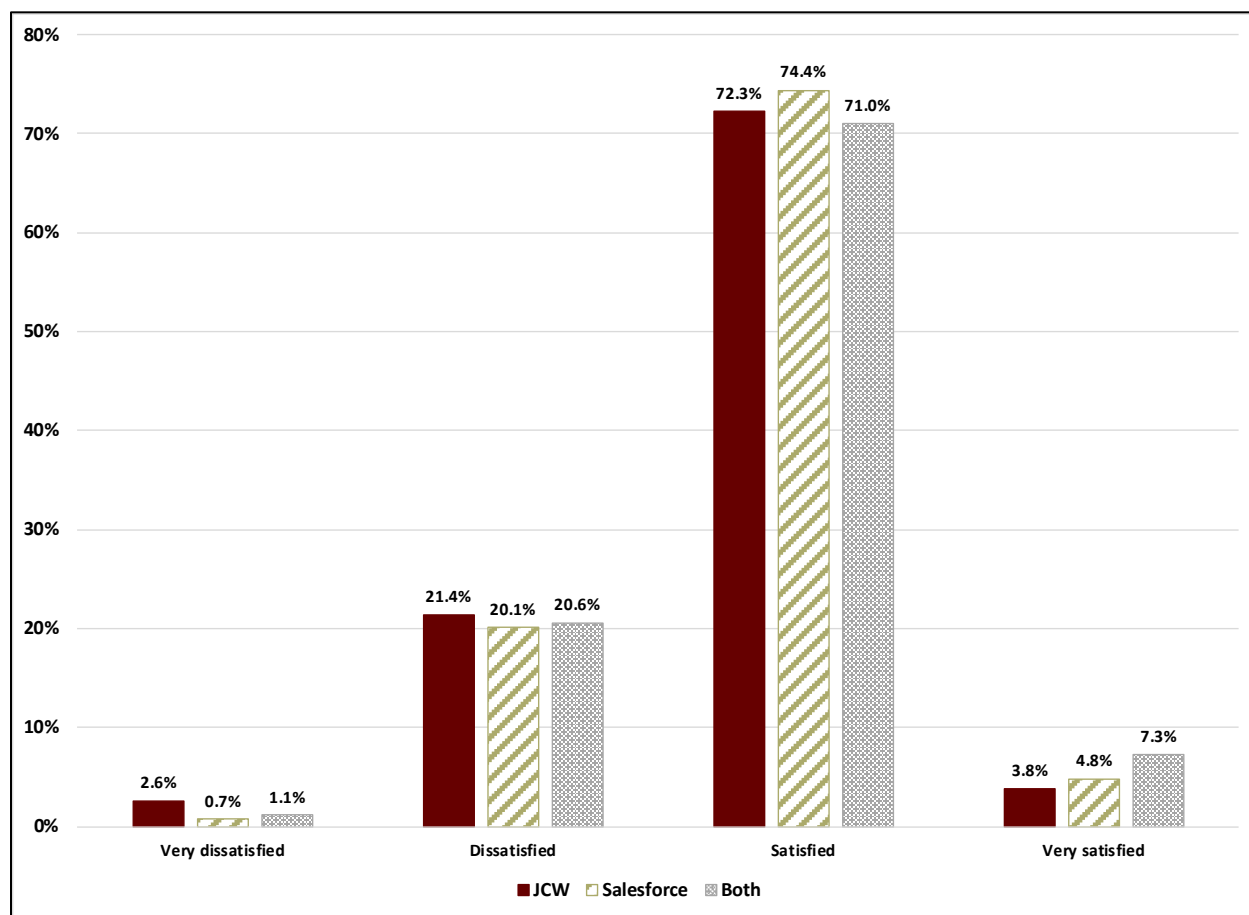
month, compared with 48 percent of the Salesforce-only group and 56 percent for the group in both.

Exhibit 43: Employer Experiences with Time to Fill Job Openings by Data Source, 2016 Wave



Satisfaction with Services Received from the Workforce System. Exhibit 44 presents employer satisfaction with services received from the workforce system for the same three groups of employers.

Exhibit 44: Employer Satisfaction with Services Received by Data Source, 2016 Wave

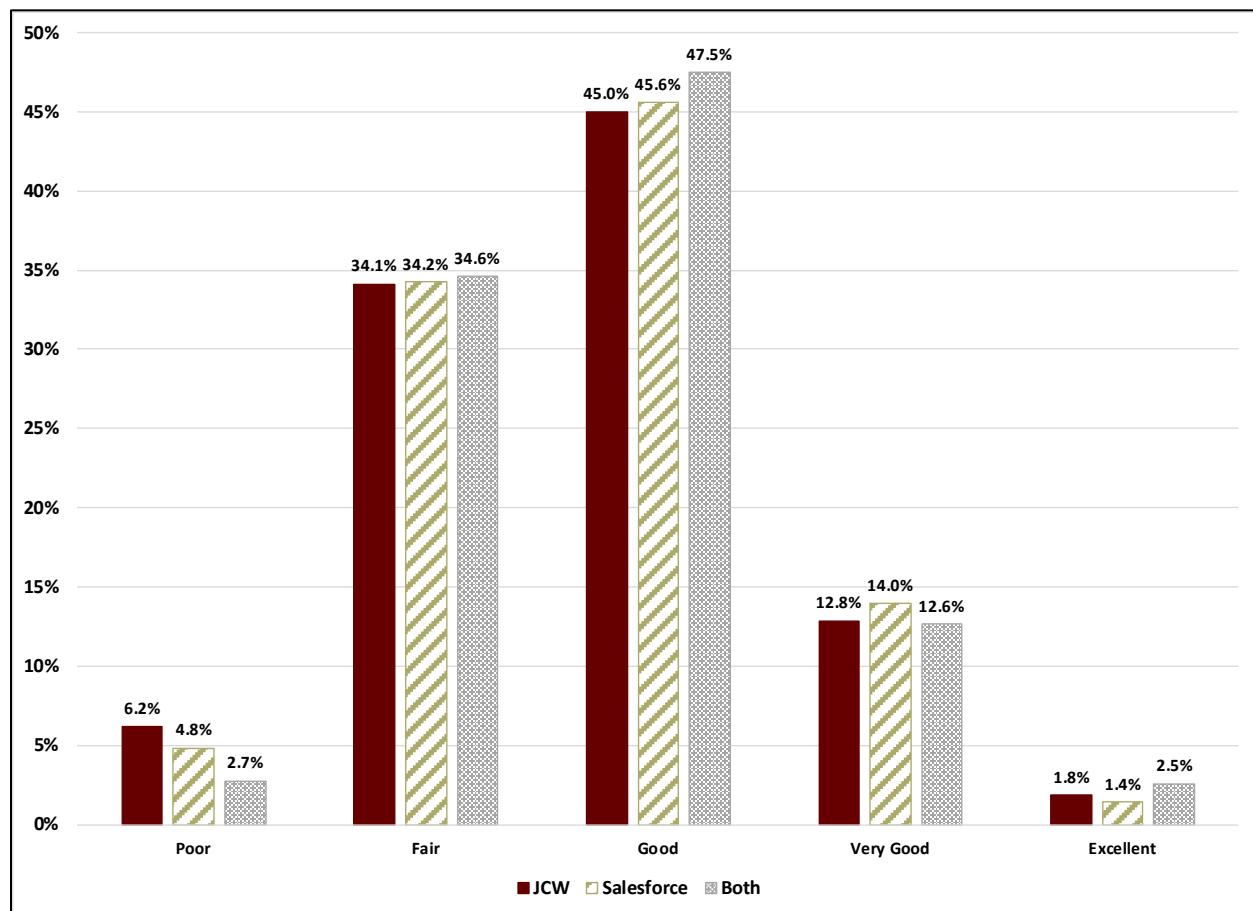


Employers in Salesforce were generally more satisfied with the services they had received from the workforce system than employers that were not. Seven percent of employers in both systems reported being very satisfied with services received, compared to 5 percent of employers in Salesforce, and less than 4 percent of JCW-only employers.

Combining the ratings of satisfied and very satisfied yields differences across the three groups that are less pronounced. Among JCW-only employers, 76 percent reported being either satisfied or very satisfied with the services they received from the workforce system. For employers in Salesforce but not JCW, the corresponding proportion was 79 percent; for employers in both systems, it was virtually the same (78 percent).

Rating of Service to Businesses. Exhibit 45 summarizes the responses of employers when asked to rate how well Wisconsin's workforce system serves businesses in the state.

**Exhibit 45: Employer Ratings of How Well the Workforce System Serves Businesses
by Data Source, 2016 Wave**



Consistent with the data on employer satisfaction with services received, the data on ratings of how well the workforce system serves businesses show that employers in Salesforce reported slightly more positive ratings for the workforce system than those not in JCW. Among JCW-only employers, 45 percent gave the workforce system a rating of good, 40 percent as lower than good (i.e., fair or poor), and 15 percent as higher than good (i.e., very good or excellent). The pattern was similar for employers in Salesforce but not JCW—with 46 percent rating the system as good, 39 percent as lower than good, and 15 percent as higher than good. Employers in both systems were slightly more positive—with 48 percent rating the system as good, 37 percent as lower than good, and 15 percent as higher than good.

Combined with the results for other survey questions, the results on employer ratings of how well Wisconsin's workforce system serves businesses reinforce the pattern of employers with documented activities in Salesforce feeling slightly more positive about the workforce system than those not in the Salesforce system.

5.2 Skills Wisconsin Performance and Cost

5.2.1 Performance

The intent of *Skills Wisconsin* was to foster greater communication and collaboration among the different organizations constituting the state workforce system, so the system would better serve businesses in the state. Early in the grant period, *Skills Wisconsin* leadership worked with IMPAQ and DOL to identify quantitative performance measures to track over time. Moreover, the *Skills Wisconsin* team identified a performance target for each measure as a program goal. These nine measures, which were developed to capture important outputs associated with each of the three components of the grant, are:

- Number of businesses served
- Number of staff trained in the demand-driven model
- Number of completed employer profiles entered into Salesforce
- Number of new training curricula created
- Number of industry partnerships created or enhanced
- Number of jobseekers trained
- Number of jobseekers served
- Number of hires due to enhanced relationships
- Number of times Salesforce is accessed

Exhibit 46 summarizes the performance of *Skills Wisconsin* in terms of these nine performance measures. For example, the first row shows that for the first performance outcome measure—number of businesses served—*Skills Wisconsin* had a goal of serving 5,500 businesses. Through Q2 2016, the program had served over 87,000 employers—more than 15 times the number needed to meet the performance goal.

Exhibit 46: Summary of *Skills Wisconsin* Performance Outcomes

Measure	Goal	Total	Performance
Number of businesses served	5,500	87,069	1583%
Number of staff trained in the demand-driven model	110	200	182%
Number of employer profiles	5,500	44,151	803%
Number of new training curricula created	20	20	100%
Number of industry partnerships	40	40	100%
Number of jobseekers trained	220	823	374%
Number of jobseekers served	7,000	12,455	178%
Number of hires due to enhanced relationships	1,000	1,843	184%
Number of times Salesforce is accessed	66,000	265,159	402%

Source: *Skills Wisconsin* quarterly progress reports to DOL.

Overall, *Skills Wisconsin* was a tremendous success in terms of its formal performance outcomes. The program met or exceeded its performance goal for all of the nine outcome measures.

In many cases, *Skills Wisconsin* surpassed its performance goals many times over. For instance, as the top row of Exhibit 46 shows, the program served nearly 16 times as many employers as needed to achieve its performance objective. In general, *Skills Wisconsin* performed best on outcomes related to entering information into or using Salesforce. For instance, over 44,000 complete employer profiles were entered into the system, over 8 times the performance goal of 5,500. Likewise, Salesforce was accessed over 265,000 times, about 4 times the target of 66,000.

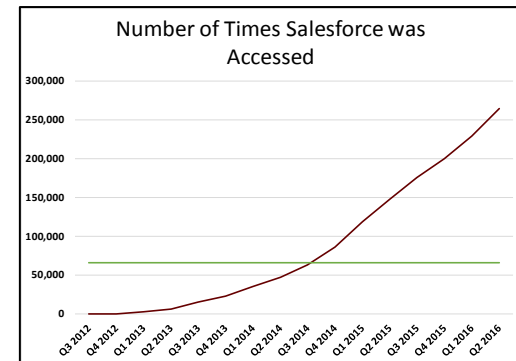
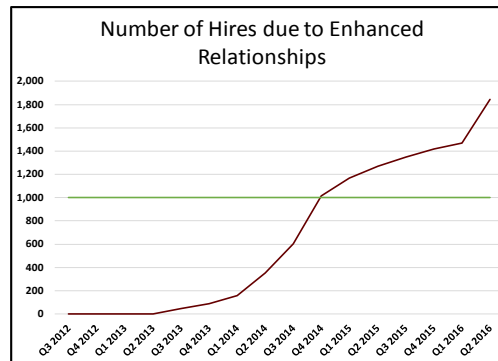
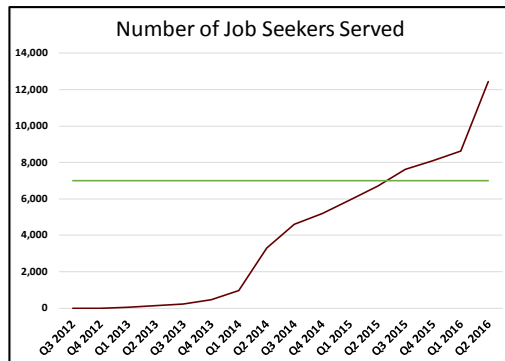
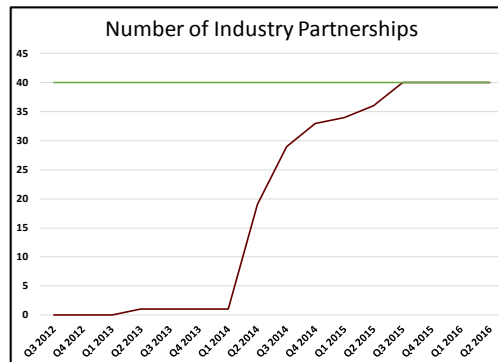
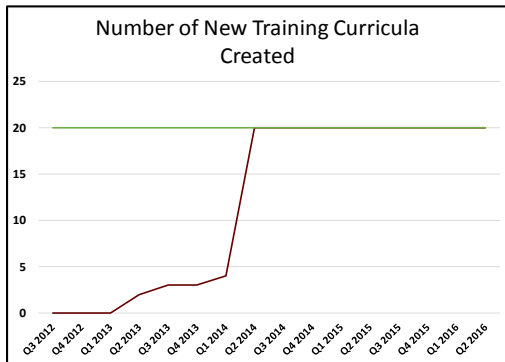
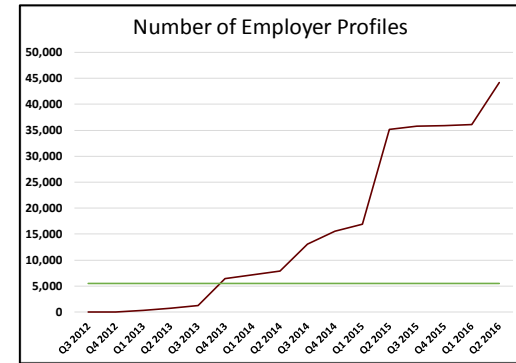
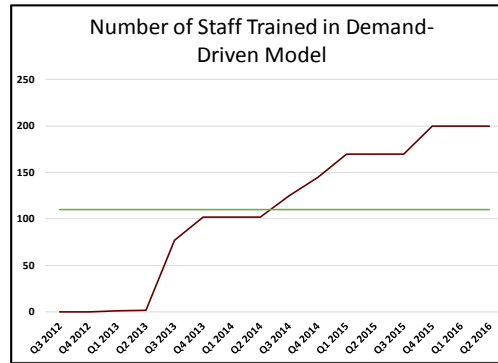
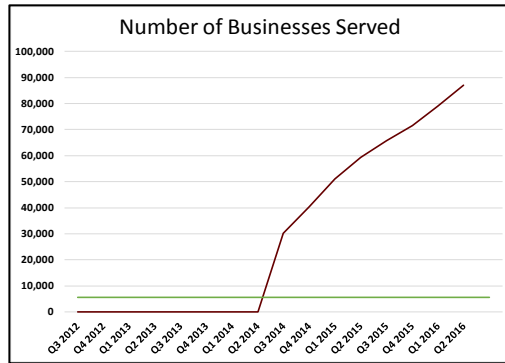
Exhibit 47 shows the cumulative progression of the nine performance outcome measures over the grant period (through Q2 2016). In each chart, the burgundy line shows the cumulative total over time; the green line represents the associated performance target. We note the following patterns revealed in the performance outcome charts:

- **It took time for *Skills Wisconsin* to begin making progress toward its performance goals.** For most outcomes, the first one to two years of the grant period showed little or no movement toward achieving the performance goals. This is not surprising. After award, the grant management team was initially focused on start-up activities and planning for implementation. Moreover, Salesforce was not implemented fully among all 11 WDAs until near the end of Grant Year 1.
- **Progress accelerated in late 2013 and early 2014.** For several outcomes, the pace of growth increased sharply near the end of 2013 and the beginning of 2014. For instance, prior to Q4 2013, the number of employer profiles in Salesforce (the panel in the top right-hand corner of Exhibit 47) was fairly low. However, in Q3 2013 the program surpassed its performance target of 5,000, and the number of profiles increased steadily through Q2 2016. A similar pattern holds for other outcomes as well.

- ***Skills Wisconsin* had achieved many of its performance goals by the midpoint of the grant period.** Among the nine outcomes, most of the performance goals were met between Q1 2014 and Q3 2014.

The performance outcome data reported in Exhibits 44 and 45 summarize the overall performance of *Skills Wisconsin* across all 11 WDAs. As discussed in Chapter 3, not all WDAs embraced the components of *Skills Wisconsin* with the same degree of enthusiasm. Though the grant program was able to successfully meet its performance targets, *Skills Wisconsin* management staff noted that contributions to the performance outcomes was uneven across WDAs. To the extent that some WDAs could have made additional contributions, the program could have achieved even greater success had those WDAs been more engaged throughout the grant period.

Exhibit 47: Skills Wisconsin Performance Outcomes, 2012- 2016



To complement the *Skills Wisconsin* performance measures, we also gathered publicly available data on labor market outcomes for jobseekers who received services from the state workforce system during the grant period. These data tell us about how Wisconsin’s workforce system performed over time. While we cannot attribute causality to any patterns, they are useful in enhancing our understanding of how the state workforce system operated during the grant period. We focus on the Adult and Dislocated Worker programs, because the jobseekers in these programs represent the populations most likely to have benefited from *Skills Wisconsin*.

Exhibit 48 summarizes several workforce system performance measures for DOL-funded programs aimed at jobseekers, including the total number of adult participants served, the number of program exiters who entered employment, and the proportion of exiters who entered employment. The data are presented by program year (PY), which runs from July of the corresponding calendar year (CY) to June of the following CY. For example, the first row of the table shows that Wisconsin’s workforce system served 298,887 adult participants (i.e., participants in either the Adult or Dislocated Worker programs) during PY 2014.³¹ For reference, the bottom two rows of the exhibit show the national and state annual unemployment rates for each CY.

Exhibit 48: Adult and Dislocated Worker Participation and Outcomes, 2011-2014

	2011	2012	2013	2014
Total Adult Participants Served (PY) ^a	17,686	338,453	347,221	298,887
Number Entering Employment (PY) ^b				
Adult	1,279	1,240	1,368	1,110
Dislocated Worker	4,091	3,500	3,107	2,527
Entered Employment Rate (PY) ^b				
Adult	69.5	76.9	77.6	78.8
Dislocated Worker	83.9	84.2	84.3	83.4
Unemployment Rate (CY) ^c				
United States	8.9	8.1	7.4	6.2
Wisconsin	7.8	7.0	6.7	5.4

Source: DWD Annual Reports, Program Years 2011-2014.

Notes: ^a Figures taken from Table M of the corresponding annual reports. ^b Figures taken from Tables B (Adult) and E (Dislocated Worker) of the corresponding annual reports. ^c National figures taken from the Bureau of Labor Statistics (BLS) Current Population Survey and representing non-seasonally adjusted annual averages. State figures taken from the BLS Local Area Unemployment Statistics series.

The performance measures summarized in Exhibit 48 show generally consistent performance. The workforce system served roughly the same number of participants in PY 2012 and PY 2013. The number declined by 14 percent between PY 2013 and PY 2014—a trend driven in large part by changes in the number of participants in the Dislocated Worker program, which steadily

³¹ The large increase in the number of total participants served from PY 2011 to PY 2012 is due to a change in DOL guidance regarding which activities should be counted for identifying workforce program participants.

decreased over time. One potential explanation for these trends is decreased demand for services. The bottom two rows of the exhibit show that unemployment both nationwide and in Wisconsin progressively decreased. The improving economy may have reduced the number of jobseekers turning to the workforce system for assistance.

The proportion of program exiters entering employment steadily increased for participants in the Adult program. In PY 2011, slightly less than 70 percent of program exiters entered employment. By PY 2014, nearly 79 percent did so—an increase of 13 percent. In contrast, the entered employment rate for the Dislocated Worker program was consistently near 84 percent.

Because *Skills Wisconsin* was intended to improve the operation of the state workforce system, outcomes for jobseekers receiving services through the Adult or Dislocated Worker programs are reasonable measures to consider in understanding what the program achieved. Though we cannot isolate the causal role *Skills Wisconsin* played in any of the observed changes, it is nonetheless informative to note that the performance of the workforce system as captured by DOL-mandated quantitative measures shows both consistent performance over the grant period and a positive trend for the Adult program.

5.2.2 Cost

Exhibit 49 summarizes *Skills Wisconsin* expenditures over the grant period. Costs are summarized by Grant Year (which aligns with the corresponding PY). Grant expenditures are grouped into four major categories: (1) WDB allocations, (2) partner allocations, (3) grant administration and management, and (4) contracts. The first row of Exhibit 49 shows total program expenditures by Grant Year. Expenditures were highest in 2013, when the WDAs began implementing Salesforce. Few expenditures will occur in Grant Year 5, which covers July 2016 to December 2016.

Expenditures by Category. Of the total \$6 million award to support *Skills Wisconsin*, the state's WDBs received the majority of program funds—nearly \$2.5 million (41 percent) of which was spent by the WDBs. This funding supported WDB operations in support of all three program components. In particular, the funding paid for staff time involved in implementing and using Salesforce, attending Salesforce training sessions, participating in demand-driven training, and attending annual Collabor8 summits, among other activities.

Partner organizations—WEDC and WTCS—spent a total of \$526,935 (9 percent of the grant total) in support of *Skills Wisconsin*. The large majority of this was incurred by WEDC, which used this funding to support implementation of Salesforce and to help integrate it into the platform used by the WDBs. WTCS used its grant funding to support *Skills Wisconsin* efforts to develop and implement new training curricula to be part of new or existing career pathways. WTCS ultimately used few grant funds, because its colleges received significant funding under DOL's TAACCCT

Exhibit 49: Skills Wisconsin Expenditures, by Grant Year

	Total	Grant Year				
		1 (2011-2012)	2 (2012-2013)	3 (2013-2014)	4 (2014-2015)	5 (2015-2016)
Total Expenditures	\$6,000,000*	\$1,117,510	\$1,945,957	\$1,679,773	\$901,816	\$354,944
WDB Allocations	\$2,473,894*	\$481,324	\$824,483	\$972,913	\$195,174	-
WDA 1 (Southeast)	\$239,498	\$63,201	\$79,389	\$72,968	\$23,940	-
WDA 2 (Milwaukee)	\$221,121	\$45,694	\$75,440	\$99,987	-	-
WDA 3 (WOW)	\$212,076	\$31,246	\$85,414	\$66,589	\$28,826	-
WDA 4 (Fox Valley)	\$192,630	\$19,617	\$59,186	\$101,611	\$12,216	-
WDA 5 (Bay Area)	\$214,541	\$34,325	\$64,875	\$111,152	\$4,189	-
WDA 6 (North Central)	\$236,219	\$50,210	\$72,303	\$84,755	\$28,860	-
WDA 7 (Northwest)	\$222,804	\$41,170	\$74,469	\$69,922	\$37,243	-
WDA 8 (West Central)	\$248,088	\$60,695	\$72,525	\$114,869	-	-
WDA 9 (Western)	\$202,128	\$22,110	\$91,911	\$69,772	\$18,334	-
WDA 10 (South Central)	\$234,879*	\$43,054	\$68,970	\$87,052	\$17,317	-
WDA 11 (Southwest)	\$250,000	\$70,000	\$80,000	\$94,238	\$5,762	-
Partner Allocations	\$526,935	\$40,211	\$325,661	\$153,063	\$8,000	-
WEDC	\$490,740	\$37,886	\$325,661	\$119,193	\$8,000	-
WTCS	\$36,195	\$2,325	-	\$33,870	-	-
Grant Administration and Management	\$645,473	\$144,965	\$182,952	\$185,001	\$132,554	-
WDA 10 (South Central)	\$645,473	\$144,965	\$182,952	\$185,001	\$132,554	-
Subcontracts	\$2,353,699*	\$451,010	\$612,860	\$368,796	\$584,573	\$336,458*
IMPAQ	\$1,164,988*	\$301,911	\$232,033	\$164,369	\$253,103	\$213,571*
Launchpad	\$851,393*	\$111,745	\$327,210	\$147,946	\$210,239	\$54,253*
Thomas P. Miller & Associates	\$37,904	-	-	-	\$37,904	-
WWDA	\$299,414*	\$37,354	\$53,617	\$56,482	\$83,327	\$68,634*

Source: Skills Wisconsin program administrative data as of September 20, 2016.

Notes: Totals may not sum appropriately due to rounding. * Includes anticipated expenditures through the end of the grant period of performance (December 2016).

grant program. Because the TAACCCT funding was intended to support similar career pathways and curriculum development initiatives within WTCS, grant funding originally planned for WTCS was instead distributed to the WDBs to support their work to enhance and develop IPs.

Sixteen percent of grant funding (\$944,886) was used to support grant administration and management. This included additional support for the South Central WDB—which, as the lead WDB, was responsible for both financial oversight and regular reporting to DOL.

Subcontracts accounted for the next highest proportion of grant expenditures. By the time the grant ends, *Skills Wisconsin* will have spent \$2.054 million on subcontracts. The largest was the nearly \$1.2 million subcontract with IMPAQ to conduct the third-party evaluation required of all WIF grantees. Grant funding was also used to purchase licenses, system development, and support for the Salesforce system from Launchpad (formerly Workforce 2.0) at a cost of \$851,393. In addition to these two major multi-year subcontracts, a small subcontract was awarded to Thomas P. Miller and Associates, which designed a demand-driven training program for business services staff. This funding category also included some funding for the WWDA. During the grant period, *Skills Wisconsin* was a regular topic of discussion and action at monthly WWDA meetings.

Salesforce-related Expenditures. Implementing Salesforce as a way to improve collaboration and communication in the workforce system was the single most important component of *Skills Wisconsin*. Unfortunately, we are unable to precisely measure total grant expenditures related to Salesforce implementation. One reason for this is that it proved infeasible to gather specific information from the WDBs regarding the costs associated with the time their staff spent in Salesforce training, or in other activities directly related to implementation of the platform. Moreover, some WDBs used grant funding to purchase additional Salesforce licenses from Launchpad, but we do not have detailed data on such expenditures.

Despite the challenges in precisely determining Salesforce-related costs, we can nevertheless derive a reasonable approximation to them. The *Skills Wisconsin* Project Director estimated that roughly 25 percent of each WDB sub-grant was likely devoted to training staff in the use of Salesforce, and to purchase additional licenses or other Salesforce-related activities. In addition, the full values of both the allocation to WEDC and the Launchpad subcontract are Salesforce-related costs. Under the assumption that 25 percent of total WDB expenditures was related to Salesforce, Exhibit 50 presents our estimate of *Skills Wisconsin* expenditures associated with Salesforce, by Grant Year.

Exhibit 50: Estimated Salesforce-related Expenditures, by Grant Year

Grant Year	Estimated WDB Allocation	WEDC	Launchpad	Total
1	\$120,331	\$37,886	\$111,745	\$269,962
2	\$206,121	\$325,661	\$327,210	\$723,992
3	\$243,229	\$119,193	\$147,946	\$510,368
4	\$48,794	\$8,000	\$210,239	\$267,033
5	-	-	\$24,253	\$24,253
Total	\$618,475	\$490,740	\$821,393	\$1,795,608

Source: *Skills Wisconsin* program administrative data as of September 20, 2016.

Note: WDB allocation expenditures are estimated as 25 percent of total WDB expenditures, an approximate proportion provided by *Skills Wisconsin* management.

Overall, we estimate that *Skills Wisconsin* spent roughly \$1.8 million of grant funds (30 percent) on the implementation and use of Salesforce. Most of that total was spent through the subcontract with Launchpad—which provided all user licenses, supported implementation of Salesforce among the WDBs, provided training on its use, and was available for ad-hoc support and problem solving.

Expenditures per Business/Jobseeker Served. One way to put the cost of *Skills Wisconsin* into perspective is to calculate the cost of the program *per outcome achieved*. For *Skills Wisconsin*, the two groups targeted by the program’s improvements to the workforce system were businesses and jobseekers. The number of businesses served and the number of jobseekers served through *Skills Wisconsin* thus represent the most relevant outcomes for which to assess costs per outcome.

Exhibit 51 presents *Skills Wisconsin* expenditures per business served and per jobseeker served. The exhibit summarizes these calculations using both total grant expenditures and total Salesforce-related expenditures (from Exhibit 50), along with the total number of businesses and jobseekers served (from Exhibit 46). For reference, the bottom portion of Exhibit 51 shows the cost per participant associated with the WIA Adult and Dislocated Worker programs during the grant period.

Exhibit 51: *Skills Wisconsin* Expenditures per Business/Jobseeker Served

	Program Year				
	2011	2012	2013	2014	2016
Skills Wisconsin					
Expenditures					
Total Expenditures	\$6,000,000				
Salesforce-related Expenditures	\$1,795,608				
Outcomes					
Number of Businesses Served	87,069				
Number of Jobseekers Served	12,455				
Expenditures per Outcome					
Total Expenditures per Business Served	\$69				
Salesforce-related Expenditures per Business Served	\$21				
Total Expenditures per Jobseeker Served	\$481				
Salesforce-related Expenditures per Jobseeker Served	\$144				
WIA Adult and Dislocated Worker Programs					
Total Adult Participants Served ^a	17,686	338,453	347,221	298,887	-
Cost Per Participant ^b					
Adult	\$1,616	\$979	\$1,736	\$1,814	-
Dislocated Worker	\$825	\$877	\$1,061	\$1,481	-

Source: Skills Wisconsin administrative data and DWD Annual Reports, Program Years 2011-2014.

Notes: ^a Figures taken from Table M of the corresponding annual reports. ^b Figures taken from Cost Effectiveness summary tables of the corresponding annual reports.

In total, *Skills Wisconsin* cost \$69 per business served by the grant and \$481 per jobseeker served. Note that these figures include many expenditures not directly related to system improvements aimed at businesses or jobseekers, such as the cost of the third-party evaluation and the costs associated with managing the grant. Focusing only on the estimated Salesforce-related costs indicates that the implementation and use of Salesforce cost \$21 per business served and \$144 per jobseeker served.

Whether considering the grant in total, or the implementation of Salesforce in isolation, *Skills Wisconsin* represents a low-cost program as measured by the cost per outcome. Because the grant was primarily focused on improving the way the workforce system serves businesses, the cost per business served is likely more meaningful than the cost per jobseeker served. In fact, comparing the cost per jobseeker served to the per-participant costs of the Adult and Dislocated Worker programs makes clear how different the *Skills Wisconsin* program was from traditional programs aimed at supporting jobseekers.

It is important to note that all the jobseekers (and businesses) served by *Skills Wisconsin* were concurrently being served by the existing workforce system through WIA/WIOA-funded and other programs. The best way to consider the changes implemented via *Skills Wisconsin* is as a way of enhancing the effectiveness existing workforce programs. Therefore, the comparatively low cost per jobseeker served for *Skills Wisconsin* should not be interpreted as suggesting that *Skills Wisconsin* represents a low-cost alternative to the existing WIA Adult and Dislocated Worker programs. Instead, the investment in *Skills Wisconsin* should be thought of as a relatively low-cost incremental investment to support existing workforce programs by better serving employers.

In our judgment, the low cost per business served of implementing Salesforce, combined with the more positive employer satisfaction results for employers that were in both JCW and Salesforce, suggests that adopting a CRM tool like Salesforce may be a cost-effective way for states to improve the way their workforce systems serve businesses.

5.3 Summary

The goal of the outcomes analysis was to document and analyze how key quantitative outcome measures changed during the *Skills Wisconsin* grant period. Unlike the impact evaluation, our aim was not to interpret any changes as the direct result of the grant. Instead, the focus was on understanding whether changes in these measures suggest that *Skills Wisconsin* had its intended outcomes.

Employer Satisfaction with the Workforce System. Based on the results of three waves of IMPAQ's employer survey, we find no evidence that employer opinions of the workforce system changed in a meaningful way. Our review of employer responses to questions about the ability of the workforce system to provide skilled workers, the quality of jobseekers referred by the workforce system, the time it takes to fill job openings, satisfaction with services received, and how well the workforce system serves businesses show virtually no changes between 2013 and 2016. Two minor exceptions stand out. First, the survey data suggest that it took longer for employers to fill job openings when working with the workforce system in 2016 than in 2013. Second, the proportion of employers rating how well the workforce system serves businesses as 'excellent' increased slightly.

Although we see no evidence of changing employer opinion among a broad universe of employers, data from the 2016 wave of the survey offer additional insight, suggesting that employers with more direct contact with *Skills Wisconsin* had more positive feelings about the workforce system. Employers that both met the sampling criteria for earlier survey waves and had active profiles in the *Skills Wisconsin* Salesforce system had slightly more positive responses to a number of survey questions. They: (1) were more likely to be satisfied with the ability of the workforce system to provide skilled workers, (2) reported faster times to fill job openings when working with the workforce system, (3) were more satisfied with the services they received, and (4) gave the workforce system higher ratings in terms of how well it serves businesses. These results are consistent with *Skills Wisconsin* achieving its goals related to better serving

businesses, though we note that they cannot be interpreted causally. One potential explanation for the pattern, for example, is that employers that were generally positive about the workforce system were more likely to have their profiles entered into Salesforce. Nevertheless, the results are encouraging.

Performance and Cost. *Skills Wisconsin* greatly exceeded its performance target for all quantitative performance measures associated with the grant. In most cases, the performance target was exceeded many times over. Progress toward the performance goals was not immediate. The first one to two years of the grant period showed little or no movement toward performance targets. However, the rate of progress accelerated in late 2013 and early 2014. Most of the performance targets for the life of the grant were already met by the midpoint of the grant period.

To examine the performance of the workforce system overall, we reviewed participation and outcomes data for WIA Adult and Dislocated Worker programs during the grant period. The data show generally consistent performance over time, with some slight improvement in the employment rate among Adult program participants. Although we cannot know from available data whether *Skills Wisconsin* played a role in any of the observed changes, the data help provide a more complete picture of how relevant outcomes evolved during the grant period.

Most of the expenditures for *Skills Wisconsin* were by the 11 WDBs, which accounted for 41 percent of total grant funding. This funding supported staff time spent implementing and using Salesforce, attending Salesforce training, participating in training on the demand-driven approach to workforce development, and attending the Collabor8 summits, among other activities. Thirty-four percent of grant funds were spent on subcontracts—including one for the Salesforce platform and related support, the evaluation subcontract with IMPAQ, and a small subcontract for the demand-driven training. The remaining funds were spent by partner organizations (WEDC and WTCS) and on grant administration and management.

Our best estimate is that the costs associated with Salesforce accounted for roughly 30 percent of grant funding. This estimate includes subcontracts specifically dedicated to supporting Salesforce, as well as a rough estimate that 25 percent of WDB expenditures supported the implementation and use of the platform (covering both the cost of licenses and staff time spent in Salesforce training and related activities).

Using data on the number of businesses and jobseekers served by *Skills Wisconsin* along with data on grant expenditures, we calculated expenditures per business/jobseeker served. Because the grant was primarily focused on improving the way the workforce system serves businesses, the cost per business served is likely more meaningful than the cost per jobseeker served. The results show that the grant expended a total of \$69 per business served, of which \$21 per business served was related to the implementation of Salesforce. These figures indicate that *Skills Wisconsin* represents a low-cost program in terms of cost per outcome. The low cost associated with Salesforce suggests that adopting a CRM tool like Salesforce may be a cost-effective way for

states to enhance existing workforce programs by improving the way their workforce systems serve businesses.

6. DISCUSSION

Skills Wisconsin was originally conceived primarily as a way to enhance coordination and communication among organizations that make up the state workforce system. Recognizing that lack of such collaboration sometimes led to problems effectively serving employers, the leaders behind *Skills Wisconsin* sought to overcome those challenges through the use of new technology, focused training, and related efforts.

During the grant period, *Skills Wisconsin* was implemented largely as planned. Major grant activities included the successful launch of Salesforce—along with subsequent support for its continued use, training delivered to workforce system staff on how to implement a demand-driven approach to business services, and periodic in-person conferences at which representatives from around the state could meet to share their experiences with one another and discuss common challenges and potential solutions. *Skills Wisconsin* also supported efforts to increase IPs around the state and foster new, strong partnerships between the WDBs and state-level agencies such as DWD/DVR.

Our evaluation of *Skills Wisconsin* was based on a mixed-methods design comprising a process study, impact evaluation, and outcomes analysis. Each component of the evaluation contributed to a more comprehensive understanding of what *Skills Wisconsin* accomplished.

Process Study Results. The process study included both an SNA of statewide communication patterns among workforce system stakeholders and an analysis of how *Skills Wisconsin* affected the way Wisconsin's workforce system operates. The SNA used data gathered via questionnaire both before and after *Skills Wisconsin* was implemented. It provides evidence that some actors in the state workforce system communicated more after the grant was implemented than before. The SNA data also highlighted the role that common forms of communication (e.g., e-mail, telephone) still play, despite the introduction of a CRM platform.

The qualitative data gathered via in-person site visits to all 11 WDAs both before and after *Skills Wisconsin* was implemented indicate that the program enhanced collaboration among workforce system stakeholders in the way they serve businesses. Consistent with the objectives of the program, collaboration across WDAs was enhanced and more concerted efforts made among stakeholders to work with one another. The Salesforce platform itself supported a more organized approach to business services, with many workforce system staff using it as an authoritative source of information on interactions with employers. In addition to these accomplishments, *Skills Wisconsin* fostered new partnerships, including in particular stronger relationships between the WDBs and DWD/DVR.

Despite the successes of *Skills Wisconsin*, the state's workforce system still faces challenges. Now the grant is ending, it is unclear whether Salesforce will continue to be used broadly, or only by selected stakeholders. The extent of collaboration between WDBs and economic development

organizations varies across the state, and is made more difficult by the number and variety of groups involved in both workforce investment and economic development.

Impact Evaluation Results. Using individual-level administrative data from DWD on jobseekers that exited WIA Title I and Title III programs, we estimated the impact of Salesforce implementation in pilot areas on key labor market outcomes for jobseekers. Our approach made use of the phased rollout of Salesforce, first to a group of five pilot WDAs and later to the other six WDAs.

We use multivariate regression models to estimate the impact of the implementation of Salesforce in the pilot areas on the jobseeker outcomes of interest. Our baseline results show that Salesforce implementation in the pilot areas led to (1) a two percentage-point decrease in the likelihood of employment and (2) a \$294 decrease in the cumulative earnings of jobseekers in the second and third calendar quarters after program exit. Using a matching technique that controls for observable differences among jobseeker cohorts, we find instead that implementation in pilot areas led to a three percentage-point increase in the likelihood of employment for WIA Title I and Title III exiters, but had no effect on either of the other two outcomes considered.

A number of considerations are important to bear in mind when interpreting the impact results. First, the figures represent the estimated impacts of only an isolated component of *Skills Wisconsin*—early implementation of Salesforce among a group of WDAs. Second, our empirical approach captures only short-term impacts associated with the introduction of Salesforce in the pilot WDAs. Third, the estimates apply only to WIA Title I and Title III program exiters. Finally, to the degree that conditions between 2012 and 2013 changed differentially in pilot areas versus non-pilot areas in ways that affected jobseeker outcomes, the key assumption upon which our empirical strategy rests may be violated.

Outcomes Analysis Results. The goal of the outcomes analysis was to document and analyze how key quantitative outcome measures changed during the *Skills Wisconsin* grant period. Unlike the impact evaluation, our aim was not to interpret any changes as the direct result of the grant. Instead, the focus was on understanding whether changes in these measures suggest that *Skills Wisconsin* had its intended outcomes.

Using the results of three waves of an employer survey targeting employers with open job orders on the state labor exchange website, we found no evidence that employer opinions of the workforce system changed in a meaningful way. Although we see no evidence of changing employer opinion among a broad universe of employers, however, data from the 2016 wave of the survey offer additional insight—suggesting that employers with more direct contact with *Skills Wisconsin* had slightly more positive feelings about the workforce system. These results are consistent with *Skills Wisconsin* achieving its goals related to better serving businesses, though we note again they cannot be interpreted causally.

Skills Wisconsin met or greatly exceeded its performance target for all the nine quantitative performance measures associated with the grant. In nearly all cases, the performance target was exceeded many times over.

To examine the performance of the workforce system overall, we reviewed participation and outcomes data for WIA Adult and Dislocated Worker programs during the grant period. The data show generally consistent performance over time, with some slight improvement in the employment rate among Adult program participants. Such trends are informative, but are not necessarily attributable directly to *Skills Wisconsin*.

Most of the expenditures for *Skills Wisconsin* were by the 11 WDBs, which accounted for 41 percent of total grant funding. Thirty-four percent of grant funds were spent on subcontracts; the remaining funds were spent by partner organizations (WEDC and WTCS) and on grant administration and management. Our best estimate is that the costs associated with Salesforce accounted for roughly 30 percent of grant funding.

Using data on the number of businesses and jobseekers served by *Skills Wisconsin* along with data on grant expenditures, we calculated expenditures per business/jobseeker served. The grant expended \$69 per business served and \$481 per jobseeker served. Focusing on only Salesforce-related expenditures, *Skills Wisconsin* expended \$21 per business served and \$144 per jobseeker served. These figures indicate that *Skills Wisconsin* represents a low-cost program in terms of the cost per outcome. The low cost associated with Salesforce suggests, in particular, that adopting a CRM tool may be a cost-effective way for states to improve the way their workforce systems serve businesses.

Concluding Remarks. Overall, *Skills Wisconsin* largely achieved its intended goals of enhancing collaboration and communication among stakeholders in Wisconsin's workforce system. The results were not uniform across the state, as some WDAs embraced the program more enthusiastically than others. In areas that took full advantage of the opportunity presented by *Skills Wisconsin*, the program produced positive results.

As the grant has neared its end, WDAs have been preparing for the future. However, it is not clear that all WDAs will continue using Salesforce after *Skills Wisconsin* has ended. Some WDAs have indicated that they fully intend to do so, and have made the use of Salesforce a requirement included in subcontracts with organizations that will provide WIOA services. Others remain noncommittal. Aside from the use of Salesforce, the annual Collabor8 summits established through *Skills Wisconsin* are expected to continue, with planning currently under way for Collabor8 2017.

The progress made through *Skills Wisconsin* provides a solid foundation for the state workforce system to continue to improve the way workforce system stakeholders collaborate with one another and how they serve Wisconsin businesses. If the WDAs that were less engaged during the grant period become more supportive of and engaged in the use of Salesforce, it has the potential to develop into a more universal business services coordination platform. Likewise, if

additional state-level partner agencies—such as DWD’s Employment and Training division and WEDC—are able to establish and support meaningful connections with the Salesforce platform established by the grant, the enhanced platform may provide even greater value to the workforce system overall. Beyond the direct benefits of Salesforce as a collaboration tool, it may also prove valuable in other ways. For instance, WIOA requires states to report on their performance with respect to employer engagement. There may be some potential for DWD to leverage the quantitative data captured in Salesforce for this purpose. Regardless, it is clear that despite the positive developments achieved through the WIF grant, additional support of Salesforce will only increase the usefulness and value of the platform to Wisconsin’s workforce system. After the grant ends, those grant partners that have embraced *Skills Wisconsin* and that continue to use Salesforce for information sharing and collaboration may help strengthen support for the platform by sharing their success stories and demonstrating the platform’s value to others.

All things considered, the *Skills Wisconsin* experience has shown that a program aimed at improving how the workforce system serves businesses through a combination of the introduction of a CRM platform, training, and other efforts can help improve the degree of coordination and collaboration among workforce system stakeholders. Other states looking for ways to achieve similar goals should consider implementing similar programs modeled after *Skills Wisconsin*.

APPENDIX A. SUMMARY OF INTERVIEWS

Exhibit A.1: Summary of Interviews

	Fall 2012	Spring 2014	Winter 2015	Summer 2016
WDA 1 (Southeast)				
WDB Director		✓		
WDB Staff	✓	✓		
Job Center Manager/Staff/Partner	✓			✓
Business Services Representative	✓		✓	✓
WTCS Representative	✓			
WEDC Representative	✓			
Local or Regional Economic Development Representative	✓			
Employer(s)	✓			
WDA 2 (Milwaukee)				
WDB Director	✓	✓	✓	
WDB Staff	✓	✓	✓	
Job Center Manager/Staff/Partner	✓	✓	✓	✓
Business Services Representative	✓			✓
WTCS Representative	✓			
WEDC Representative				✓
Local or Regional Economic Development Representative				
Employer(s)	✓			
WDA 3 (WOW)				
WDB Director	✓	✓	✓	✓
WDB Staff	✓			
Job Center Manager/Staff/Partner	✓	✓		✓
Business Services Representative	✓	✓	✓	✓
WTCS Representative	✓			
WEDC Representative	✓			
Local or Regional Economic Development Representative				
Employer(s)	✓			
WDA 4 (Fox Valley)				
WDB Director	✓	✓		
WDB Staff	✓		✓	
Job Center Manager/Staff/Partner	✓			✓
Business Services Representative	✓	✓	✓	✓
WTCS Representative	✓			✓
WEDC Representative	✓			
Local or Regional Economic Development Representative				
Employer(s)	✓			

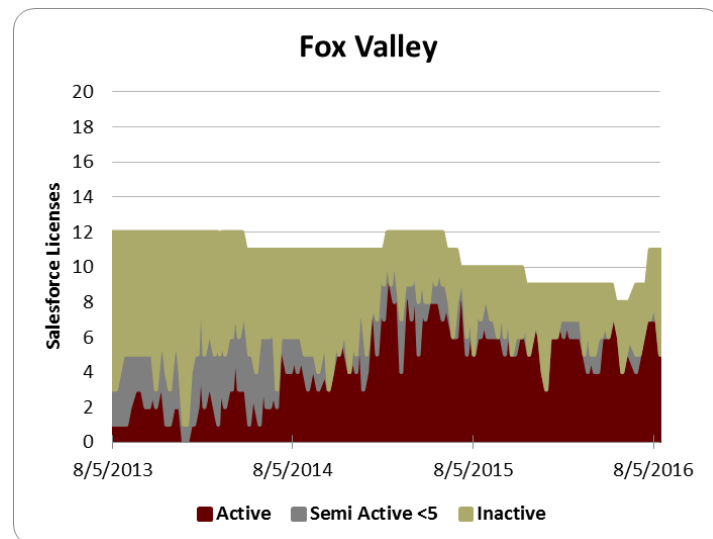
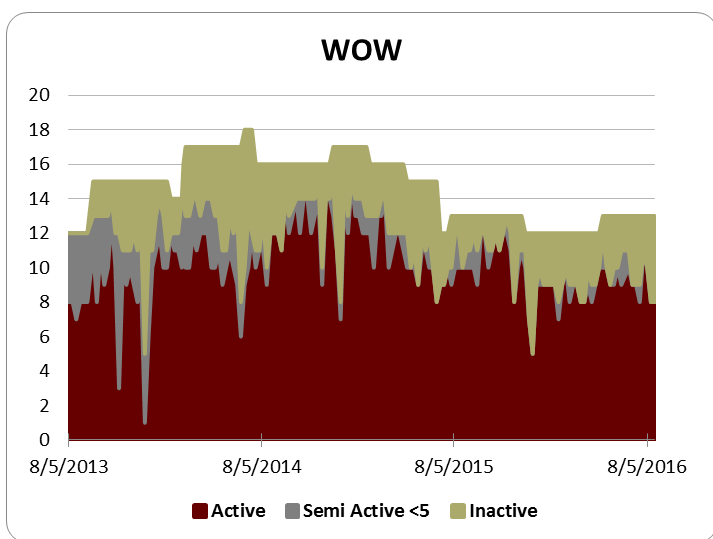
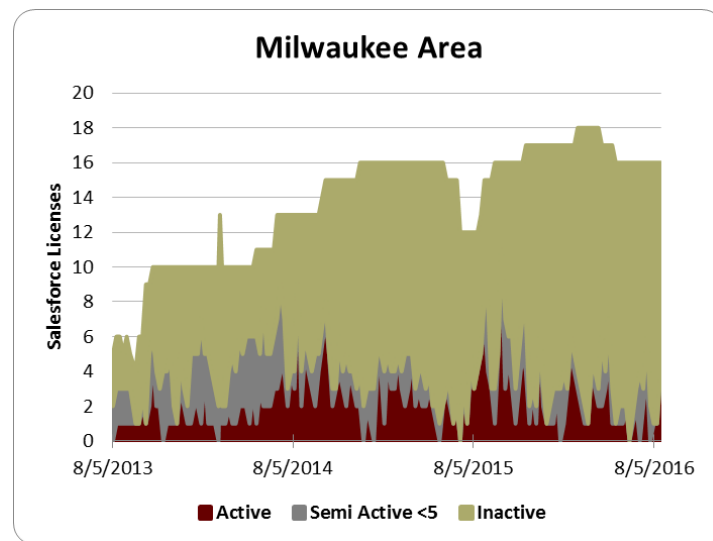
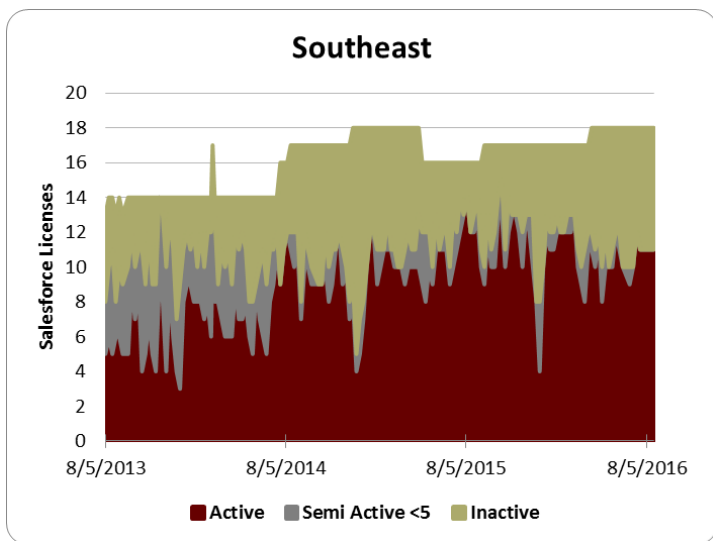
	Fall 2012	Spring 2014	Winter 2015	Summer 2016
WDA 5 (Bay Area)				
WDB Director		✓	✓	✓
WDB Staff	✓	✓		✓
Job Center Manager/Staff/Partner	✓	✓		✓
Business Services Representative	✓	✓	✓	✓
WTCS Representative				✓
WEDC Representative	✓			
Local or Regional Economic Development Representative	✓			
Employer(s)				
WDA 6 (North Central)				
WDB Director	✓	✓	✓	✓
WDB Staff	✓			
Job Center Manager/Staff/Partner	✓			✓
Business Services Representative		✓	✓	✓
WTCS Representative	✓			
WEDC Representative				
Local or Regional Economic Development Representative	✓			
Employer(s)	✓			
WDA 7 (Northwest)				
WDB Director	✓	✓		✓
WDB Staff	✓		✓	
Job Center Manager/Staff/Partner	✓			✓
Business Services Representative	✓	✓	✓	✓
WTCS Representative	✓			✓
WEDC Representative				
Local or Regional Economic Development Representative	✓			
Employer(s)				
WDA 8 (West Central)				
WDB Director		✓		✓
WDB Staff	✓			
Job Center Manager/Staff/Partner	✓			✓
Business Services Representative		✓	✓	✓
WTCS Representative				
WEDC Representative				
Local or Regional Economic Development Representative				
Employer(s)	✓			
WDA 9 (Western)				
WDB Director	✓	✓	✓	✓
WDB Staff	✓			
Job Center Manager/Staff/Partner	✓		✓	✓
Business Services Representative	✓	✓	✓	✓
WTCS Representative	✓			
WEDC Representative	✓			
Local or Regional Economic Development Representative	✓			
Employer(s)	✓			

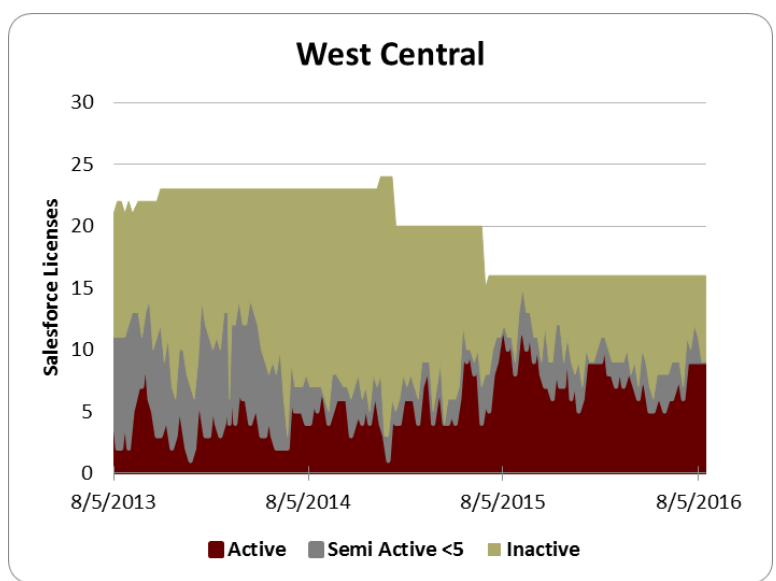
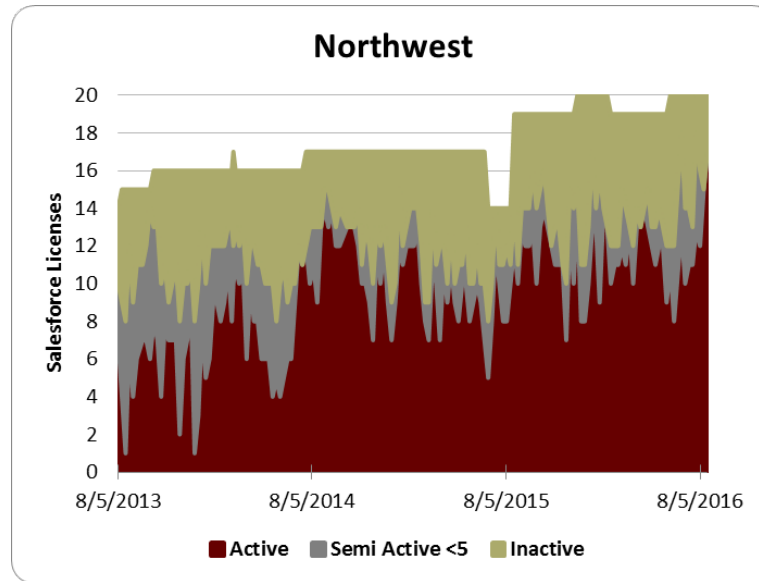
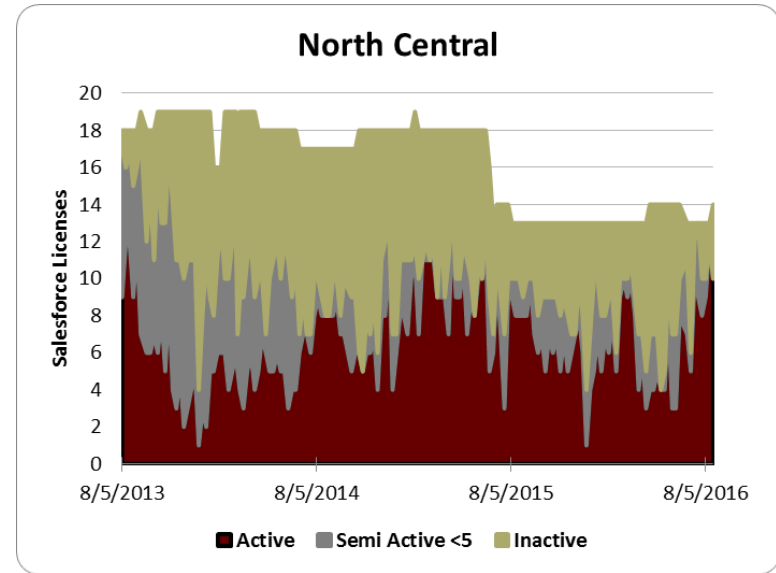
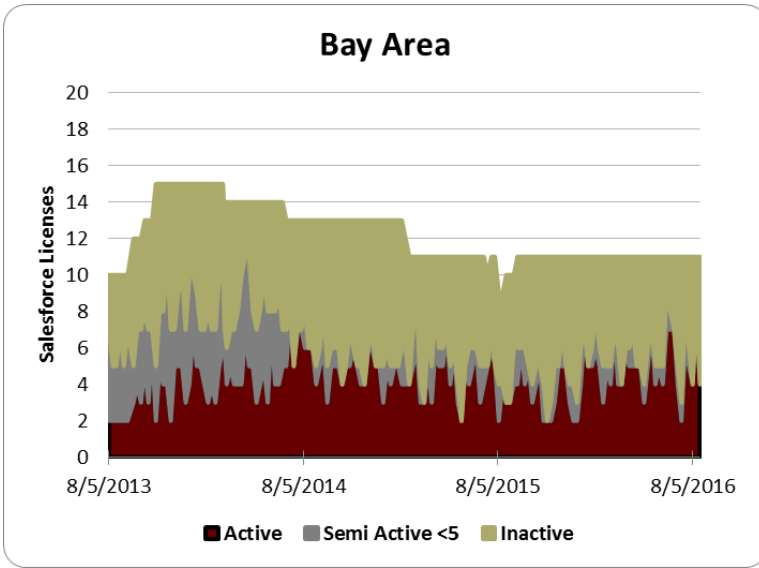
	Fall 2012	Spring 2014	Winter 2015	Summer 2016
WDA 10 (South Central)				
WDB Director	✓	✓	✓	✓
WDB Staff	✓			
Job Center Manager/Staff/Partner	✓			✓
Business Services Representative	✓	✓	✓	✓
WTCS Representative				
WEDC Representative	✓			✓
Local or Regional Economic Development Representative	✓			
Employer(s)				
WDA 11 (Southwest)				
WDB Director	✓		✓	✓
WDB Staff	✓	✓		
Job Center Manager/Staff/Partner	✓			✓
Business Services Representative	✓	✓	✓	✓
WTCS Representative	✓			
WEDC Representative				
Local or Regional Economic Development Representative	✓			
Employer(s)	✓			
State-level Organizations				
<i>Skills Wisconsin</i> Grant Management		✓		✓
WEDC		✓	✓	✓
DWD/DET		✓		✓
DWD/DVR		✓	✓	✓
WTCS		✓		

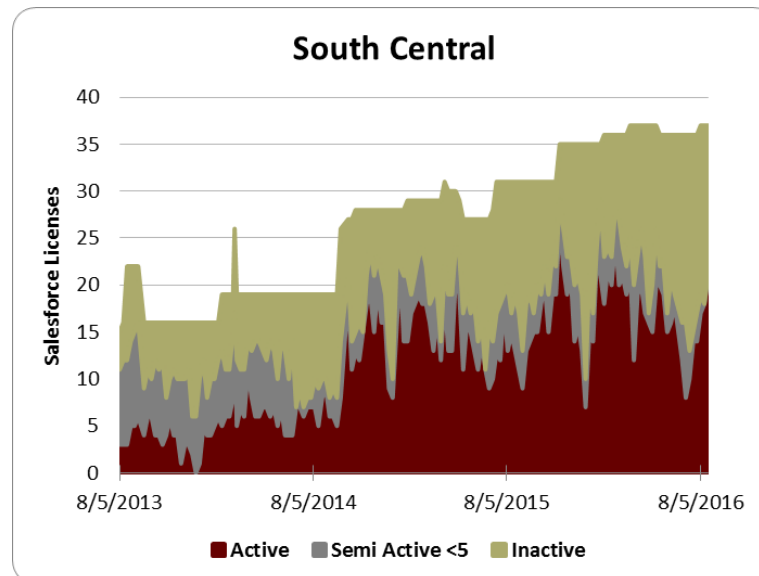
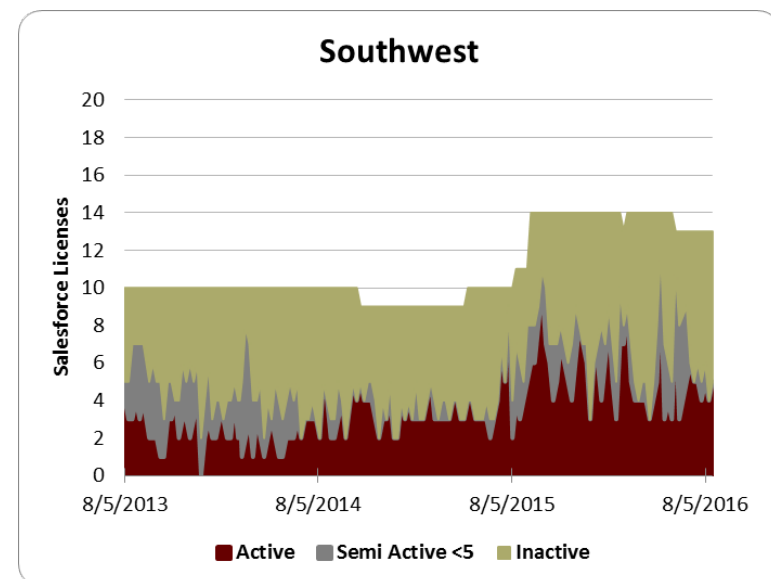
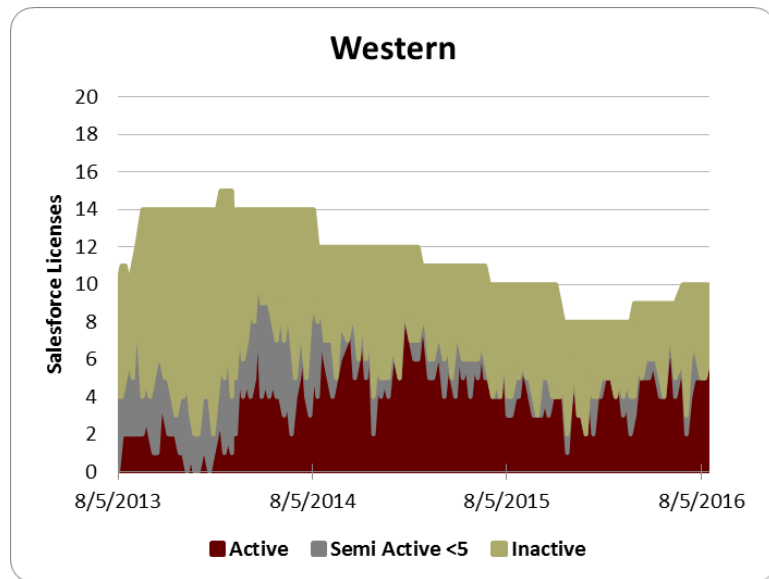
APPENDIX B. SALESFORCE ADOPTION AND USAGE BY WDA

The following exhibit shows Salesforce adoption and usage by each WDA from August, 2013 to August, 2016. The changes in the number of Active, Semi-active, and Inactive Salesforce licenses are represented together in these stacked area charts, which help show how each category contributed to each WDA's cumulative total of licenses over time. Sites with higher proportions of active licenses will have more red. Sites with higher proportions of inactive licenses will have more beige.

Exhibit B.1: Salesforce Adoption and Usage, by WDA







APPENDIX C. EMPLOYER CHARACTERISTICS AND SURVEY NON-RESPONSE

Exhibit C.1: Characteristics of Respondents and Non-respondents, 2013

	Full Sample	Respondents	Non-Respondents	Difference
	N = 4,995 (100%)	N = 1,193 (100%)	N = 3,802 (100%)	(B) – (C)
	(A)	(B)	(C)	
WDA				
Southeast	299 (6.0%)	70 (5.9%)	229 (6.0%)	-0.2
Milwaukee	493 (9.9%)	83 (7.0%)	410 (10.8%)	-3.8**
WOW	502 (10.1%)	121 (10.1%)	381 (10.0%)	0.1
Fox Valley	646 (12.9%)	145 (12.2%)	501 (13.2%)	-1.0
Bay Area	789 (15.8%)	200 (16.8%)	589 (15.5%)	1.3
North Central	572 (11.5%)	154 (12.9%)	418 (11%)	1.9
Northwest	152 (3.0%)	50 (4.2%)	102 (2.7%)	1.5
West Central	340 (6.8%)	92 (7.7%)	248 (6.5%)	1.2
Western	246 (4.9%)	64 (5.4%)	182 (4.8%)	0.6
South Central	733 (14.7%)	162 (13.6%)	571 (15.0%)	-1.4
Southwest	223 (4.5%)	52 (4.4%)	171 (4.5%)	-0.1
Industry				
Manufacturing	941 (18.8%)	327 (27.4%)	614 (16.1%)	11.3**
Health Care and Social Assistance	737 (14.8%)	183 (15.3%)	554 (14.6%)	0.8
Finance and Insurance	531 (10.6%)	65 (5.4%)	466 (12.3%)	-6.8**
Retail Trade	463 (9.3%)	71 (6.0%)	392 (10.3%)	-4.4**
Administrative Support, Waste Management, and Remediation Services	361 (7.2%)	77 (6.5%)	284 (7.5%)	-1.0
Wholesale Trade	314 (6.3%)	84 (7.0%)	230 (6%)	1.0
Accommodation and Food Services	298 (6.0%)	42 (3.5%)	256 (6.7%)	-3.2**
Professional, Scientific, and Technical Services	234 (4.7%)	54 (4.5%)	180 (4.7%)	-0.2
Transportation and Warehousing	185 (3.7%)	53 (4.4%)	132 (3.5%)	1.0
Construction	166 (3.3%)	45 (3.8%)	121 (3.2%)	0.6
Other	765 (15.3%)	192 (16.1%)	573 (15.1%)	1.0
Number of Employees				
Fewer than 50	1,703 (34.1%)	507 (42.5%)	1,196 (31.5%)	11.0**
50-99	693 (13.9%)	205 (17.2%)	488 (12.8%)	4.4**
100-499	1,534 (30.7%)	336 (28.2%)	1,198 (31.5%)	-3.3*
500 or more	1,065 (21.3%)	145 (12.2%)	920 (24.2%)	-12.0**

Source: *Skills Wisconsin* Employer Survey, 2013. Statistical significance: ** = 1 percent; * = 5 percent

Exhibit C.2: Characteristics of Respondents and Non-respondents, 2015

	Full Sample	Respondents	Non-Respondents	Difference
	N = 4,552 (100%)	N = 1,200 (100%)	N = 3,352 (100%)	(B) – (C)
	(A)	(B)	(C)	
WDA				
Southeast	234 (5.1%)	64 (5.3%)	170 (5.1%)	0.3
Milwaukee	485 (10.7%)	79 (6.6%)	406 (12.1%)	5.5**
WOW	392 (8.6%)	102 (8.5%)	290 (8.7%)	-0.2
Fox Valley	446 (9.8%)	121 (10.1%)	325 (9.7%)	0.3
Bay Area	827 (10.2%)	227 (18.9%)	600 (17.9%)	1.0
North Central	528 (11.6%)	171 (14.3%)	357 (10.7%)	3.6**
Northwest	121 (2.7%)	34 (2.8%)	87 (2.6%)	0.2
West Central	346 (7.6%)	113 (9.4%)	233 (7.0%)	2.5**
Western	207 (4.6%)	55 (4.6%)	152 (4.5%)	0.0
South Central	775 (17.0%)	175 (14.6%)	600 (17.9%)	-3.3**
Southwest	191 (4.2%)	59 (4.9%)	132 (3.9%)	1.0
Industry				
Manufacturing	859 (18.9%)	342 (28.5%)	517 (15.4%)	13.1**
Health Care and Social Assistance	780 (17.1%)	220 (18.3%)	560 (16.7%)	1.6
Finance and Insurance	399 (8.8%)	51 (4.3%)	348 (10.4%)	-6.1**
Retail Trade	338 (7.4%)	63 (5.3%)	275 (8.2%)	-3.0**
Administrative Support, Waste Management, and Remediation Services	390 (8.6%)	86 (7.2%)	304 (9.1%)	-1.9*
Wholesale Trade	290 (6.4%)	69 (5.8%)	221 (6.6%)	-0.8
Accommodation and Food Services	218 (4.8%)	40 (3.3%)	178 (5.3%)	-2.0**
Professional, Scientific, and Technical Services	196 (4.3%)	44 (3.7%)	152 (4.5%)	-0.9
Transportation and Warehousing	159 (3.5%)	41 (3.4%)	118 (3.5%)	-0.1
Construction	174 (3.8%)	54 (4.5%)	120 (3.6%)	1.0
Other	749 (16.5%)	190 (15.8%)	559 (16.7%)	-0.8
Number of Employees				
Fewer than 50	1,181 (25.9%)	407 (33.9%)	774 (23.1%)	10.8**
50-99	640 (14.1%)	228 (19.0%)	412 (12.3%)	6.7**
100-499	1,571 (34.5%)	406 (33.8%)	1,165 (34.8%)	-0.9
500 or more	1,160 (25.5%)	159 (13.3%)	1,001 (29.9%)	-16.6**

Source: *Skills Wisconsin* Employer Survey, 2015. Statistical significance: ** = 1 percent; * = 5 percent

Exhibit C.3: Characteristics of Respondents and Non-respondents, 2016

	Full Sample	Respondents	Non-Respondents	Difference
	N = 4,564 (100%)	N = 941 (100%)	N = 3,623 (100%)	(B) – (C)
	(A)	(B)	(C)	
WDA				
Southeast	257 (1.9%)	39 (4.1%)	218 (6.0%)	-1.9*
Milwaukee	486 (10.6%)	62 (6.6%)	424 (11.7%)	-5.1**
WOW	454 (9.9%)	71 (7.5%)	383 (10.6%)	-3.0**
Fox Valley	373 (8.2%)	92 (9.8%)	281 (7.8%)	2.0*
Bay Area	1,005 (22.0%)	230 (24.4%)	775 (21.4%)	3.1*
North Central	477 (10.5%)	124 (13.2%)	353 (9.7%)	3.4**
Northwest	95 (2.1%)	30 (3.2%)	65 (1.8%)	1.4**
West Central	243 (5.3%)	64 (6.8%)	179 (4.9%)	1.9*
Western	249 (5.5%)	40 (4.3%)	209 (5.8%)	-1.5
South Central	760 (16.7%)	152 (16.2%)	608 (16.8%)	-1.0
Southwest	165 (3.6%)	37 (3.9%)	128 (3.5%)	0.4
Industry				
Manufacturing	677 (14.8%)	247 (26.3%)	430 (11.9%)	14.4**
Health Care and Social Assistance	774 (17.0%)	159 (16.9%)	615 (17.0%)	-0.1
Finance and Insurance	366 (8.0%)	35 (3.7%)	331 (9.1%)	-5.4**
Retail Trade	391 (8.6%)	58 (6.2%)	333 (9.2%)	-3.0**
Administrative Support, Waste Management, and Remediation Services	725 (15.9%)	118 (12.5%)	607 (16.8%)	-4.2**
Wholesale Trade	267 (5.9%)	40 (4.3%)	227 (6.3%)	-2.0*
Accommodation and Food Services	179 (3.9%)	32 (3.4%)	147 (4.1%)	-1.0
Professional, Scientific, and Technical Services	203 (4.5%)	38 (4.0%)	165 (4.6%)	-0.5
Transportation and Warehousing	150 (3.3%)	31 (3.3%)	119 (3.3%)	0.0
Construction	130 (2.9%)	29 (3.1%)	101 (2.8%)	0.3
Other	702 (15.4%)	154 (16.4%)	548 (15.1%)	1.3
Number of Employees				
Fewer than 50	903 (19.8%)	247 (26.3%)	656 (18.1%)	8.1**
50-99	597 (13.1%)	171 (18.5%)	423 (11.7%)	6.8**
100-499	1,634 (35.8%)	333 (35.4%)	1,301 (35.9%)	5.2
500 or more	1,288 (28.2%)	140 (14.9%)	1,148 (31.7%)	16.8**

Source: *Skills Wisconsin* Employer Survey, 2016. Statistical significance: ** = 1 percent; * = 5 percent

APPENDIX D. EMPLOYER SURVEY RESULTS BY SURVEY WAVE

Exhibit D.1: Survey Question 1, by Survey Wave

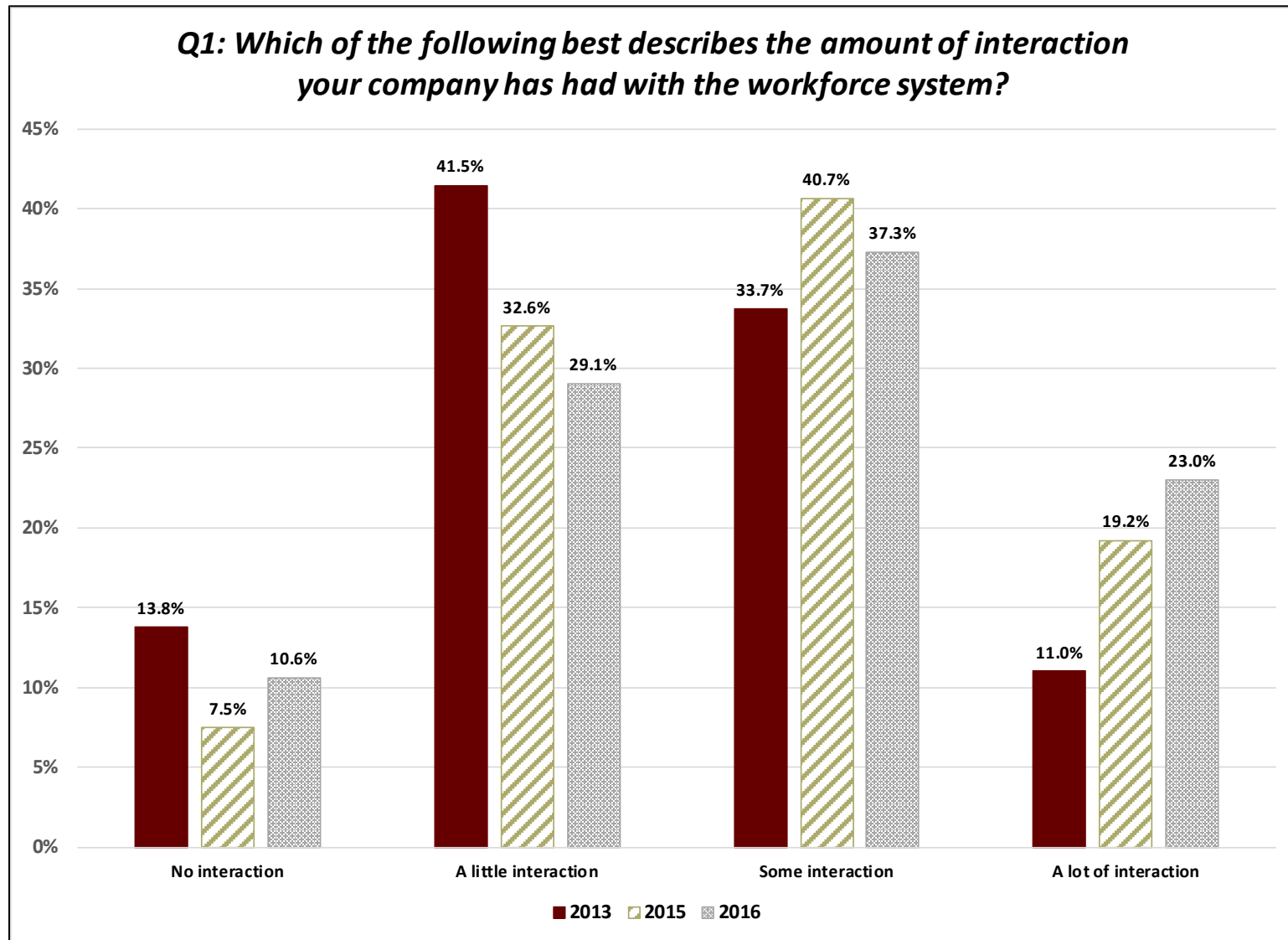


Exhibit D.2: Survey Question 2, by Survey Wave

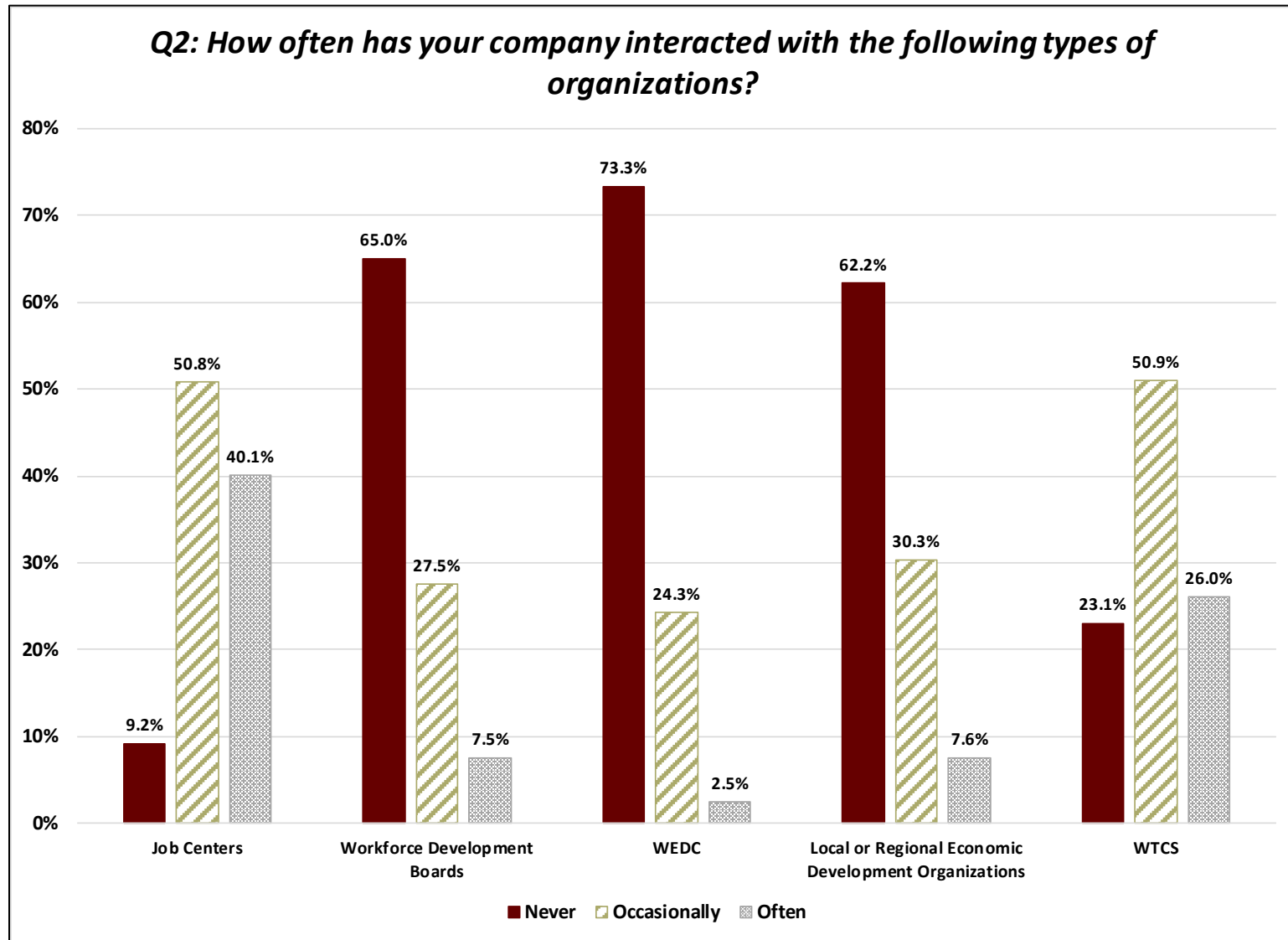


Exhibit D.3: Survey Question 3, by Survey Wave

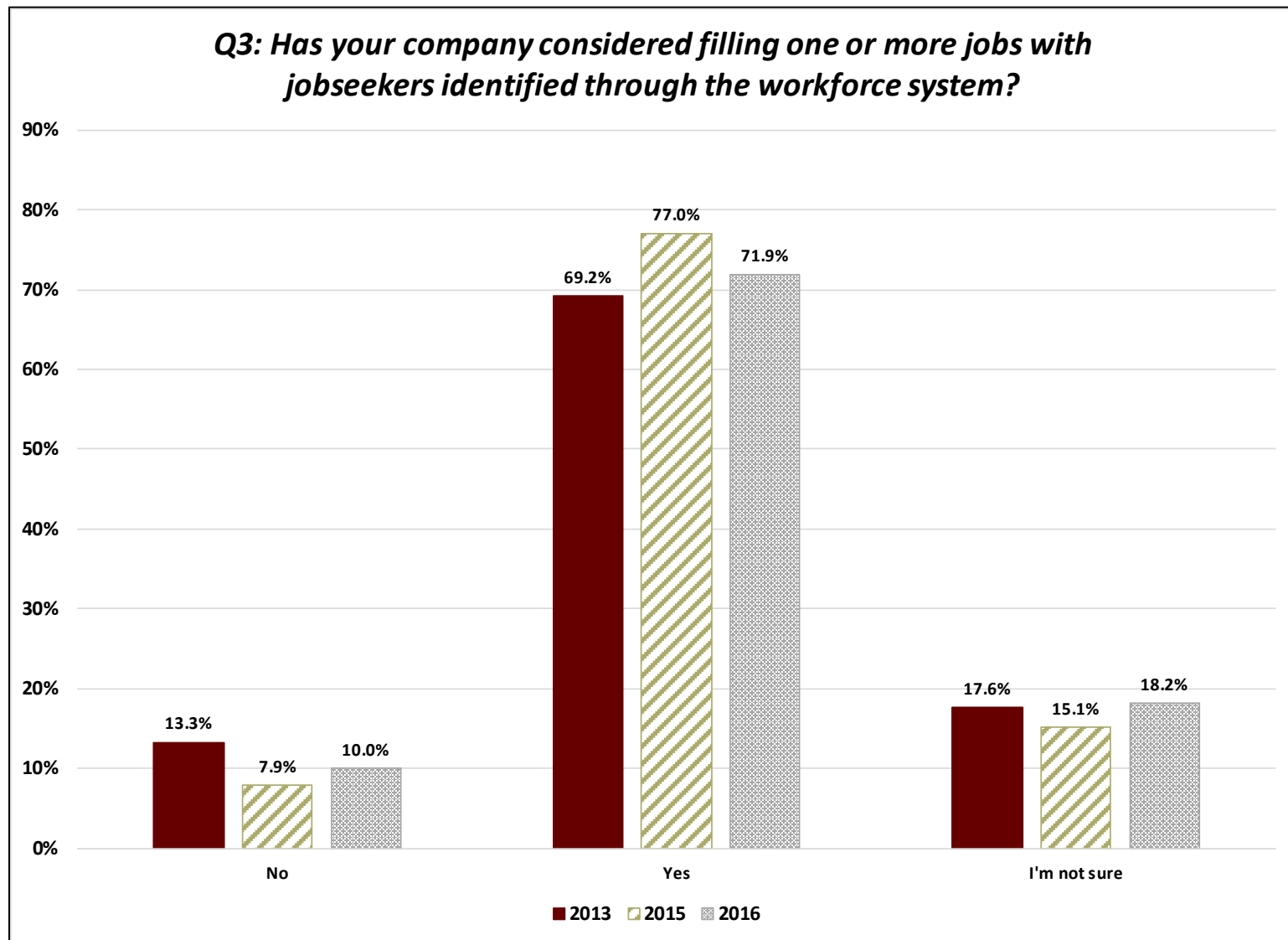


Exhibit D.4: Survey Question 4, by Survey Wave

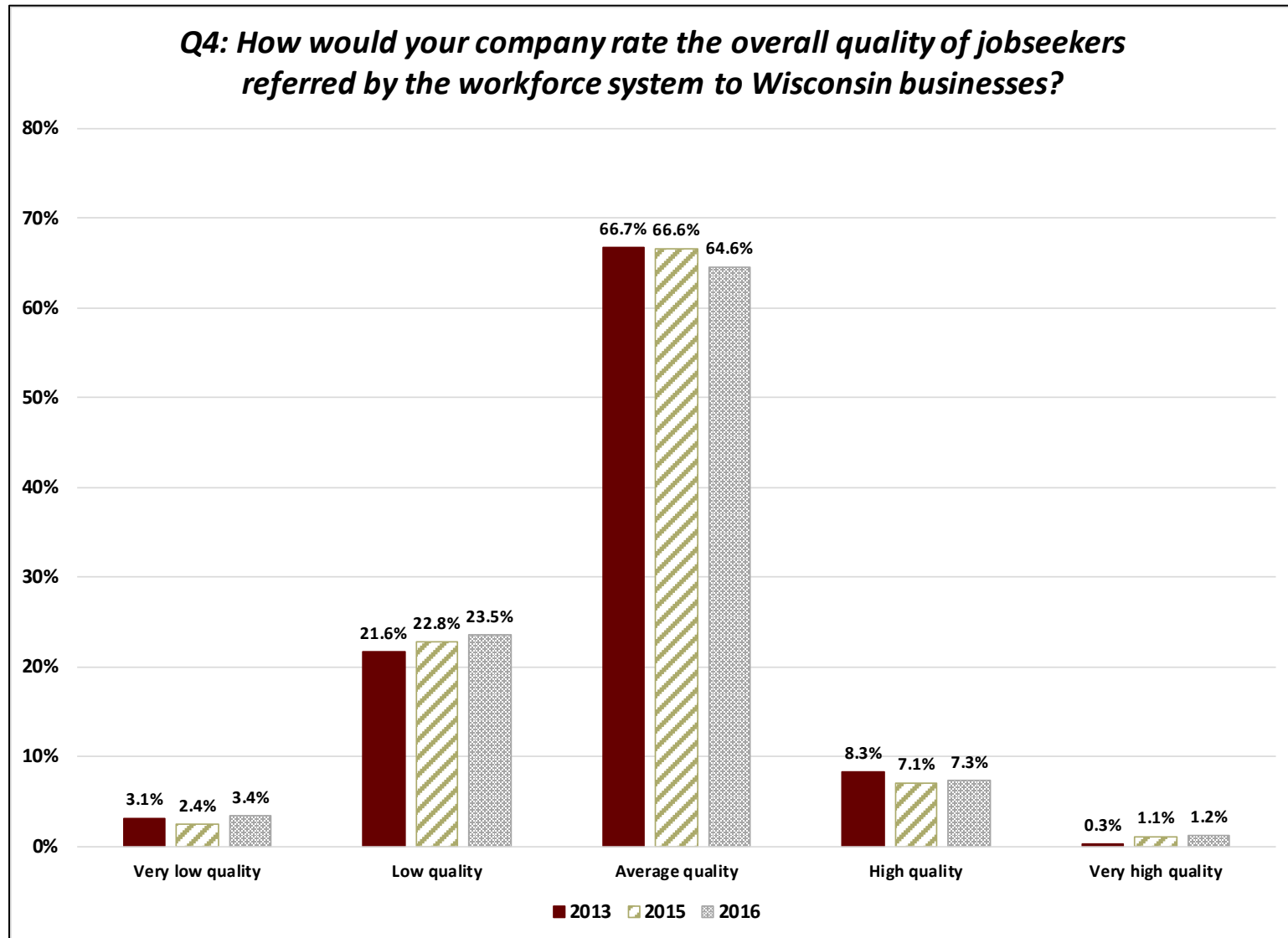


Exhibit D.5: Survey Question 5, by Survey Wave

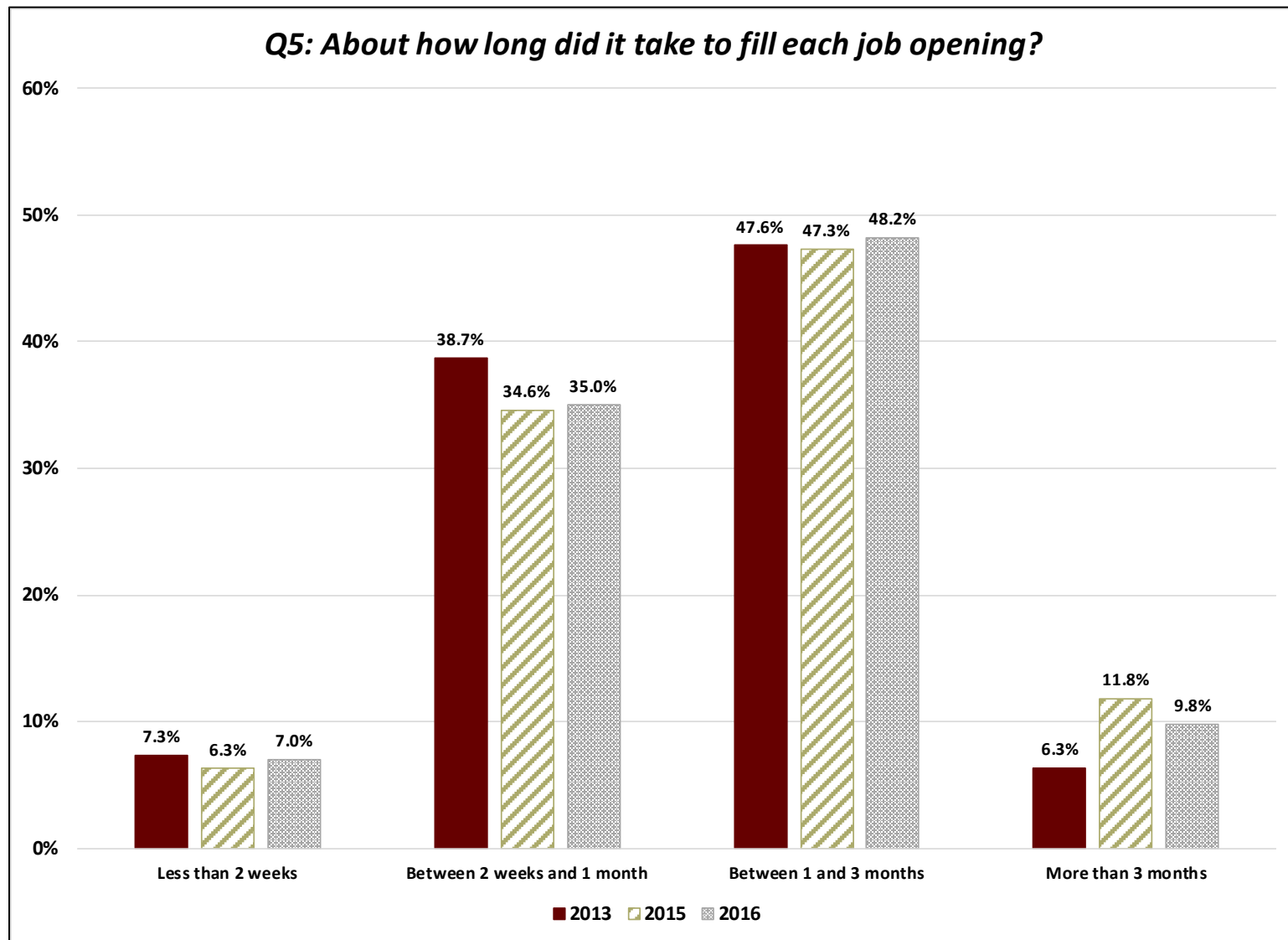


Exhibit D.6: Survey Question 6, by Survey Wave

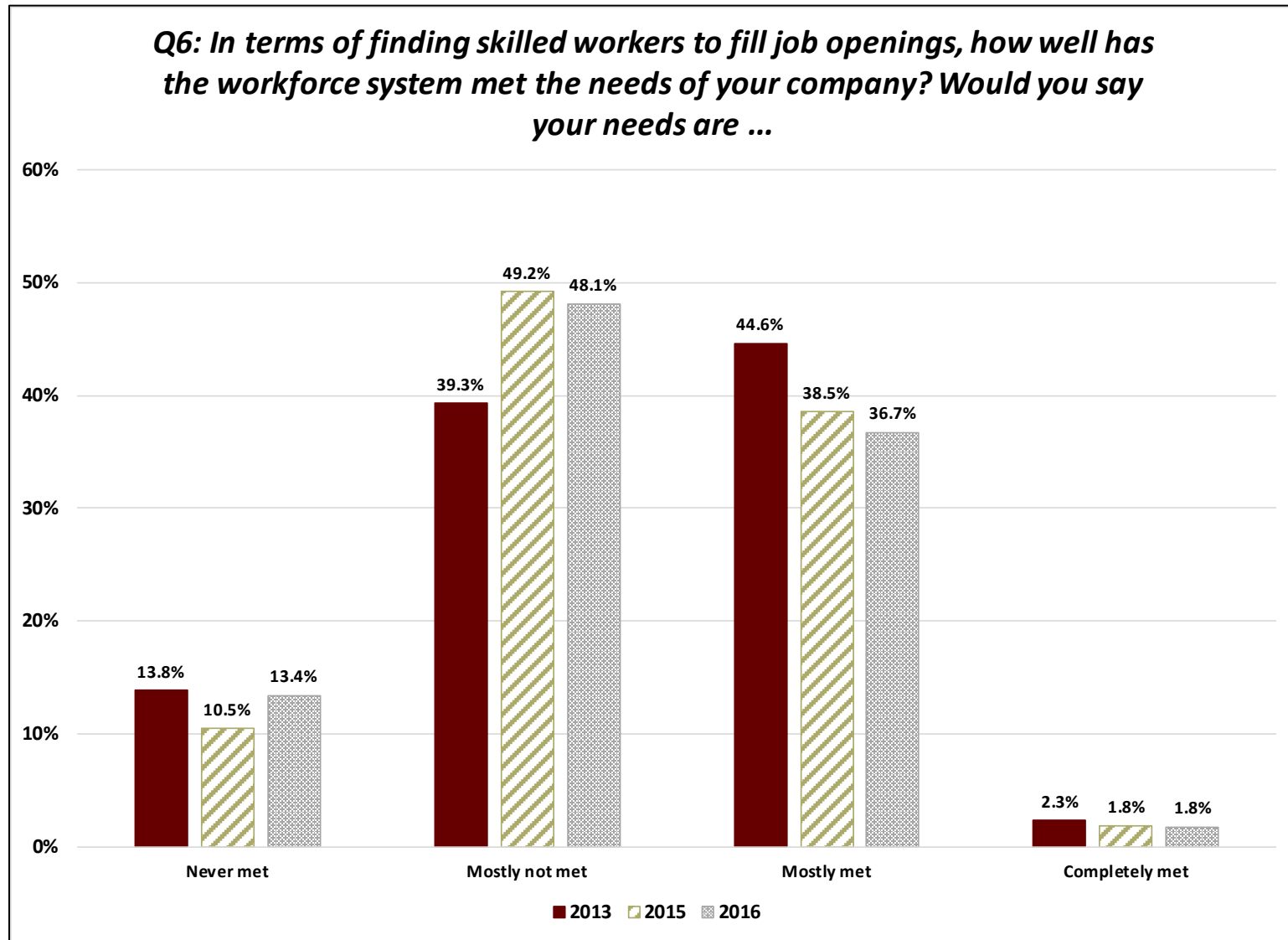


Exhibit D.7: Survey Question 7, by Survey Wave

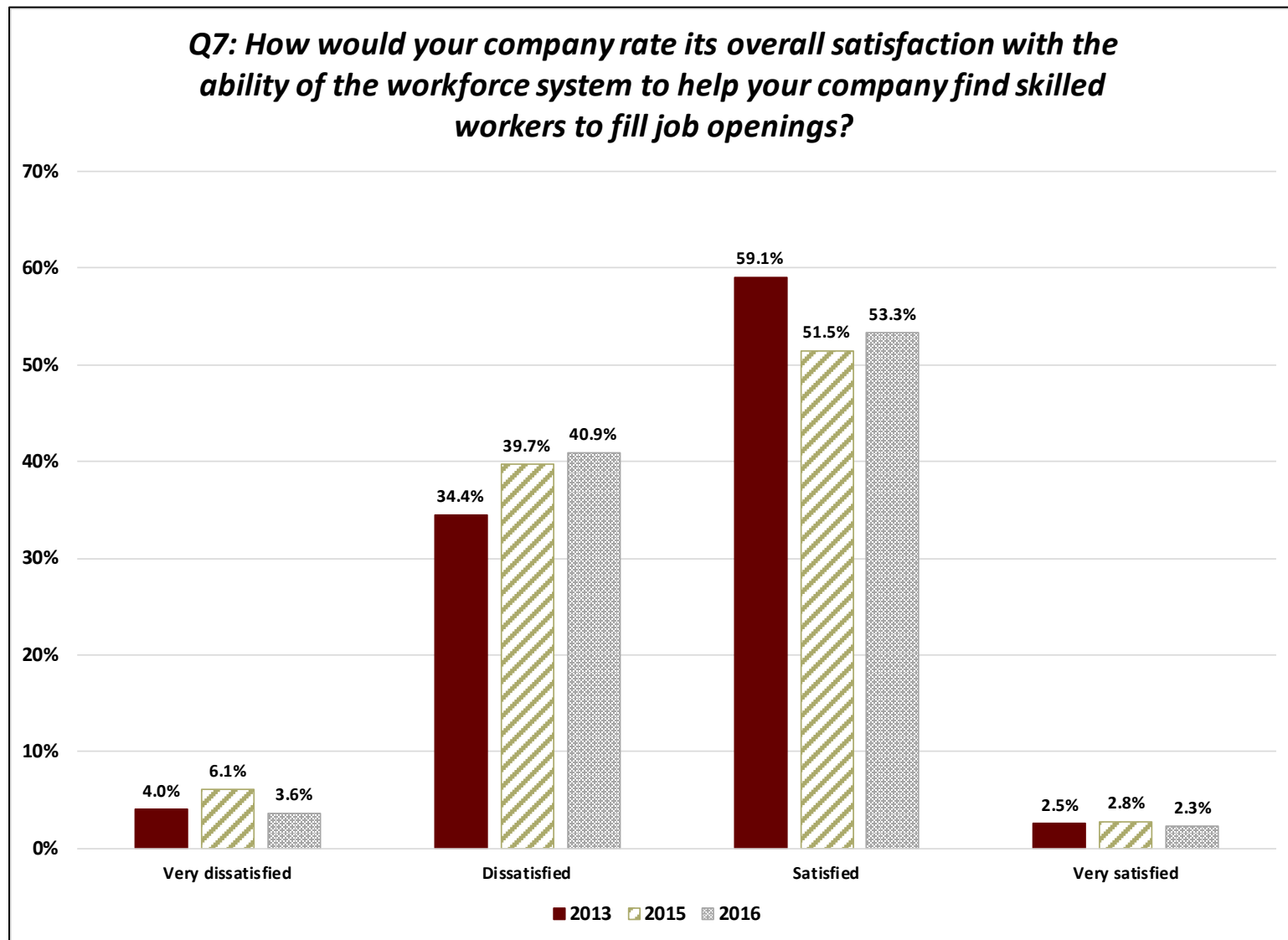


Exhibit D.8: Survey Question 8, by Survey Wave

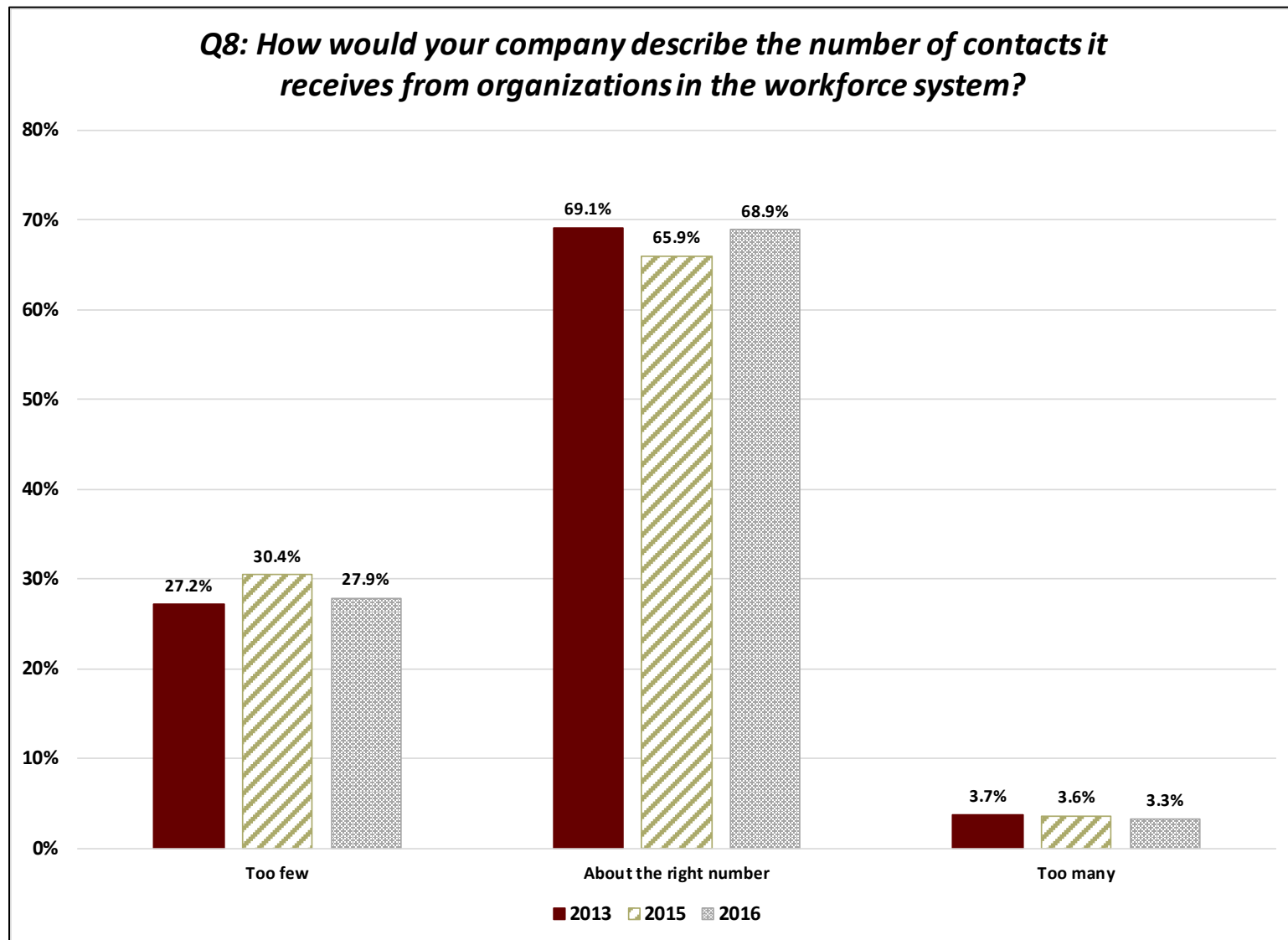


Exhibit D.9: Survey Question 9, by Survey Wave

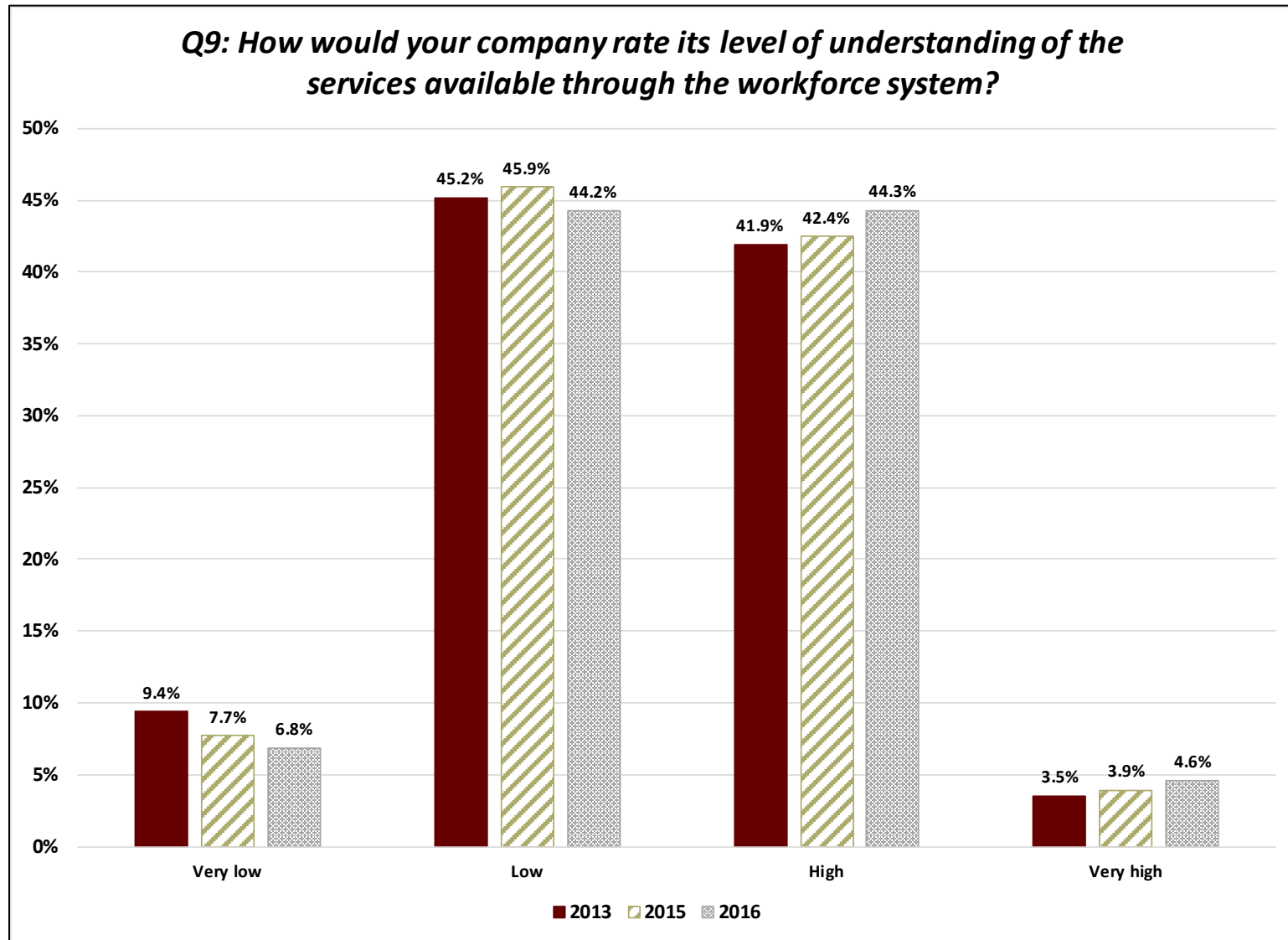


Exhibit D.10: Survey Question 10, by Survey Wave

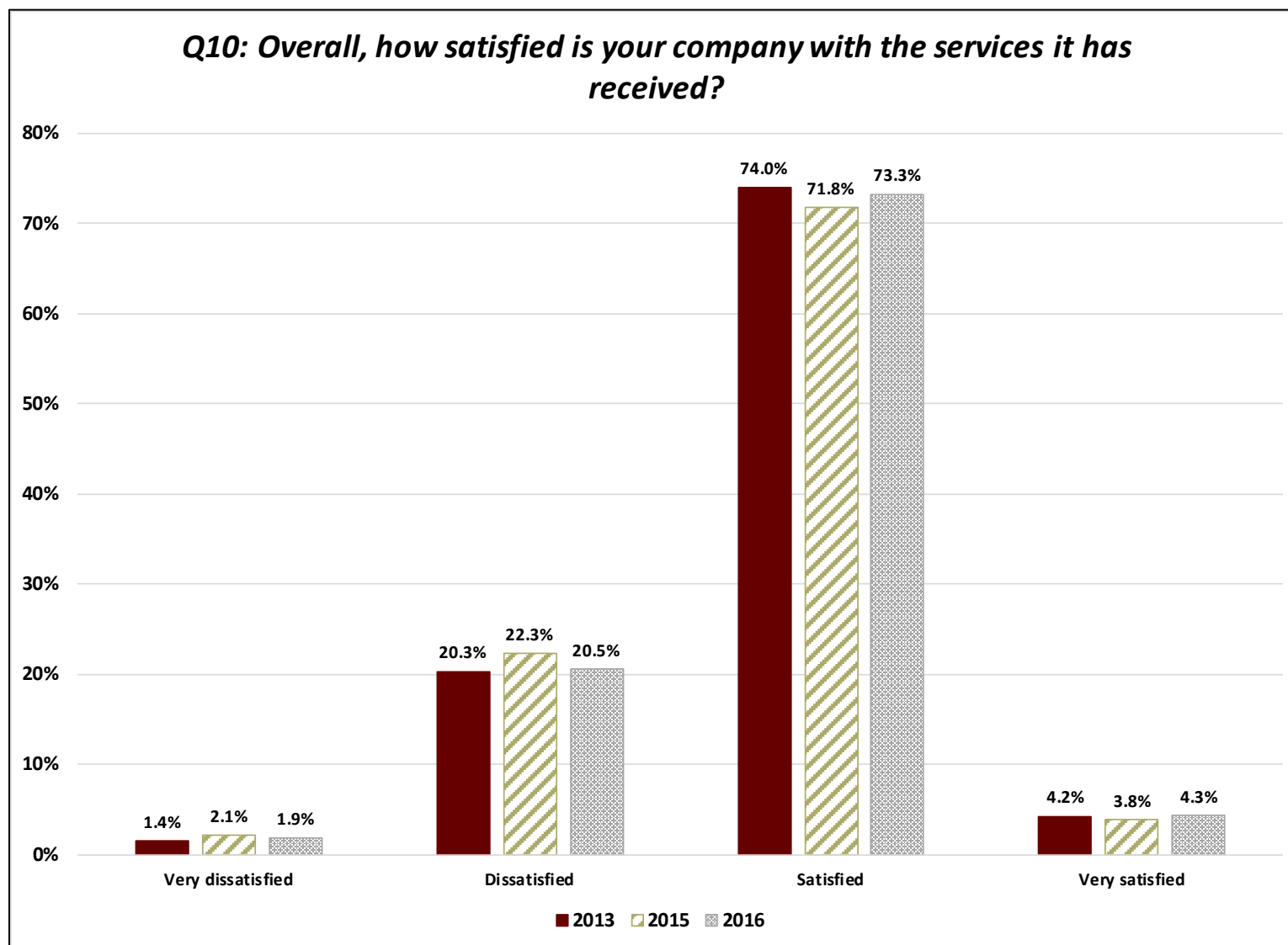
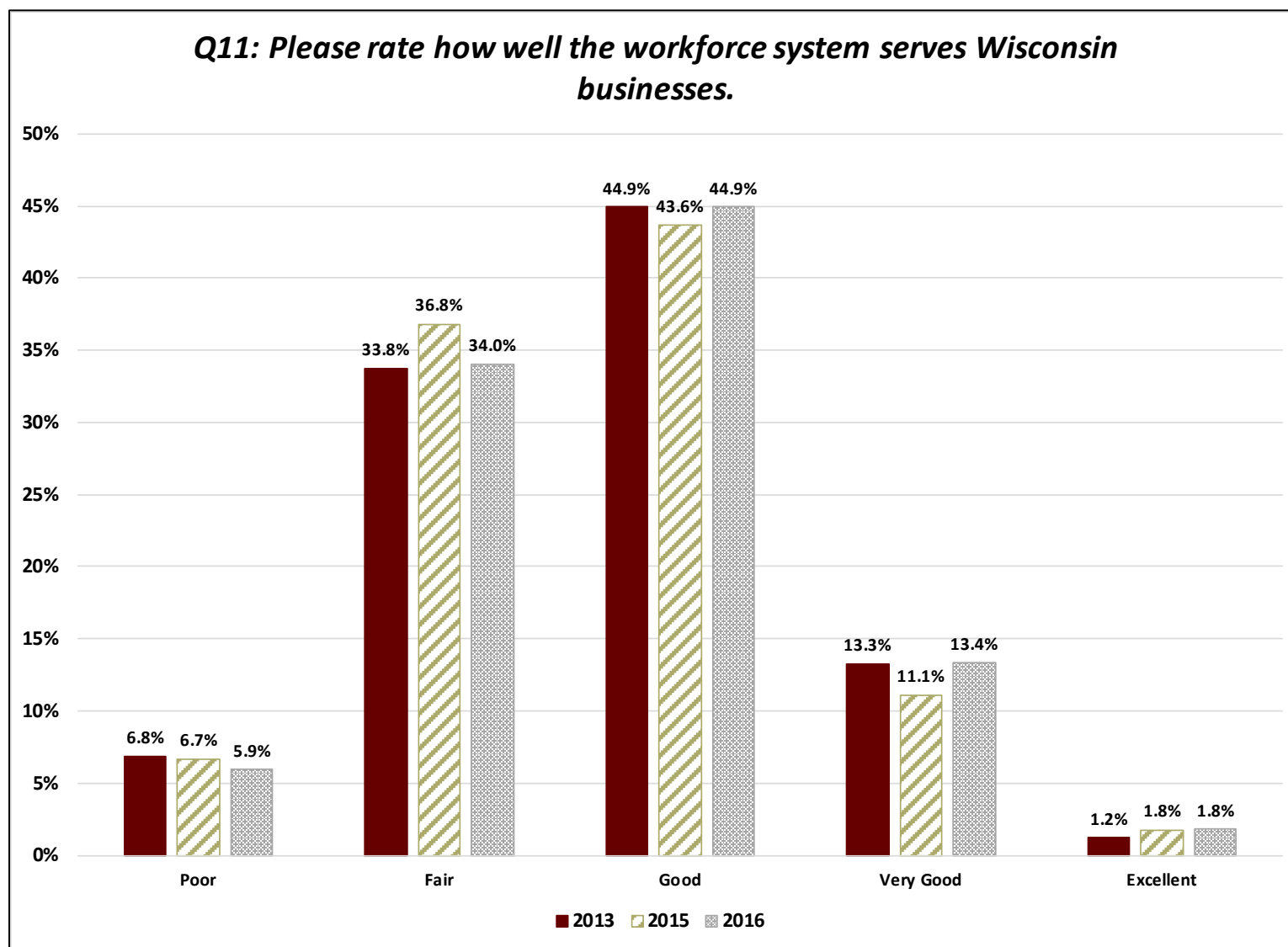


Exhibit D.11: Survey Question 11, by Survey Wave



APPENDIX E. EMPLOYER CHARACTERISTICS AND SURVEY NON-RESPONSE BY DATA SOURCE, 2016 WAVE

Exhibit E.1: Characteristics of Respondents and Non-respondents, JCW Only, 2016 Wave

	Full Sample	Respondents	Non-Respondents	Difference
	N = 4,422 (100%)	N = 894 (100%)	N = 3,528 (100%)	(B) – (C)
	(A)	(B)	(C)	
WDA				
Southeast	235 (5.3%)	29 (3.2%)	206 (5.8%)	-2.6**
Milwaukee	473 (10.7%)	57 (6.4%)	416 (11.8%)	-5.4**
WOW	437 (9.9%)	66 (7.4%)	371 (10.5%)	-3.1**
Fox Valley	360 (8.1%)	86 (9.6%)	274 (7.8%)	1.9
Bay Area	988 (22.3%)	224 (25.1%)	764 (21.7%)	3.4**
North Central	472 (10.7%)	120 (13.4%)	352 (10.0%)	3.4**
Northwest	87 (2.0%)	28 (3.1%)	59 (1.7%)	1.5**
West Central	235 (5.3%)	62 (6.9%)	173 (4.9%)	2.0*
Western	237 (5.4%)	36 (4.0%)	201 (5.7%)	-1.7*
South Central	741 (16.8%)	150 (16.8%)	591 (16.8%)	0.0
Southwest	157 (3.6%)	36 (4.0%)	121 (3.4%)	0.6
Industry				
Manufacturing	629 (14.2%)	224 (25.1%)	405 (11.5%)	13.6**
Health Care and Social Assistance	757 (17.1%)	153 (17.1%)	604 (17.1%)	0.0
Finance and Insurance	362 (8.2%)	35 (3.9%)	327 (9.3%)	-5.4**
Retail Trade	381 (8.6%)	57 (6.4%)	324 (9.2%)	-2.8**
Administrative Support, Waste Management, and Remediation Services	712 (16.0%)	114 (12.8%)	598 (17.0%)	-4.2**
Wholesale Trade	261 (5.9%)	38 (4.3%)	223 (6.3%)	-2.1*
Accommodation and Food Services	177 (4.0%)	32 (3.6%)	145 (4.1%)	-0.5
Professional, Scientific, and Technical Services	199 (4.5%)	37 (4.1%)	162 (4.6%)	-0.5
Transportation and Warehousing	145 (3.3%)	28 (3.1%)	117 (3.3%)	-0.2
Construction	161 (2.7%)	27 (3.0%)	94 (2.7%)	0.4
Other	678 (15.3%)	149 (16.7%)	529 (15.0%)	1.7
Number of Employees				
Fewer than 50	903 (20.4%)	247 (27.6%)	656 (18.6%)	9.0**
50-99	594 (13.5%)	174 (19.5%)	423 (12.0%)	7.5**
100-499	1,634 (37.0%)	333 (37.2%)	1,301 (36.9%)	0.4
500 or more	1,288 (29.1%)	140 (15.7%)	1,148 (32.5%)	-16.9**

Source: *Skills Wisconsin Employer Survey*, 2016. Statistical significance: ** = 1 percent; * = 5 percent

Exhibit E.2: Characteristics of Respondents and Non-respondents, Salesforce Only, 2016 Wave

	Full Sample	Respondents	Non-Respondents	Difference
	N = 1,287 (100%)	N = 323 (100%)	N = 964 (100%)	(B) – (C)
	(A)	(B)	(C)	
WDA				
Southeast	223 (17.3%)	41 (12.7%)	182 (18.9%)	-6.2*
Milwaukee	100 (7.8%)	14 (4.3%)	86 (8.9%)	-4.6**
WOW	196 (15.2%)	56 (17.3%)	140 (14.5%)	2.8
Fox Valley	30 (2.3%)	7 (2.2%)	23 (2.4%)	-0.2
Bay Area	131 (10.2%)	31 (9.6%)	100 (10.4%)	-0.8
North Central	37 (2.9%)	14 (4.3%)	23 (2.4%)	1.9
Northwest	107 (8.3%)	35 (10.9%)	72 (7.5%)	3.4
West Central	120 (9.3%)	36 (11.1%)	84 (8.7%)	2.4
Western	102 (10.9%)	38 (11.8%)	102 (10.6%)	1.2
South Central	103 (10.6%)	34 (10.5%)	103 (10.7%)	-0.2
Southwest	49 (5.1%)	17 (5.3%)	49 (5.1%)	0.2
Industry				
Manufacturing	238 (18.5%)	87 (26.9%)	151 (15.7%)	11.3**
Health Care and Social Assistance	150 (11.7%)	44 (13.6%)	106 (11.0%)	2.6
Finance and Insurance	37 (2.9%)	8 (2.5%)	29 (3.0%)	-0.5
Retail Trade	126 (9.8%)	16 (5.0%)	110 (11.4%)	-6.5**
Administrative Support, Waste Management, and Remediation Services	70 (5.4%)	15 (4.6%)	55 (5.7%)	-1.1
Wholesale Trade	28 (2.2%)	9 (2.8%)	19 (2.0%)	0.8
Accommodation and Food Services	76 (5.9%)	9 (2.8%)	67 (7.0%)	-4.2**
Professional, Scientific, and Technical Services	43 (3.3%)	9 (2.8%)	34 (3.5%)	-0.7
Transportation and Warehousing	37 (2.9%)	6 (1.9%)	31 (3.2%)	-1.4
Construction	88 (6.8%)	28 (8.7%)	60 (6.2%)	2.4
Other	212 (16.5%)	50 (15.5%)	162 (16.8%)	-1.3

Source: *Skills Wisconsin* Employer Survey, 2016. Statistical significance: ** = 1 percent; * = 5 percent

Note: Employer size was not recorded in Salesforce. Employer industry was not recorded for all employers in Salesforce.

**Exhibit E.3: Characteristics of Respondents and Non-respondents,
Both JCW and Salesforce, 2016 Wave**

	Full Sample	Respondents	Non-Respondents	Difference
	N = 184 (100%)	N = 61 (100%)	N = 123 (100%)	(B) – (C)
	(A)	(B)	(C)	
WDA				
Southeast	28 (15.2%)	12 (19.7%)	16 (13.0%)	6.7
Milwaukee	17 (9.2%)	7 (11.5%)	10 (8.1%)	3.3
WOW	20 (10.9%)	6 (9.8%)	14 (11.4%)	-1.5
Fox Valley	15 (8.2%)	6 (9.8%)	9 (7.3%)	2.5
Bay Area	28 (15.2%)	9 (14.8%)	19 (15.4%)	-0.7
North Central	5 (2.7%)	4 (6.6%)	1 (0.8%)	5.7*
Northwest	8 (4.3%)	2 (3.3%)	6 (4.9%)	-1.6
West Central	12 (6.5%)	3 (4.9%)	9 (7.3%)	-2.4
Western	15 (8.1%)	5 (8.2%)	10 (8.1%)	0.0
South Central	25 (13.6%)	5 (8.2%)	20 (16.3%)	-8.1
Southwest	11 (6.0%)	2 (3.3%)	9 (7.3%)	-4.0
Industry				
Manufacturing	63 (34.2%)	29 (47.5%)	34 (27.6%)	19.9**
Health Care and Social Assistance	23 (12.5%)	6 (9.8%)	17 (13.8%)	-4.0
Finance and Insurance	6 (3.3%)	1 (1.6%)	5 (4.1%)	-2.4
Retail Trade	12 (6.5%)	1 (1.6%)	11 (8.9%)	-7.3
Administrative Support, Waste Management, and Remediation Services	21 (11.4%)	6 (9.8%)	15 (12.2%)	-2.4
Wholesale Trade	7 (3.8%)	2 (3.3%)	5 (4.1%)	-0.8
Accommodation and Food Services	3 (1.6%)	0 (0.0%)	3 (2.4%)	-2.4
Professional, Scientific, and Technical Services	5 (2.7%)	1 (1.6%)	4 (3.3%)	-1.6
Transportation and Warehousing	8 (4.3%)	5 (8.2%)	3 (2.4%)	5.8
Construction	11 (6.0%)	4 (6.6%)	7 (5.7%)	0.9
Other	25 (13.6%)	6 (9.8%)	19 (15.4%)	-5.6
Number of Employees				
Fewer than 50	25 (13.5%)	10 (16.4%)	15 (12.2%)	4.2
50-99	19 (10.3%)	8 (13.1%)	11 (8.9%)	4.2
100-499	67 (36.4%)	26 (42.6%)	41 (33.3%)	9.3
500 or more	73 (39.7%)	17 (27.9%)	56 (45.5%)	-17.7*

Source: *Skills Wisconsin* Employer Survey, 2016. Statistical significance: ** = 1 percent; * = 5 percent

APPENDIX F. EMPLOYER SURVEY RESULTS BY DATA SOURCE, 2016 WAVE

Exhibit F.1: Survey Question 1, by Employer Sample, 2016 Wave

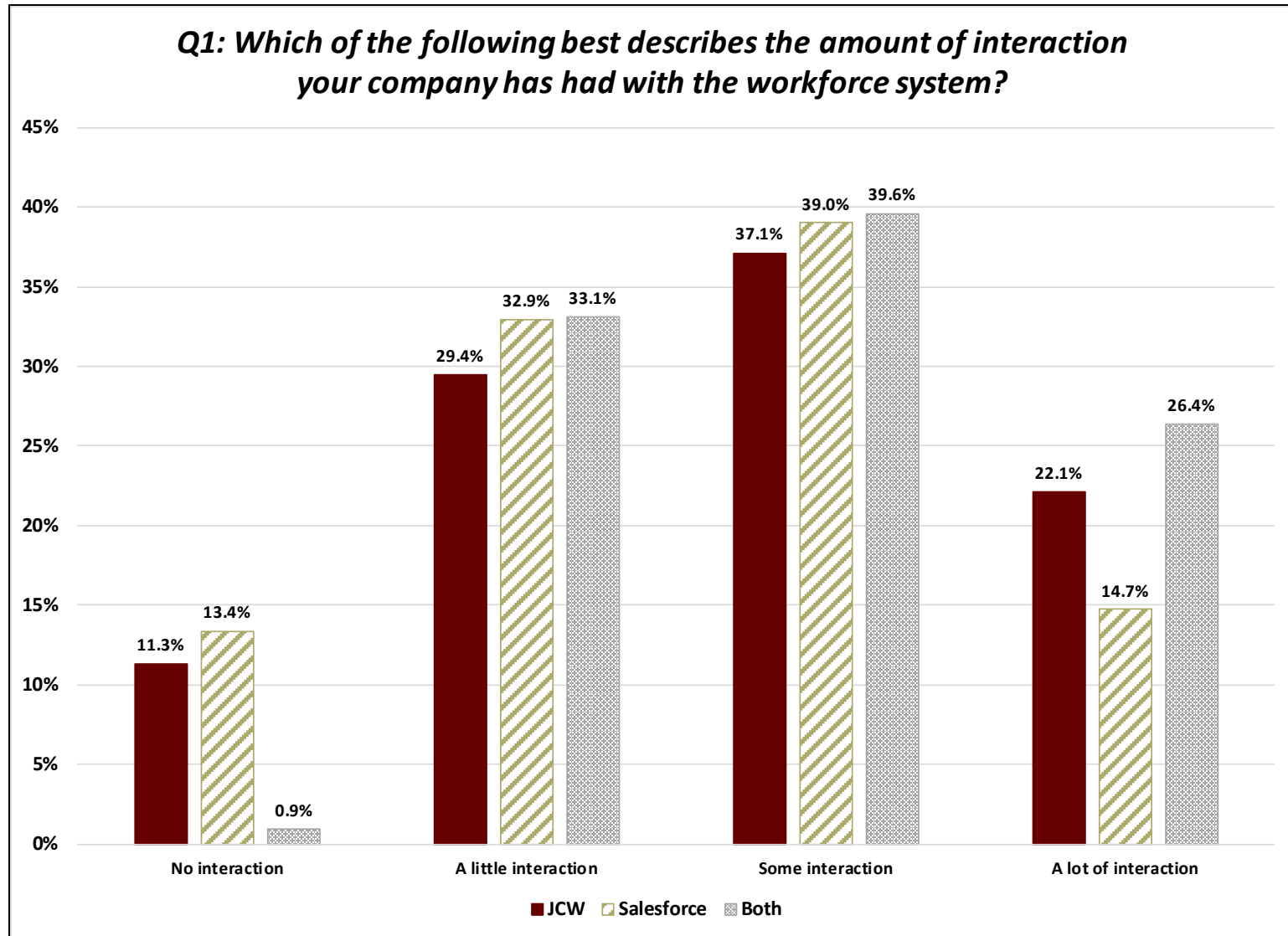


Exhibit F.2a: Survey Question 2, JCW Sample, 2016 Wave

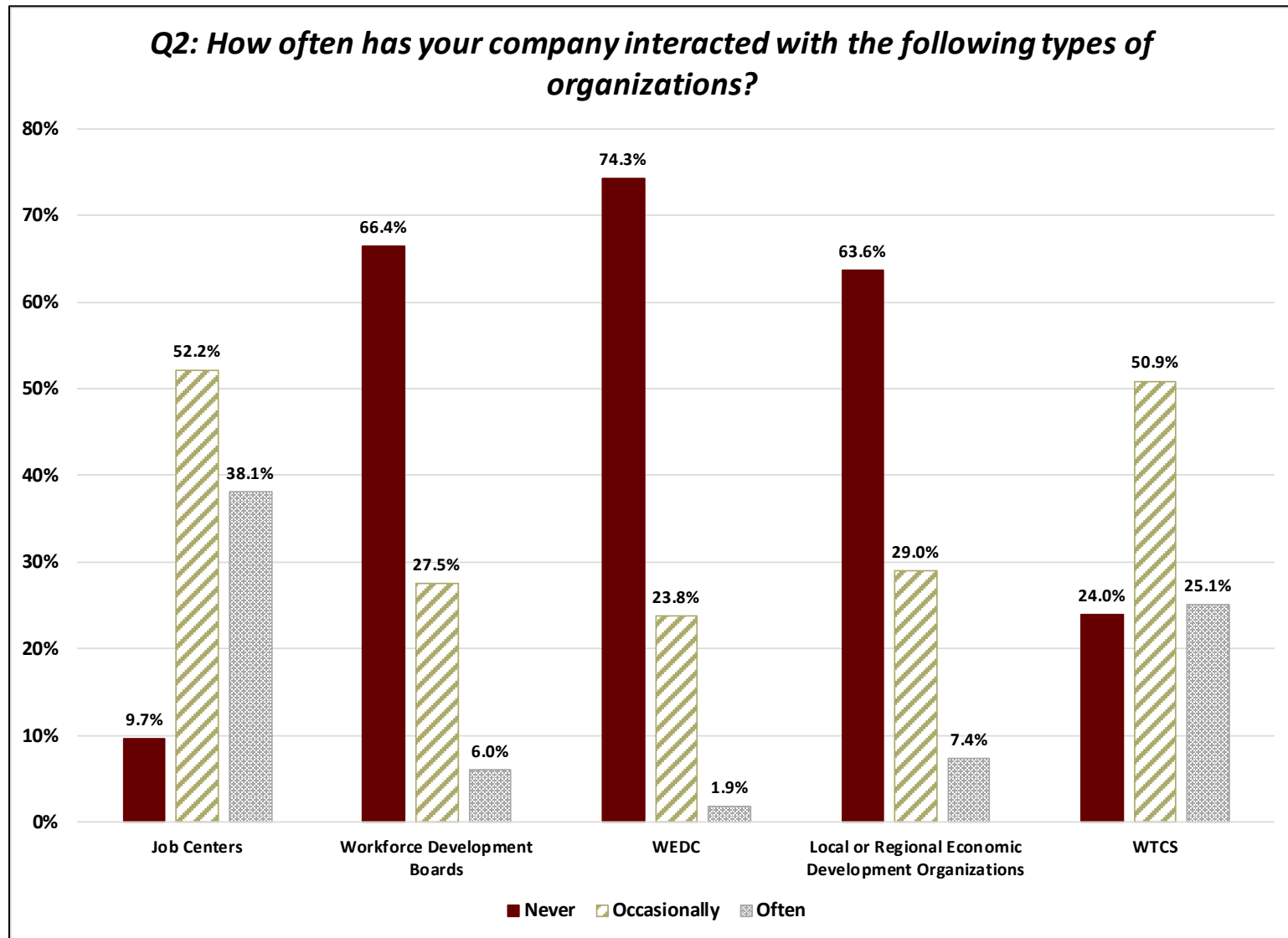


Exhibit F.2b: Survey Question 2, Salesforce Sample, 2016 Wave

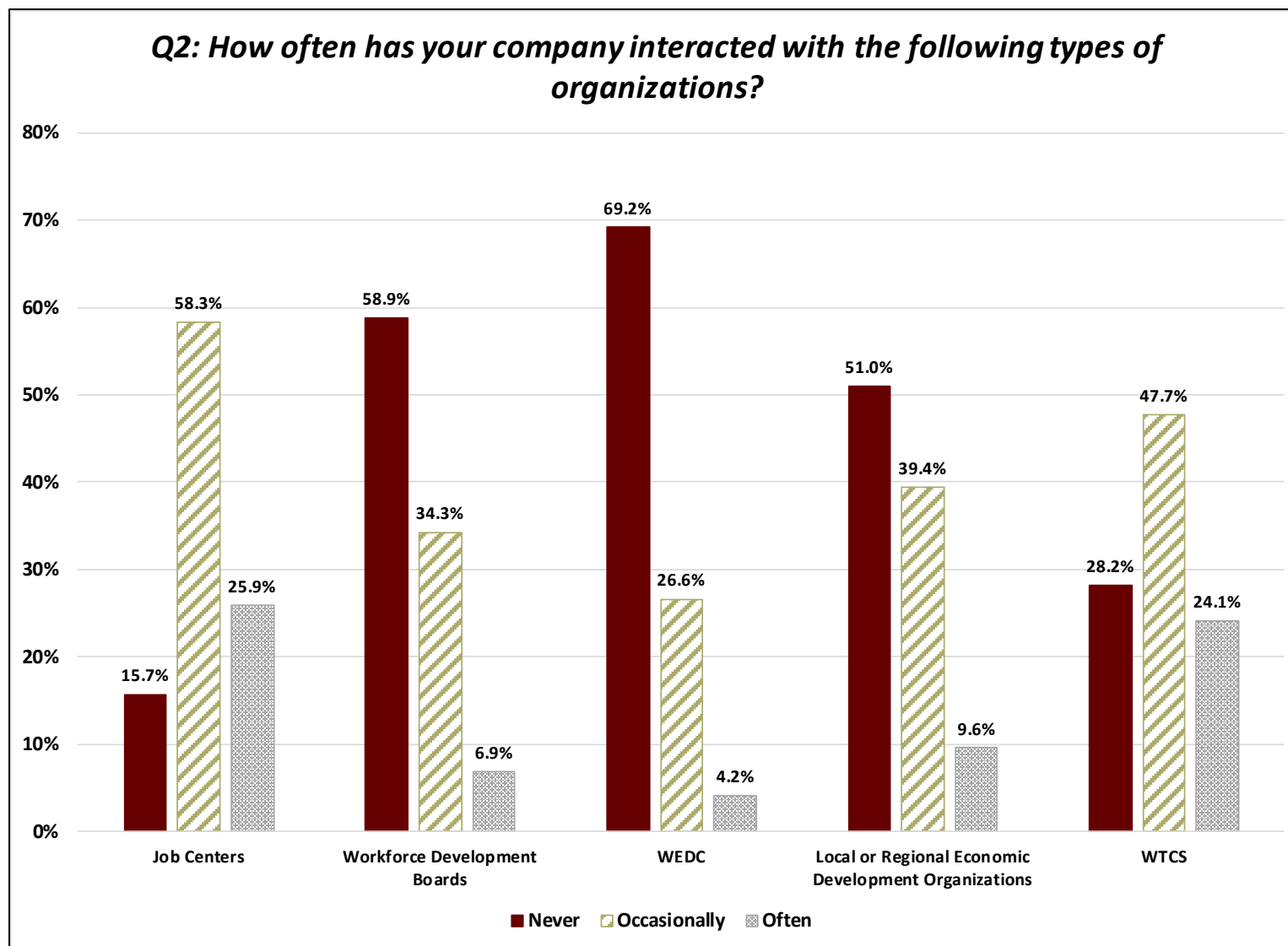


Exhibit F.2c: Survey Question 2, Both JCW and Salesforce Samples, 2016 Wave

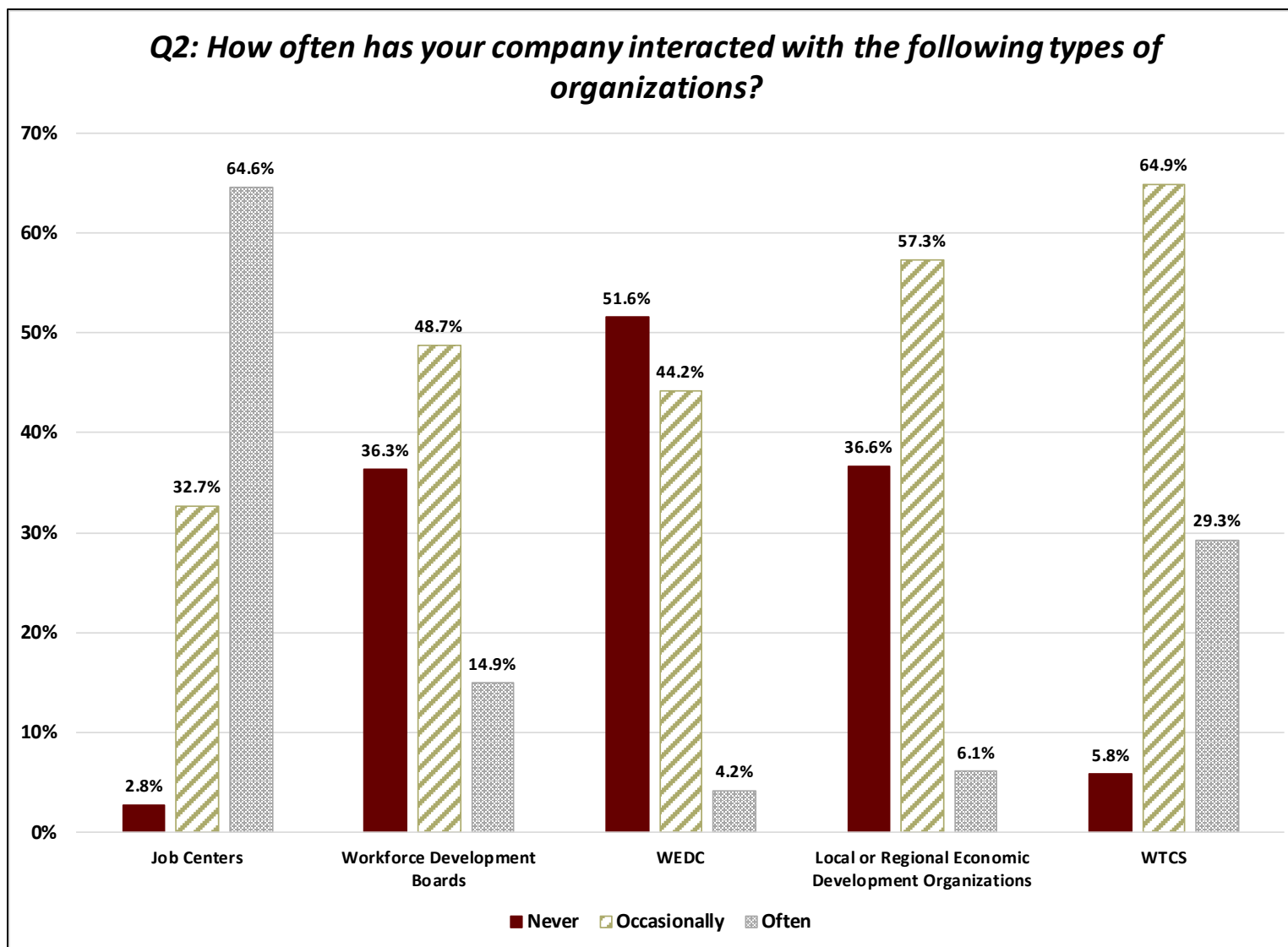


Exhibit F.3 Survey Question 3, by Employer Sample, 2016 Wave

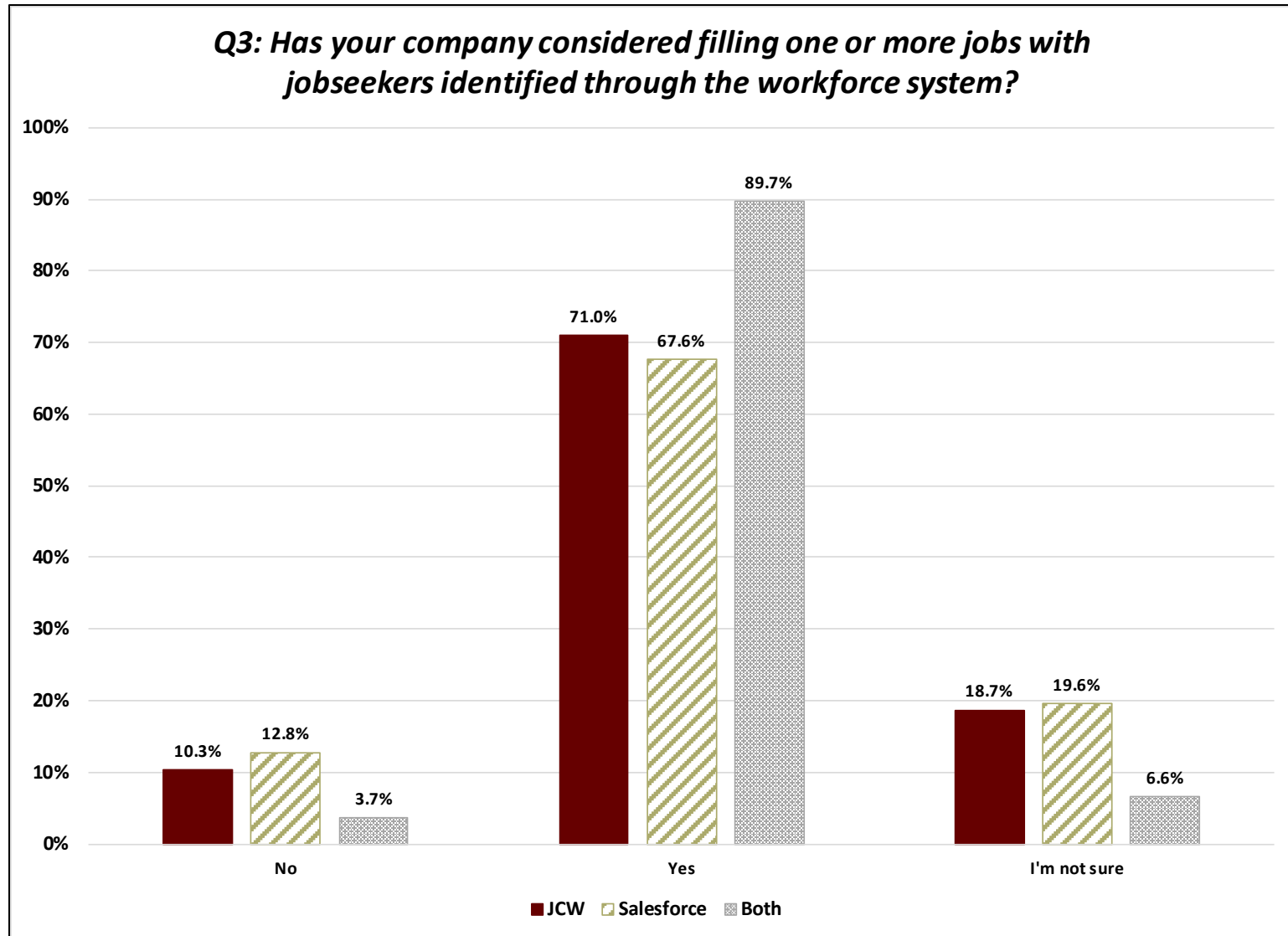


Exhibit F.4: Survey Question 4, by Employer Sample, 2016 Wave

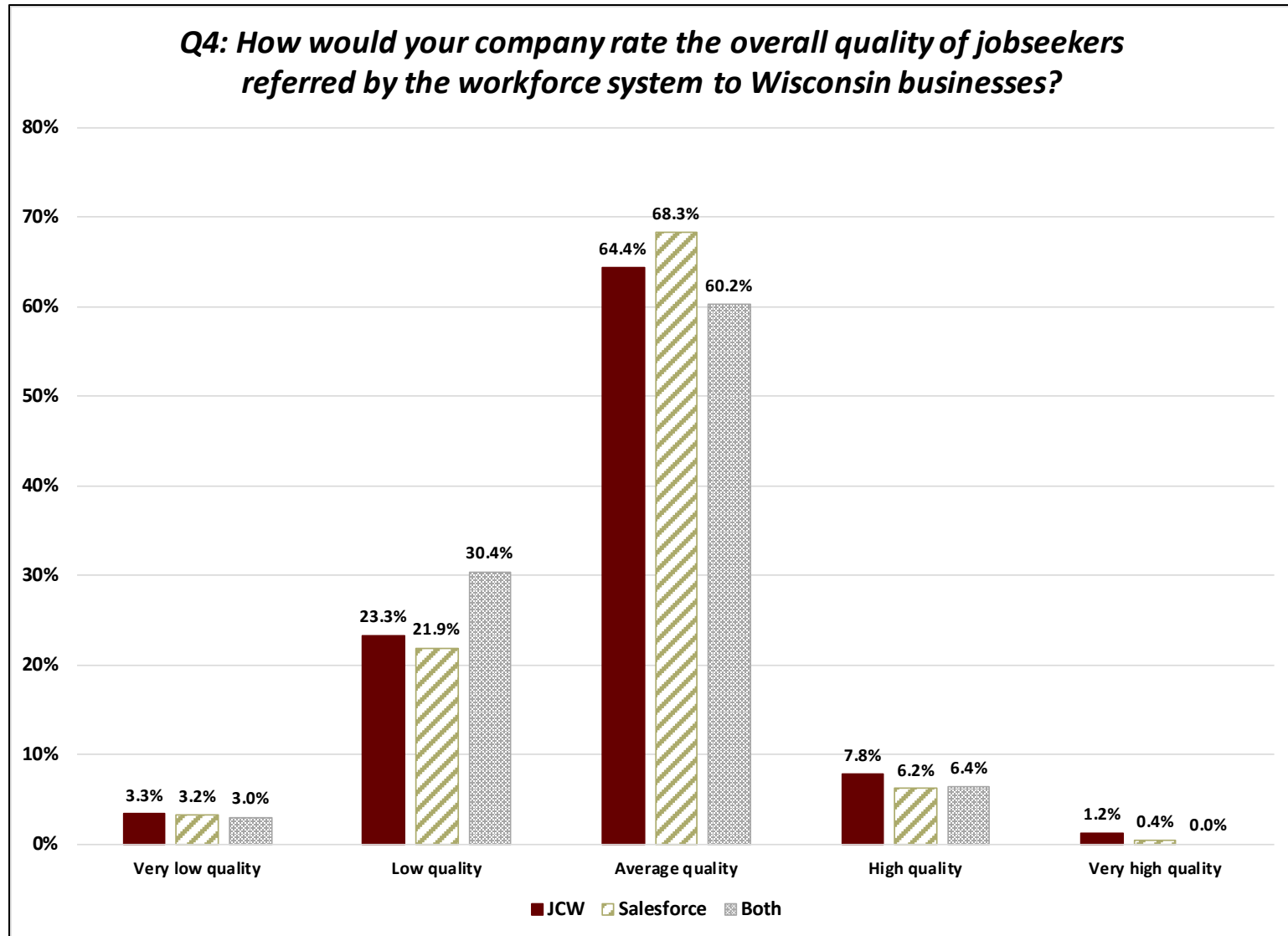


Exhibit F.5: Survey Question 5, by Employer Sample, 2016 Wave

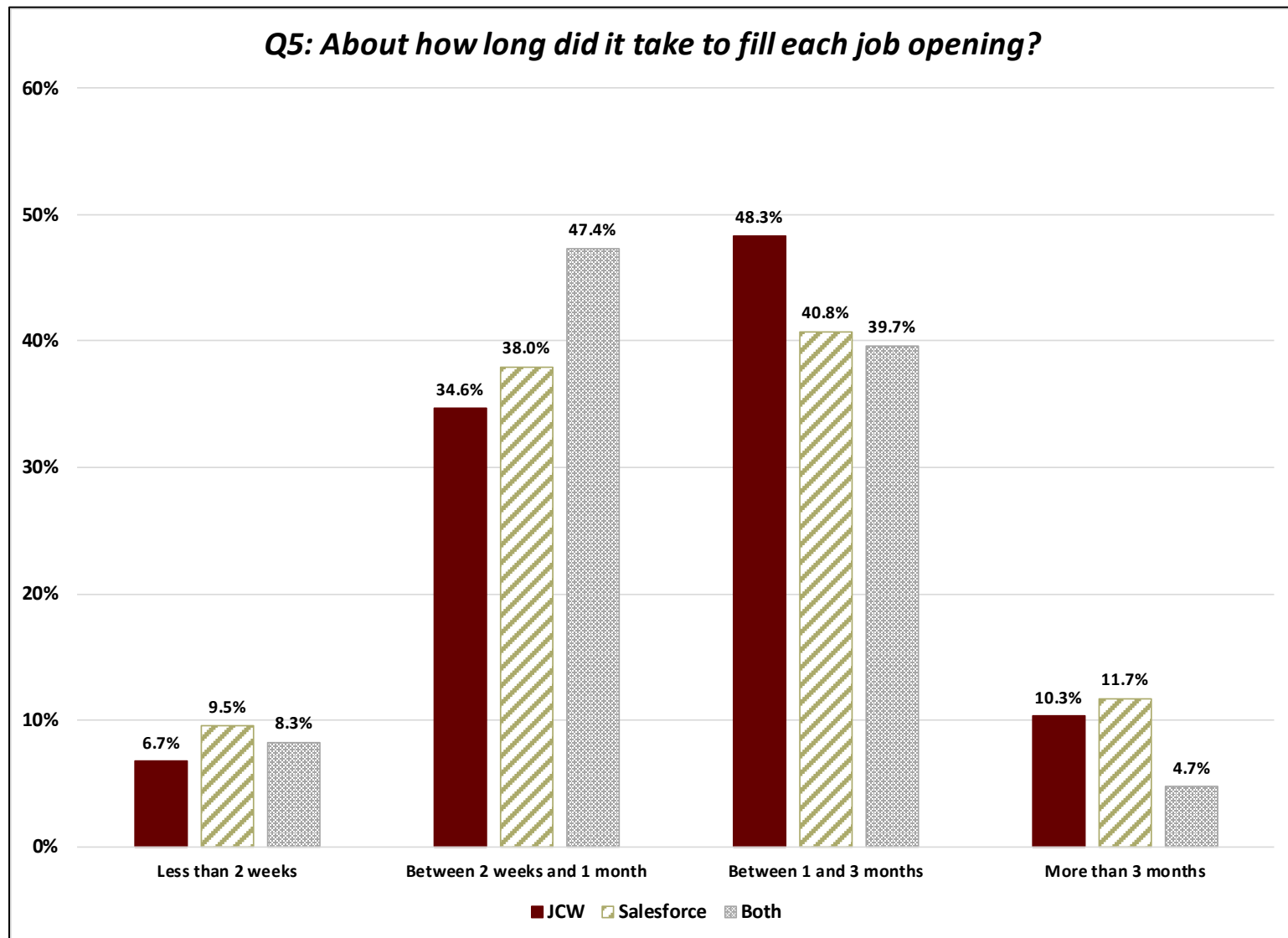


Exhibit F.6: Survey Question 6, by Employer Sample, 2016 Wave

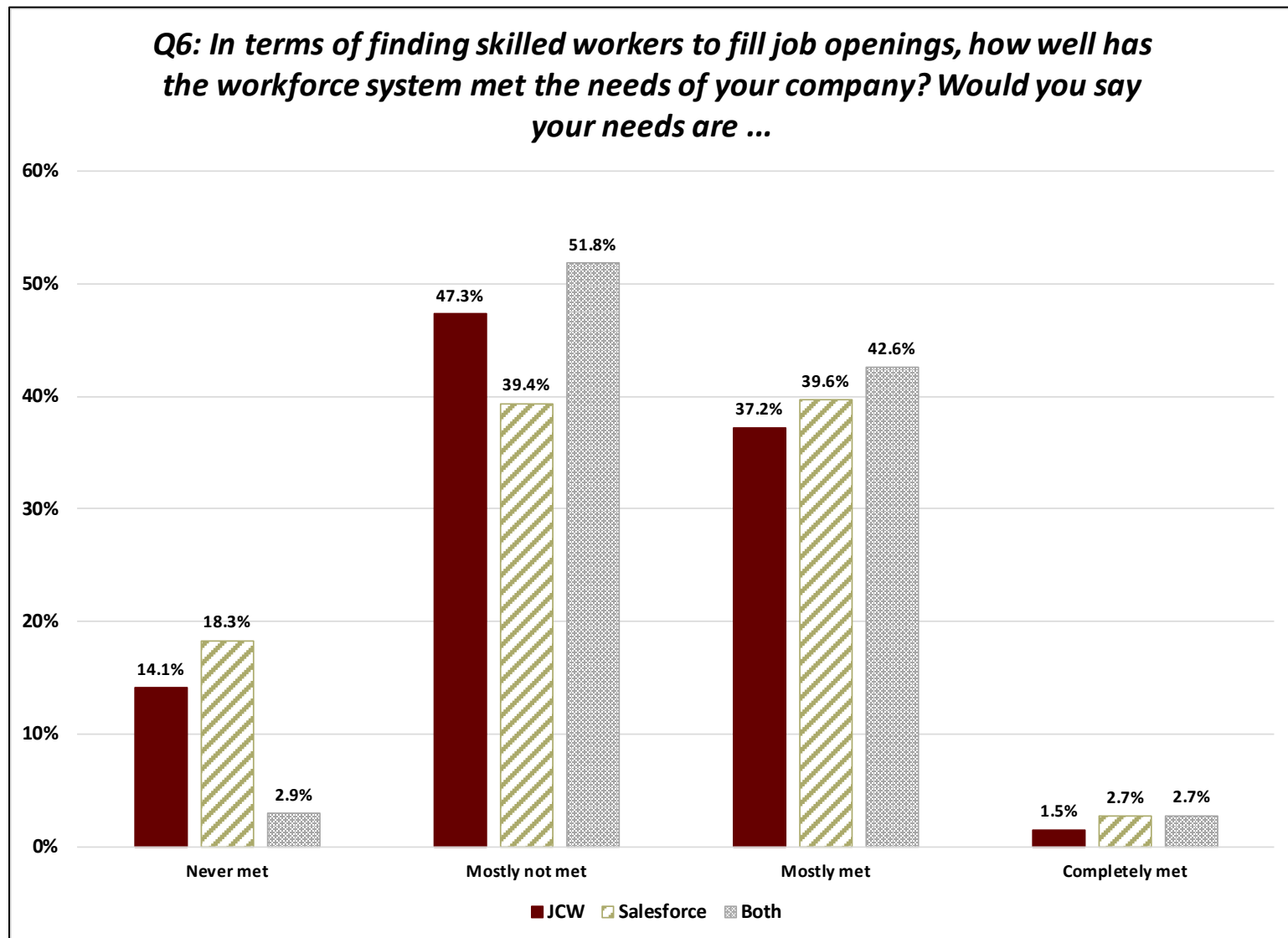


Exhibit F.7: Survey Question 7, by Employer Sample, 2016 Wave

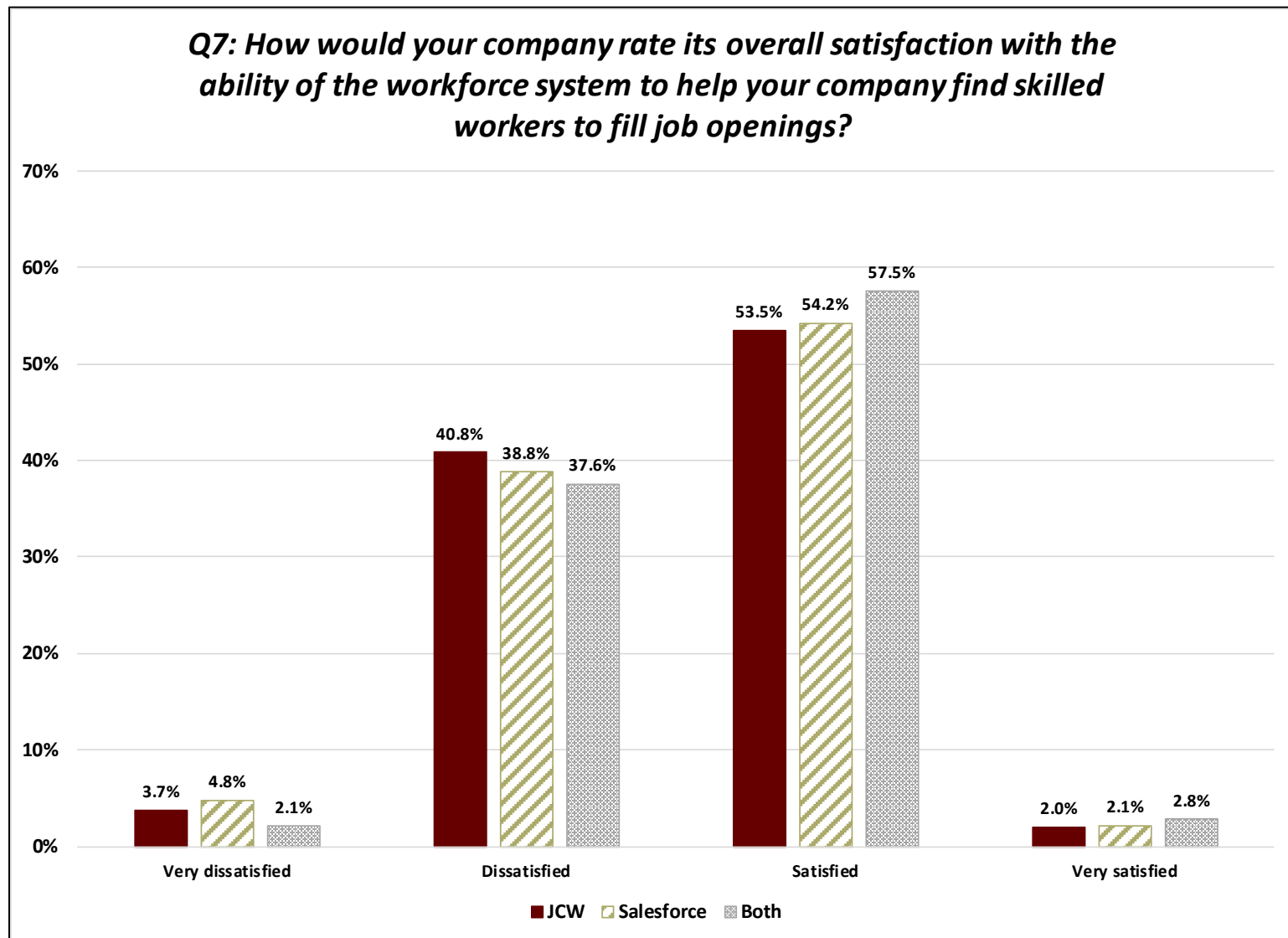


Exhibit F.8: Survey Question 8, by Employer Sample, 2016 Wave

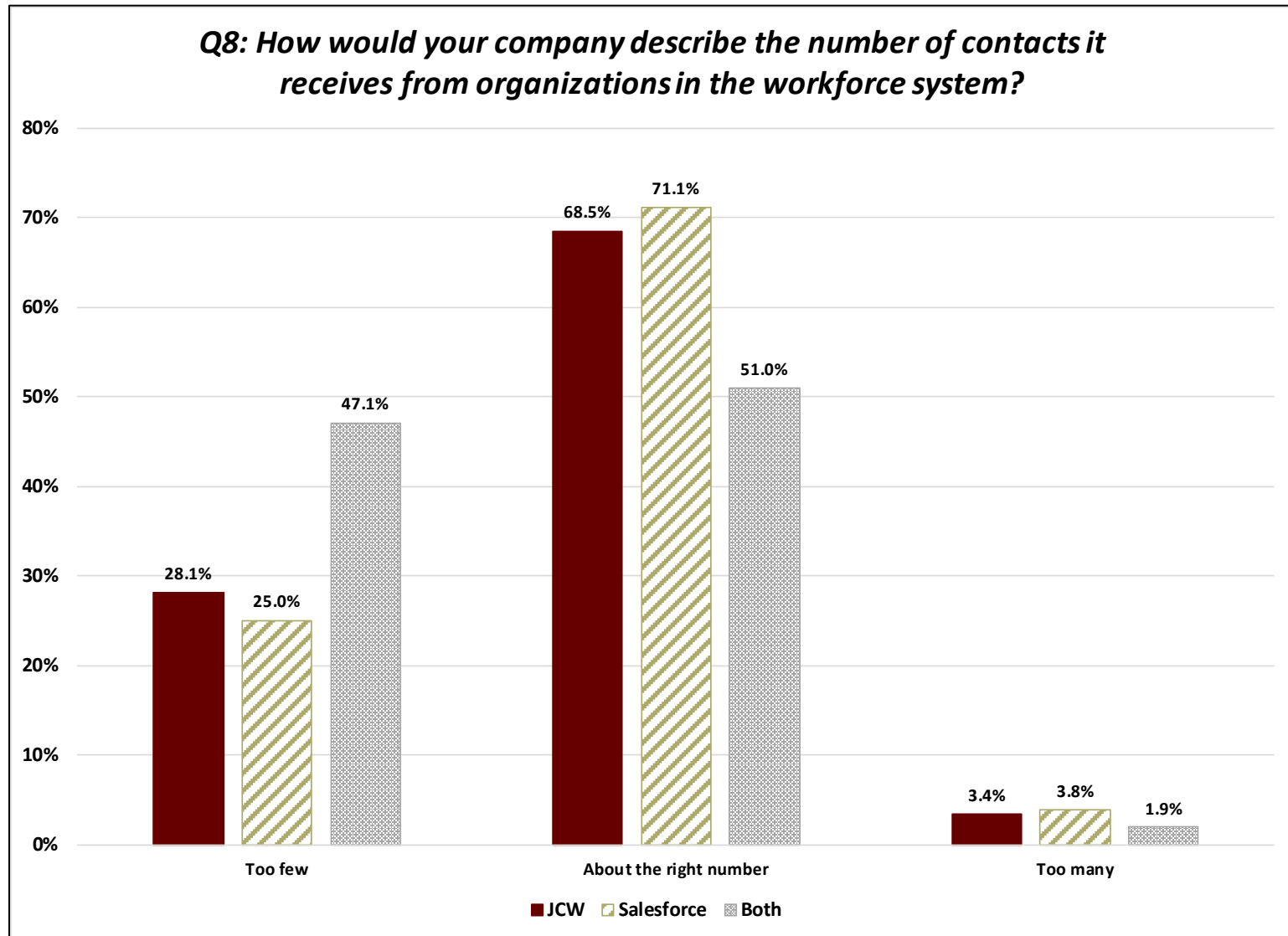


Exhibit F.9: Survey Question 9, By Employer Sample, 2016 Wave

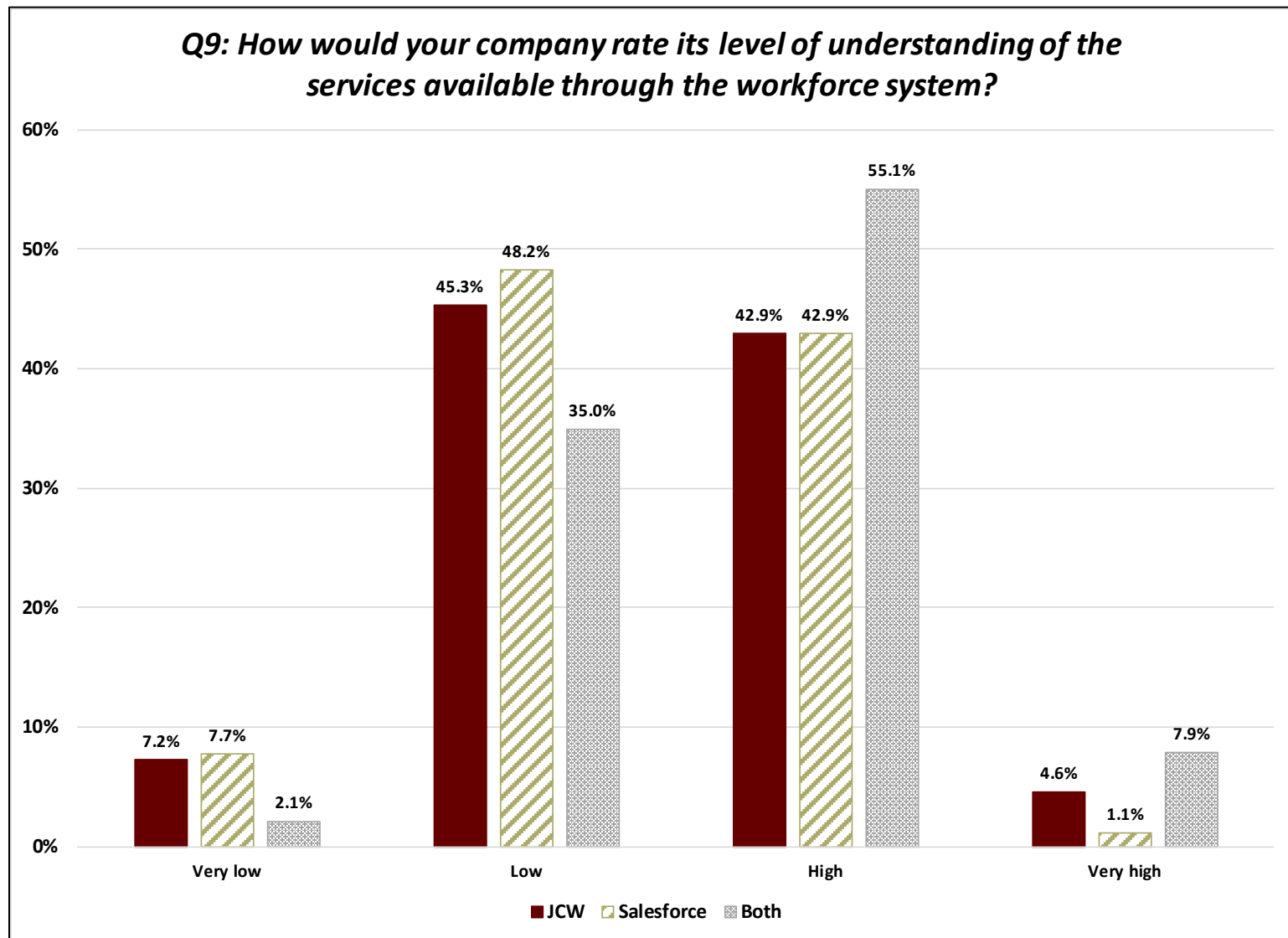


Exhibit F.10: Survey Question 10, by Employer Sample, 2016 Wave

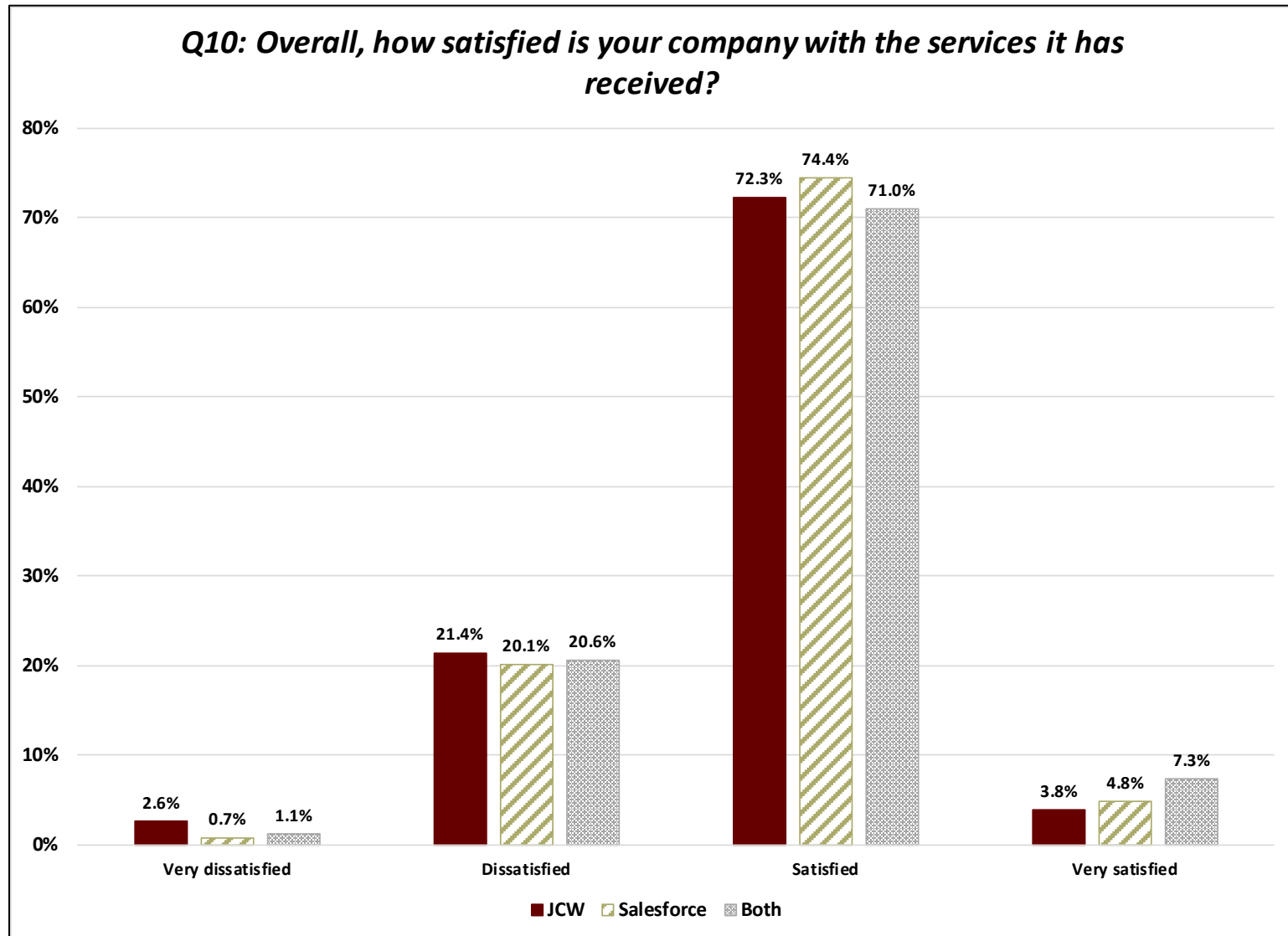


Exhibit F.11: Survey Question 11, by Employer Sample, 2016 Wave

