Using Dynamic JMP® Dashboards to Provide Decision Analysis Support for Critical Staffing Metrics

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Introduction

As part of our agency's Delivery Assurance initiative enhancements, our business intelligence group (BI) developed an initial series of customer-centric metrics to monitor, analyze, and point to improvements in the Customer Priority Candidate Recruitment process. Customer requests for high priority candidates can be specific, requiring complex searches, aligning customer criteria with resume or CV descriptions, and more. Building upon requirements, we gathered User Stories to select relevant and practical JMP analytics and visually oriented dashboards for use by the agency's Human Resources Department (HRD) recruiters and supervisors. The JMP dashboards help HRD staff improve "time to fill" metrics and project supervisor activities across the various customer locations.

Methods

User Stories

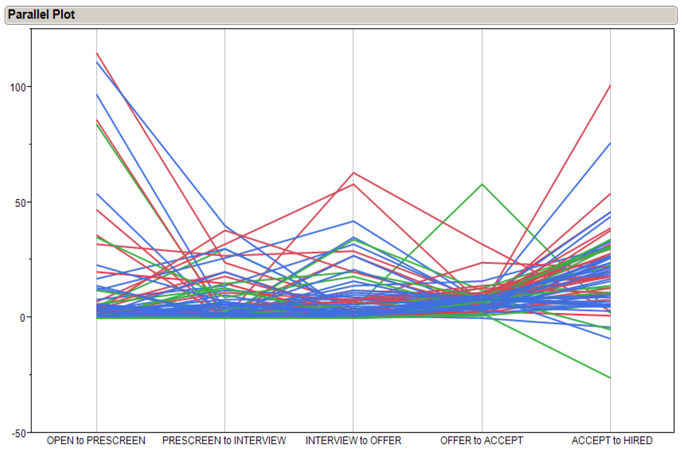
Using Agile-SCRUM methods, the researchers interviewed HR managers and relevant staff to identify their key issues and problems about the recruiting process, thus helping generate the requirements for this study. This included defining the information necessary to make effective HR decisions and what insights about employees and the recruitment processes they wanted to clarify.

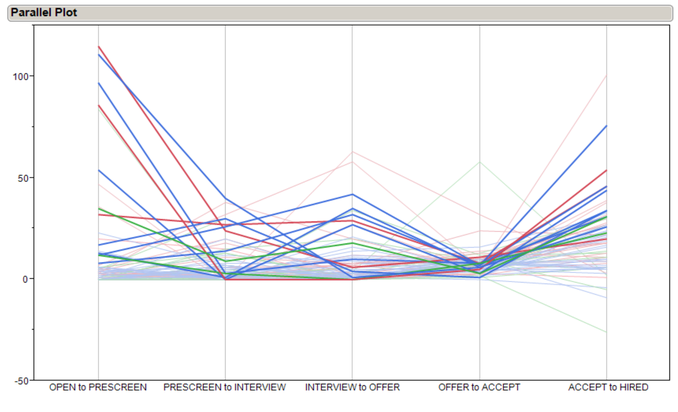
Here are some of the questions used to create user stories in this process:

1. What factors most influence the length of recruitment (open to filled position)? (HR wants to identify those factors that expedite new employee placement.)
2. How do our recruiters perform during the phases of the recruitment process? (HR wants to flag recruiter challenges to focus process improvement.)
3. Are there differences in recruiting among the different customer locations? (HR wants to identify unique location characteristics to tailor recruiting.)

JMP® Analytics Selection

The researchers developed a JMP® analytics dashboard with relevant displays that would allow both HR managers and recruiters to examine the timings of individual recruitment processes: from opening the position to filling it with staff.





Figures 1 & 2. Phases of hiring process, colored by recruiter, before and after partition analysis removed less relevant cases.

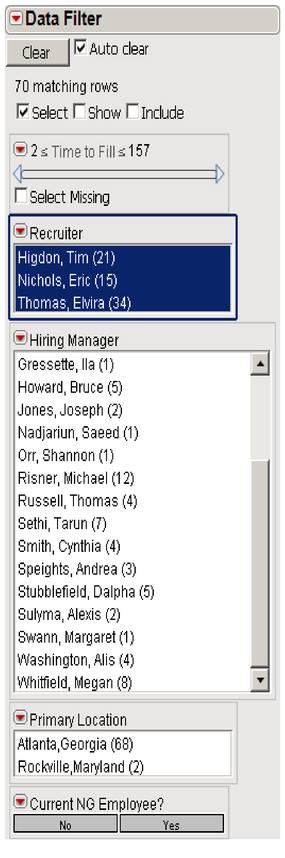
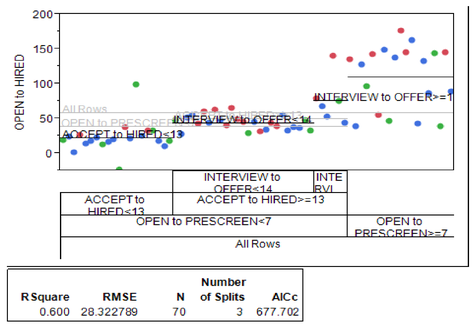


Figure 3. Pop-up data filter of recruit information

Results



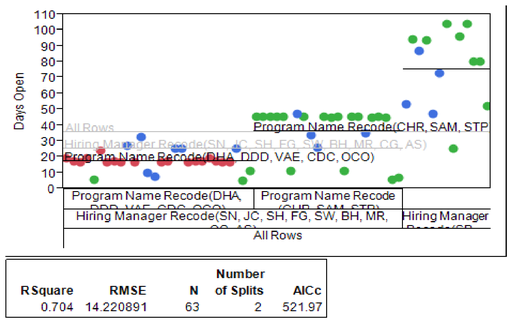


Figure 4 & 5. Partition analysis identifying key factors of trailing edge (open to hired time) and leading edge (days open) indicators of filling staff positions.

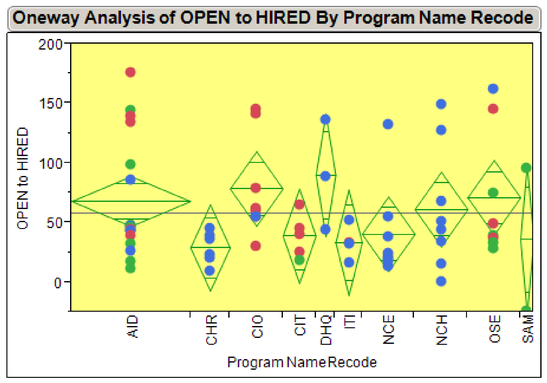


Figure 6 . ANOVA examining recruiters and mean times to move from open to hired positions.

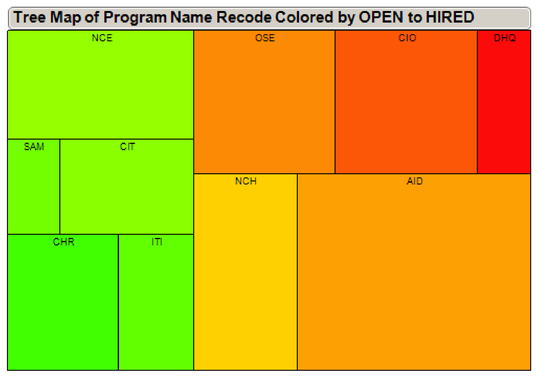


Figure 7 . Tree map for supervisor identification of number of recruits and average length to fill position

Discussion

- Partition analysis revealed that the best factors predicting time from open to filled position are Time: Open to Prescreen < 7 days and Time: Accept to Hired < 13 days. Other factors like recruiter, level of position to be filled, and profession type were not significant.
- Using partition criteria on the Parallel Plot provided insight about the Red and Blue recruit teams taking too long during the initiation and closing phases, suggesting areas of process improvement for each team.
- Analysis of leading edge indicators allow managers to intervene earlier in the process.
- ANOVA Means Diamonds (and subsequent analyses) did not highlight differences in the time needed to fill positions within the different program locations.
- HR managers value the Data Filter to manipulate recruiter data sets & generated charts.
- The dashboards continue to mature via additional user stories, and the use of JMP® will migrate beyond the local HR department into more frontline management teams.

References

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