

Impact of Specialization on Recruiter Productivity in the Staffing Industry

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The United States Staffing industry has seen tremendous growth since the 1990s, eclipsing \$150 billion in market share in 2019. While the magnitude of the staffing industry seems large, the amount of competition has increased exponentially. As a result, industry leaders have begun to look for new ways to adjust their recruiter development to increase market share. It has become imperative for staffing companies to adopt a dedicated specialized delivery model to differentiate themselves.

This research seeks to understand the impact of specialization on recruiter performance. By analyzing recruiter-level panel data from an IT staffing company, we found that a specialization model had a positive yet statistically insignificant impact on recruiter productivity. With 2021 being the adoption year, the true effect may only be partially captured because the economy was not fully open due to COVID-19. Further, the real impact of a specialization model could take a few years to materialize. Therefore, we expect to observe a much more significant influence in subsequent years if the data becomes available.

Keywords: staffing industry, specialization, high performance work systems

INTRODUCTION

As specialization and analytics have become a large asset in organizational strategy, this research analyzes the impact of specialization on recruiter productivity at a staffing firm in the local Detroit, MI area. In order to adapt to ever-changing trends in customer needs, the selected company adopted the specialized model in 2020. According to Daniel Smith and Chris Mishler (2016), analytics is the conversion of information to knowledge with view towards performance: “Business intelligence is the use of multiple sources of data, particularly data external to your organization and related to your competitive environment, to enhance profitability of your business” (Smith and Mishler, 2016 p. 62). As analytics focuses on data to evaluate performance, understand trends, and develop plans that lead to further success, specialization has become a popular result of investigations into specific business analytics centered around recruiter performance. This research concentrates on specialization to best understand the impact it has on recruiter success.

A staffing company is internally perceived as a sales organization providing sufficient support to its clients and their goal to increase their market share. Almost all large corporations leverage the services of staffing companies to identify new hires with the requisite specialized skillsets in a timely manner. The

services offered by a staffing company are in parallel to a large corporation's human resources recruitment effort but with a number of benefits that internal human resources cannot provide. Additionally, the delivery model of a staffing company aims to support a multitude of organizations with the need to hire contract or full-time employees in challenging and specialized skillsets. It provides corporations with more flexible options pertaining to forecasting needs and adaptability, with less risk involved, while also identifying the best talent in a timely fashion. Due to these unique services, the staffing industry has experienced an exponential growth since the 1990s.

Prior to the organization making the push towards specialization at the end of 2020, the delivery model contained a small group of specialized foci outside of core IT positions. Originally, all recruiters had been categorized within one vague IT space as either core infrastructure or core applications. These groups were differentiated by the specific needs of the customers, as internally, they could have dedicated positions geared towards infrastructure or application development within their enterprise. Recruiters who aligned to infrastructure positions were then broken down into various roles: from end user or helpdesk support and security analysts, to systems/network architects building out the infrastructure for clients. However, the recruiters had a large gap in their understanding of the technology, products, customer needs, and the ability to qualify or disqualify candidates because of the broad number of skillsets and positions encompassed in their work.

Following the push to specialization, recruiters became more focused within their disciplines of infrastructure. For example, recruiters within the infrastructure space became solely preoccupied with end user support, security analysts/engineers, or cloud engineers, etc. As this model was introduced, recruiters became market experts (meaning a deep understanding of local candidates' skillsets, rates, trends) not only in the broad discipline of infrastructure but also strictly narrowed to cloud engineering, end user support, project management, and cybersecurity. With specialization, recruiters were able to identify top talent and build a network of candidates for those openings moving forward because of a stronger understanding and the large amount of time recruiters spent in that space.

The purpose of this research is to understand the impact of the switch to the specialization-focused delivery model on recruiter productivity. To attain the above goal, a panel of recruiter-level data were obtained from the Detroit metro branch of the largest IT staffing firm in the United States. This paper is organized as follows. Section II includes a literature review. Section III provides the details of the staffing model. The data and empirical analysis are in Section IV. Section V concludes the study.

LITERATURE REVIEW

As competitors continue to modify and adapt to the ever-changing market and competitive landscape, market leaders have now begun to alter how they maintain their status as a leader through enhanced adaptability to customer needs. In all industries, companies regularly attempt to come up with ways to differentiate themselves from others. According to Sengupta (2019), if a firm "failed to assess the impact of changing technology on consumer preferences, it became redundant" (p. 56). Today's companies find new means to generate market shares by differentiating themselves from their competitors and by strengthening their workforce with High Performance Work Systems (hereafter: HPWS). The effect of the implementation of HPWS provides internal employees with education and specialization. In the following review, the relationship between HPWS as implemented by various organizations worldwide and specialization will be defined to articulate the level of increased success for both individual and organizational performance.

Across organizations, human resources management has trended towards adopting HPWS. According to Cheng (2018), HPWS is implemented by organizations to dramatically impact and increase employee performance. HPWS is a new method centered around employee production, optimization, and specialization applied by human resources to increase operational efficiency and profitability. It is responsible for creating an environment that gives employees more autonomy, which prompts the initiative and responsibility that positively impacts the organization. In an extensive research endeavor titled *The History of Human Resources* (Lloyd and Aho, 2021), the authors dedicated a full chapter to the adoption

of HPWS and the impact it can have on organizational success. To summarize, HPWS involves a number of characteristics that are imperative to building high-performing teams.

Each individual employee has a variety of skills that can influence performance. In a sales organization, maximizing workplace specialization in regards to their customers can directly increase performance for both the individual and organization. “Skill training lends itself to improved profitability by reducing the number of mistakes that employees make. The broader knowledge employees have about the business and processes improves quality of their output” (Lloyd and Aho, 2021 p. 55). Skill training has a significant impact on employee performance. In an article titled, “Importance of use high-performance work systems and effectiveness of employee’s role on organizational performance,” Aggarwal (2019) concluded that HPWS has many effects on an organization, particularly on the sales growth and innovation. Optimization and training for sales individual lead to increased profitability and organizational performance.

In their research, Lloyd and Aho (2021) sampled three companies (Pan-Am, Montgomery Ward, and Bethlehem Steel) that struggled to adapt to the constant-changing business environment and eventually went into organizational failure. The two common factors that led to failure among these organizations were the “use of aging business practices and the inability to adapt” (p. 60-61). The authors discussed other organizations that were able to experience success decade after decade, and it was in large part due to the ability to blend current and future needs of the business while changing the internal management practices to increase optimization. On the flip side, Lloyd and Aho (2021) argued that the specialization of employees and organizations leads to increased profitability. “To grow and thrive in changing times, many firms now recognize that a highly motivated and skilled workforce is essential to maintain a competitive advantage” (p. 61).

Following the success stories of the companies adopting HPWS, several other organizations across the globe have modified their sales/technology strategies to relate more to customers/consumer needs. Sengupta (2019) argues, “In many cases, technologists are aware of new trends in their field, but are unable to translate the applicability of the same in the consumer space. This is because of a typical chicken and egg situation, where on one hand the consumer is not able to articulate his/her requirement, as they are not aware of the possibilities” (p. 58). Various organizations in pursuit of specialization understand the potential difficulties with translating the requirements and formulating a new specialization strategy. With a broad term of “specialization” being the forefront plan for staffing/sales organizations, creating awareness around specialized insights can give leadership access to more information for future recruitment/sales alignment and more fixated conversations related to customer needs. Indeed, according to Sengupta (2019, p. 65), “It is essential to be able to match technology features and capabilities to business trends and requirements.”

Prior to diving into the applicability of HPWS in the staffing industry, one must understand that implementing HPWS typically challenges two perspectives in an organization: content and process. Content is the form of information that the internal employees receive and gain knowledge with and practice developing. “Content perspective emphasizes that as long as HPWS includes practices that can improve employee knowledge, skills, and motivation, HPWS will have a positive effect on employee and organizational performance” (Cheng 2018, p. 100). A process perspective concentrates on the overall implementation of HPWS within the organization and partially on how employees adopt the new standards. Cheng (2018) acknowledges that without the proper implementation or adoption of HPWS, organizations can hinder the effectiveness of the system and reduce the performance at times. Lloyd and Aho (2021, p. 66) suggest that “organizations build talent through the human resource department’s process to enhance the firm’s employee’s abilities, enhance their motivation, and increase their opportunities.” The purpose is the discovery of an organization’s abilities to improve employee performance.

However, the challenge that comes with HPWS is the desire to implement a new process. HPWS can increase employee performance through a few different methods. Organizations, for example, can focus on the internal development and education that relate to customer needs. This means that an organization or company will work on specialization for their sales team to better relate to the clients’ goals to increase and provide the best service they can. HPWS explores educational development as it directly relates to specialization among employees for optimal performance.

Similar to the constant-changing landscape and agile concept within IT, companies that support IT organizations must understand and adapt to the different trends that clients experience: “Organizations have to stay constantly alert and consistently agile—alert to shifting customer behavior driven by technology adoption to predicting the impact and agile in terms of response by leveraging insights from data analysis” (Sengupta 2019 p. 67). HPWS is centered around education and creating high performing teams relating to employees’ backgrounds through autonomy and responsibility. The staffing industry utilizes the idea of HPWS through employee participation, development, and structure. They are doing this through specialization practices within skillsets and team makeups, all looking to best support their clientele while giving them an advantage over other staffing competitors in the space.

The theories of HPWS and specialization suggest that the more education a recruiter has on specific skillsets, the stronger their ability to identify and qualify/disqualify potential candidates for the clientele. As the clients of staffing companies begin to look for more specialized talent, the disparity between skillsets of the candidates they identify for their customers grows larger in the IT industry. Customers have increased their spending on staffing organizations that have sales individuals with specialized skills relating to their needs. With information technology roles becoming more technical and specialized (cloud engineer, java developer, cybersecurity engineer, etc.), candidates’ skills have become further apart than ever before. Developing a core understanding of the product provides clients with higher quality and quicker placements. Due to the talent shortage in the IT industry, providing qualified and skilled talent quickly is significant in helping clients achieve their goals. As a result, recruiters with specialization training will in theory deliver better productivity and lead to organizational success. Organizations and sales individuals who lack the requisite education and training to meet their clients’ needs for their core workforce will continue to get passed up for competitors that are specialized in the product they are selling. Customers truly understand the value of an educated salesperson, compared to an individual who cannot relate to consumer needs. Thus, specialization leads to quicker sales cycles and increases operational efficiency in a staffing organization.

OVERVIEW OF THE STAFFING MODEL

While external staffing is different than internal HR hiring, the two need to work together to increase talent acquisition efforts for an organization. A staffing company’s business model works with the core concepts of HPWS to help increase profitability. From a delivery perspective, having recruiters with specialized understanding of the client’s business initiatives, market for specific skillsets, and technologies being utilized helps to optimize the staffing capabilities for the clients and improve profitability for the staffing organization. Likewise, as recruiters become more specialized, their ability to identify quality candidates for the consideration of the clients improves. This results in a positive ripple effect on all their customers. As companies continue to modify, adapt, and overcome various challenges within the marketplace, the desire to increase specialization to meet customer requirements has never been more important.

Similar to how various organizations bill out their employees for consulting services, staffing companies adhere to a similar model and generate revenue when a recruiter works to support a specific client. How a staffing firm views revenue and tracks success can be understood from a delivery perspective of the recruiters. The term “delivery” in the staffing industry means pairing various candidates to clients, and the placement is anticipated to generate a profit margin for an extended period. A staffing company receives a job opening from a client through a manager or a vendor management system and competes with other staffing organizations to find the best candidate for the position. This is when the competition occurs within the staffing industry, as there is a speed to market mentality. Staffing organizations attempt not only to find the highest quality candidates but also identify them in the quickest manner, as they compete with others to fill the openings. An open position does not always guarantee revenue as the clients can hire internally or through a competing staffing company. Revenue is generated once the staffing company finds a strong candidate who is accepted by the client and works onsite for a specific pay rate that is covered by a portion of that bill rate from the client. The staffing company takes a margin for providing the service

continuously through the contracts of successful candidates. With the staffing companies internally looking at themselves as sales organizations, they have generated various metrics to track recruiters' performance to optimize their delivery.

While the revenue a recruiter generates implicates the bottom line, leadership tracks a recruiter's efficiency, effort, and optimization through submittals, starts, and their success ratio (hereafter: SR). A submittal is a significant key performance indicator (hereafter: KPI) that most staffing companies use to track and understand individual recruiter success. A submittal is the task of sending a candidate's profile to a client for a potential opening. The goal is to turn a submittal into a start, which means that a candidate is officially hired by the client. The SR of a recruiter is the percentage of starts to submittals over the course of a year. If a recruiter has a better understanding of the skillsets needed for a position, the likelihood of starts on his/her submittals will improve, leading to a better SR. The better SR, the more revenue generated for the staffing company and commission for the recruiter.

DATA AND EMPIRICAL ANALYSIS

The goal of this research is to understand if specialization impacts the productivity of a recruiter. The expectation is that specialization results in increased efficiency for the delivery team. Recruiters with specialization training have higher starts, which translates to a better SR. To accomplish the goal, recruiter-level data were generated from the Detroit branch office of the largest IT staffing company in the nation. As organizations push toward specialization across the globe, this was an opportunity to validate theories and allow leadership an opportunity to develop a specialization strategy.

As specialization is the focus of the research endeavor, gathered data from 2019 to 2021 highlights the impact specialization had on the recruiters as the organization transitioned to the specialized model in 2021. The data were generated from the IT staffing company's database, strictly focusing on the recruiters from the local Detroit office. The data were obtained through approval from the internal leadership for the research endeavor; however, the firm's leaders required us to anonymize all information regarding the company and personal identifiable information. The data set contained a total of 123 data points from 72 recruiters spanning from 2019 to 2021. It is an unbalanced panel as the number of recruiters fluctuated from year to year due to promotions and resignations. With that being said, there were 20 recruiters who remained consistent throughout the three years.

Table 1 shows the descriptions of the variables employed in this research. Subs and Starts are included in the table to create the SR, which is used to measure a recruiter's performance. Mtgs is an important KPI tracked by the organization to understand a recruiter's activity and effort. EYCA represents a recruiter's tenure with the company. SDV is the dummy variable illustrating the switch a recruiter made to the specialization model.

**TABLE 1
STAFFING KPI'S VARIABLE DESCRIPTION**

Variable	Description
SR	Success Ratio, the percentage of starts to submittals in a year
EYCA	Years that recruiter has been employed by the staffing company
Subs	Total number of submittals made for a year
Starts	Total number of starts recruiter had for a year
Mtgs	Weekly average of formal meetings/interview with potential new candidates
SDV	Dummy Variable included for Specialization, meaning recruiter went through training for specialization. A recruiter that received specialization training for the year was designated with a 1.

**TABLE 2
DESCRIPTIVE STATISTICS**

	<i>SR</i>	<i>EYCA</i>	<i>Subs</i>	<i>Starts</i>	<i>Mtgs</i>
Mean	33.80%	5.219512	56.861789	19.943089	2.221974
Standard Error	1.46%	0.540328	3.059504	1.581173	0.085604
Median	32.35%	3.0	52.0	17.0	2.2
Mode	50.00%	1.0	34.0	20.0	3.0
Standard Deviation	16.25%	5.992532	33.931543	17.536052	0.949394
Minimum	0.00%	1	7	0	0.041667
Maximum	79.17%	25	197	109	5.131579
Count	123	123	123	123	123

Recruiters who were employed at the company in 2020 for training began specializing in 2021. Specialization was introduced to the recruiters in a few different ways, but in this case, it specifically centered around recruiter options, experience/strengths, and proper forecasting. Typically, recruiters have some autonomy when making decisions on where to specialize, and while leadership ensured the amount of bandwidth each skillset needed was appropriate through proper forecasting, recruiters were still able to choose their specialization. The knowledge that recruiters then developed within the space amounted to significant training and educational content that recruiters studied, read, and engaged in to foster a stronger understanding. Lastly, an encouragement to focus and spend time at networking events for specific skillsets offered recruiters more opportunities to not only grasp core ‘textbook’ concepts but also gain insight through conversations with candidates in their space.

The expectation of this research is that recruiters who received specialization training will have a better performance, measured by the SR, than recruiters who did not receive it. Table 3 shows a pre- and post- t-test on the SR of recruiters in 2019 and 2021. Since 2020 is the transition year, it is skipped in the t-test calculations. Table 3 suggests that the average SR in 2021 was significantly higher than in 2019. The t-test outcome supports the notion that specialization plays a significant factor in recruiter performance.

**TABLE 3
PRE- AND POST-ADOPTION T-TEST ON SUCCESS RATIO**

	<i>2019</i>	<i>2021</i>
Mean	27.63%	35.06%
Variance	2.23%	2.57%
Observations	46	40
Hypothesized Mean Difference	0	
df	80	
t Stat	-2.21505	
P(T<=t) one-tail	0.0148	
t Critical one-tail	2.373868	

We now turn to a panel data analytic model – Equation (A) to formally analyze the impact of specialization on recruiter productivity. As mentioned previously, a recruiter’s productivity is measured by their SR. EYCA is included because of the impact a recruiter’s years of experience has on their SR. The longer a recruiter works with the organization, the higher their SR because of experience and knowledge on qualifying and submitting candidates. As a result, EYCA is expected to have a positive sign. Mtgs is an important measurement of a recruiter’s effort. The higher the number of interviews that a recruiter performs

with prospective candidates, the better the likelihood to submit a quality candidate to various positions, thereby improving the overall SR. Thus, Mtgs is expected to have a positive impact on recruiter productivity. SDV were included as the measurement being tested to understand if specialization impacts recruiter productivity. The year dummy variables were included to control for the general economic conditions, particularly the COVID-19 pandemic. The pandemic impacted the economy and various customers' buying power. It decreased the number of openings that recruiters worked on and negatively influenced the staffing firm's revenue. Despite it being completely out of the recruiter's control, including these dummy variables was imperative to sufficiently analyzing the impact of specialization.

To give insight into COVID-19's impact, the pandemic resulted in a 47% decrease in submittals (2,733 submittals in 2019 compared to 1,454 submittals in 2020), and a 22% drop in starts (807 starts in 2019 compared to 633 starts in 2020). However, as the economy re-opened in 2021, both submittals and starts bounced back to pre-pandemic levels. The above figures show that there was a significant downturn in opportunities for recruiters to get submittals and starts in 2020 due to the pandemic. Thus, it is important to include the year dummies as the control for the general economic conditions in the model.

The specification we utilized to examine the impact of the specialization model is as follows. A Hausman test was performed, and it favored a random-effect model for our data over a fixed-effect model.

$$LNSR_{it} = \beta_0 + \beta_1(LNEYCA_{it}) + \beta_2(LNMtgs_{it}) + \beta_3(SDV_{it}) + \beta_y(Yr_{it}) + \mu_{it} + \varepsilon_{it} \dots \dots \dots (A),$$

where *LN* is the natural logarithm, *SR_{it}* is the success ratio of recruiter *i* in year *t*; *EYCA_{it}* is tenure with the company of recruiter *i* in year *t*; *Mtgs_{it}* is the number of interviews on candidates conducted by recruiter *i* in year *t*; *SDV_{it}* is the is the dummy variable for the implementation of the specialization model; *Yr_{it}* are the year dummies helping to control general year effects; μ_{it} represents recruiter-year random effects; β are slope coefficients; and ε_{it} represents the disturbance term.

TABLE 4
RANDOM EFFECTS PANEL REGRESSION ANALYSIS

DV: <i>LNSR_{it}</i>	Estimated Coefficient
<i>LNEYCA_{it}</i>	0.217* (0.061)
<i>LNMtgs_{it}</i>	0.037 (0.066)
<i>SDV_{it}</i>	0.102 (0.171)
Year Dummies	Yes
Number of Recruiter-Years	123

Standard errors are in parentheses

*: *Statistically Significant at 5%*

Table 4 illustrates the estimation results of Equation (A). The estimations suggest that EYCA, or years of experience, shows a significantly positive impact on recruiter productivity. The longer the recruiters have been with the company, the more experience they have to generate quality submittals that lead to higher SR. However, the impact of years of experience on productivity illustrates a diminishing return. The estimated coefficient on Mtgs suggests a positive impact of recruiter effort on productivity, yet the coefficient is statistically insignificant. Lastly, the positive parameter of SDV, a measurement of the switch to the specialization model, suggests that the specialization model helps to improve recruiter productivity. This observation agrees with the t-test results in Table 3. By using the formula $\{\exp(\beta_3)-1\} \times 100$, we were able to convert the natural logs into percentages. We see that in the year that the specialization model is introduced, there was an 11-percent impact on recruiter productivity.

However, the impact of SDV appears to be statistically insignificant. This is not surprising for the following two reasons. First, the higher productivity observed in 2021 could be the result of the economy re-opening amid the pandemic. Thus, the impact of the specialization model could be partially captured by the year dummies resulting in the statistical insignificance of SDV. Second, 2021 is the first year that the specialization model was implemented; hence, the influence might take a few years to materialize. For this reason, we expect a more significant impact in subsequent years if the data becomes available.

CONCLUSION AND DISCUSSION

In this research, we studied the impact of specialization on recruiter productivity. The purpose was to understand the significance of the model of specialization on recruiter performance. To attain the goal, we employed recruiter-level panel data from an IT staffing company in the Detroit, MI area. The data observations were collected on 72 recruiters from 2019 to 2021 with 2021 being the adoption year of the specialization model. The two-sample t-test indicates that there was a significant increase in recruiter performance from 2019 to 2021. To further understand the positive impact, we turned to a random-effect model. The estimations suggest that a recruiter's tenure with the company is a positively significant variable contributing to a recruiter's SR. The impact of the specialization model is positive; however, the influence is statistically insignificant.

There was a high expectation that specialization was going to be a significant factor in recruiter success compared to other contributing variables. However, our estimation results suggest otherwise. We believe the insignificance of the employed specialization model is due to the following reasons, which also suggest the avenues for future research. First, as mentioned previously, the higher productivity observed in 2021 could be the result of the economy re-opening amid the pandemic. Thus, the impact of the specialization model could be partially captured by the year dummies. Second, 2021 was the first year in which the specialization model was implemented. The influence might take a few years to materialize. For future research, if the data becomes available, we expect a more significant impact to emerge in subsequent years.

While HPWS can help build a high-performing team, being able to retain and develop experience within a position typically improves performance. The staffing industry will keep leveraging HR concepts of HPWS to remain adaptable to the competitive landscape. To generate more market share, staffing companies should be agile, relevant, and willing to develop skillsets within their delivery team to meet customer needs. Being able to develop and educate recruiters will almost always have a positive impact on their performance.

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