Understanding how J-Score™ measures job seeking behavior

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News

Technology lets boss know who is longing to leave

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Have you just opened a LinkedIn account? Do you listlessly roam Twitter each Friday afternoon, following colleagues in other companies? Or maybe it has simply been a while since your last promotion?

Well, your boss may already know you are planning on quitting your job, even if you're not aware of it yourself.

Several companies are developing software that can identify members of staff who are most likely to move on in the hope of either convincing them to stay or maybe, if they are the sort on Twitter all Friday afternoon, gently encouraging them out of the door.

By looking at thousands of apparently unconnected data points — such as publicly available internet behaviour, stock market performance of the industry or vacancies elsewhere — they hope to use "big data"-style analysis to flag up disgruntled workers. Michael Beygelman, chief executive of Joberate, a company that looks at people's activity on social media to spot red flags, said he was drawn to the area because of the costs involved in recruitment.

"Retention is a big problem, it costs companies hundreds of billions of dollars globally every year," he said. "The cost to replace an employee can average anything between 10-30 per cent of their salary."

Mr Beygelman wondered whether there might be warning signs that someone was thinking of moving on. "Changing a job is a life event, a bit like buying a car, having a baby, or getting married," he said. "But we actually know very little about how this specific life event appears in social media."

He set out to investigate how people's activity online changed before moving jobs. "Did they start following five companies on Twitter? Did they 'like' job postings on Facebook? Did they open a new LinkedIn account?"

Joberate aggregates these and other factors into a score, which is compared to a baseline of the employee's normal activity. When that changes it can automatically tell their manager — or a headhunting company — that they may be planning on leaving.

None of the data he uses requires permission to view because it all comes from publicly-accessible databases.

The same is not true, however, for Workday, which looks at internal company data, such as promotions, job cuts, managerial decisions and satisfaction surveys, and then uses an algorithm to see how any changes relate to when employees have gone on to leave.

Both companies think that after flagging up at-risk employees, companies could intervene to persuade them to stay. For example, Mr Beygelman's software found a score had spiked for one individual, whose bosses then called him in for a chat. "What they found was a three-year construction project had been announced that increased their travel time from 45 minutes to 2½ hours," he said. The company then agreed the employee could work from home three days a week until the construction stopped.

How long, though, do they have to make such interventions? Mr Beygelman, who has been following 32,000 employees in Fortune 100 companies to answer just this question, said: "We can basically say from the time a person has a bad meeting with their boss … on the first day of the fourth month they will say, 'Here's my resignation.' "

Patent-pending technology platform that leverages publicly available Social Data to calculate job seeking behaviors of each person making up the global workforce.

It is the world's first and only global people directory of job seeking behaviors analytics.

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Validating J-Score™ applications in real-world use

J-Score™ measures job seeking behavior on a scale ranging from 4-70

The Joberate Employment Topology (JET) consists of 3 tiers of job seeking behaviors ("Category Labels"): Citizen (4-36), Tourist (37-59) and Migrant (60-70). J-Score™ is dynamically assigned to a person in real-time by a patent-pending, machine learning technology platform. The rationale behind development of Joberate's proprietary 4-70 JET scale and Category Labels is rooted in statistical analyses, which show that job seeking behaviors do not scale linearly, and also become more volatile as they move up along the intensity scale. Category Labels simplify real-world usages so that organizations can quickly sort or filter people based on their J-Score™ range.

Exhibit A

J-Score Range	Category Label	Meaning	Icon Label (example)
4-36	Citizen	Minimal, increasing, or decreasing job seeking activities, but within a level that is not correlated to imminent job change	
37-59	Tourist	Open to new opportunities if presented, while at the same time passively looking without actively applying to job openings	
59-70	Migrant	Actively and at times even assertively pursuing new work opportunities	

How J-Score™ is calculated

Joberate leverages only publicly available Social Data in calculating a person's J-Score™, which means that there is no violation of anybody's data privacy. Social Data is legally licensed from Social Media data resellers (i.e. GNIP, www.gnip.com) and otherwise obtained using Joberate's patent-pending platform, which measures the intensity of a person's job seeking activities, taking into consideration time, volume, and relevance when calculating a person's J-score™.

The platform looks for daily changes in Social Data, and at the same time the machine learning is constantly updating and fine tuning the algorithms to reflect any shift in people's job seeking behaviors.

Joberate uses many Social Data activities including updating resumes on one or more sites, liking jobs or following companies other than current employer, following recruiters, applying for jobs, creating new profiles with career-related content, endorsements/recommendations, adding education or publications to online profiles, job related Twitter activities, changing public/private status and other actions, which Joberate's platform extracts and analyzes based on *relevance* that signal increase/decrease in job seeking behavior.

What J-Score™ reveals in real-world use

One Joberate client measured 2,360 of their internal employees over a 6-month period of time ("Testing Period") to measure employee engagement, alert management of potential flight risk employees, develop an internal mobility pool of candidates, and to assess the benefit of using J-Score™ in their recruitment efforts.

During the Testing Period 159 employees resigned from their current employer and accepted a new position with a different employer, representing 6.7% of the 2,360 employee population. Welch's t-test – or unequal variances t-test, which is a robust version of traditional t-test – was used to definitively prove different job seek behavior patterns between the "Leavers" and "Non-leavers". The extremely small p-values of the tests on different metrics all point to the identical conclusion: "Leavers" show far more job seek activities, as reflected in their J-Score™ during the period leading up to their job changes. Joberate's patent-pending machine learning algorithms are accurately able to differentiate job seeking activities and reflect that in Joberate's proprietary J-Score™. Exhibit B details the average results of each test group, and the statistical significance.

Exhibit B

	Group Size	Average J-Score[1]	Maximum J-Score[2]	Maximum Difference in J-Score[3]	Daily Activity Signal Strength[4]
Leavers	159	17.6	60.7	56.9	1.0
Non-leavers	2,201	11.4	35.2	31.2	0.6
Statistical Significance		*4.3e-9*	*2.2e-16*	*2.2e-16*	*6.0e-9*

1. Average J-Score™ during the job search period
2. The highest J-Score™ during the job search period
3. The difference between the highest and lowest J-Score™ during the job search period
4. The sum of upswings during the job search period, normalized by the length of job search period

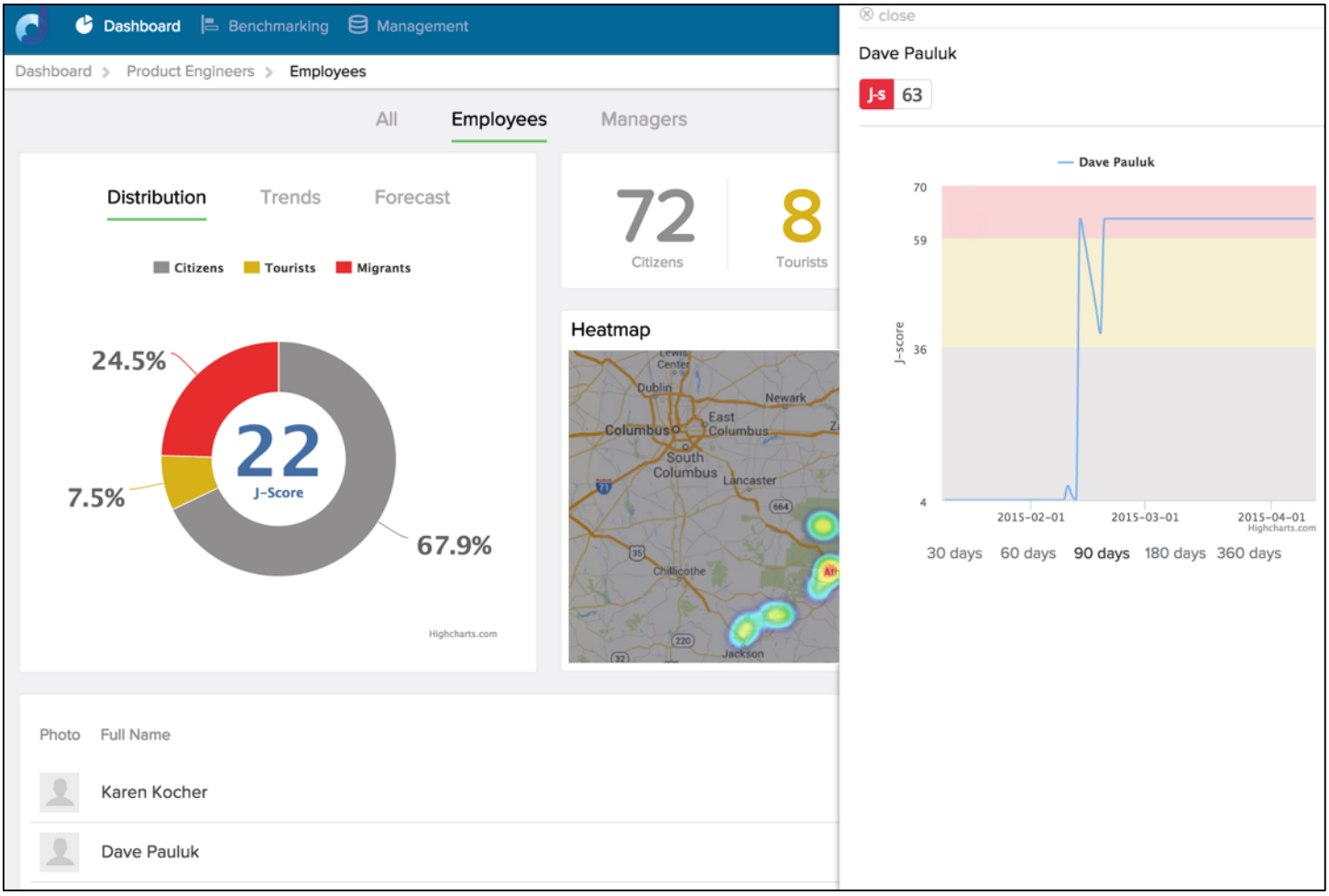
Joberate is a game-changing technology platform

J-Score™ numerically represents job seeking intensity of any one person at any particular moment in time. It's statistically accurate at predicting real-time changes in people's job seeking behavior, and also reveals historical trends. Joberate's platform demonstrates that changing jobs is also a highly emotional event that drives what people actually do (see chart depicted in Exhibit C), versus what a person might say in a survey or an interview.

Detailed analysis shows that the average maximum J-Score™ of a person who changed jobs is 60.7 versus an average maximum J-Score™ of 35.2 for a person who did not. Also noteworthy is the gap between trough and peak in intensity of job searching activities. The maximum J-Score™ difference from trough to peak for people who changed jobs was 56.9, versus a maximum difference of 31.2 for people who did not. The study validates that J-score™ is a predictive analytic that can be deployed universally to help HR departments tackle talent management, retention, and recruitment.

Exhibit C

Joberate's proprietary Visualization Platform provides a graphical representation of a person's J-Score™, visually demonstrating the study's findings.



Conclusion

Organizations looking for strategic insights into their workforce or for a competitive advantage in recruitment can rely on J-Score™ as an accurate predictive analytic. J-Score™ can provide companies with real-time employee engagement sentiment that can be more accurate or timely than conducting employee surveys. Companies can also benchmark their internal metrics anonymously versus marketplace competitors, providing valuable and actionable insights. Recruitment functions can use J-Score™ as a tool to help market map competitors and gain insights about which people might be ideal to contact with a new job offer, and most importantly when they should be contacted.

Other practical use cases for J-Score™ include business functions or industry sectors that can benefit from real-time predictive analytics about job seeking behaviors. For example, Account Management teams can track their clients' J-Score™ to mitigate losing executive sponsors without warning, Sales can leverage J-Score™ to better qualify prospects, Hedge Funds can establish portfolios of companies to "long" or "short" based on executive leadership stability or instability, Lenders can leverage J-Score™ for alternative credit scoring when a FICO® score is not applicable, Federal and State Government can leverage J-Score™ to monitor employment and unemployment activities, and many other scenarios.