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People Analytics in Practice: Connecting Employee, Customer and Operational Data to Create Evidence-Based Decision Making

Fiona Jamison

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Fiona Jamison, Ph.D.
Spring International
Conshohocken, PA, 19428, USA

ABSTRACT

People analytics is a rapidly growing field and one that can be daunting for many HR professionals. The sophistication and capability of organizations varies considerably: Some organizations are just starting to get a handle on their data and improve its quality, while others are on the cutting edge of predictive analytics. This paper outlines an analytics maturity model and various case studies, sharing how organizations have moved from data to action. Examples will demonstrate how companies have embarked on a journey to connect data on employee attitudes, customer loyalty and satisfaction, operations and financial performance to make more informed, evidence-based business decisions.

Keywords: People analytics, operational data, decision making, human capital

1. INTRODUCTION

The largest fixed cost for most organizations is their human capital, the workforce that keeps their operations humming. Their most pressing, vexing challenge is determining the correct type and number of people to hire and retain to achieve optimum performance and profitability. Despite the vital significance of this task, few organizations know how to accurately measure both the cost of their human capital and how their employees impact their bottom line.

The recent explosion of data analytics and data management has begun to transform how organizations understand, motivate, recruit, promote and nurture their most critical resource, human capital. As human resources technology advances to better capture, measure and monetize this critical data, businesses can capitalize on this information for a competitive advantage. Indeed, companies that excel at people analytics are 3.1 times more likely to outperform their peers financially, according to a recent global leadership forecast [1].

Business leaders are getting this message, albeit slowly: 53% of CEOs agree they must invest significantly more in talent analytics to quantify the value of human capital and 43% of CEOs want to significantly improve human capital metrics reporting to help investors accurately measure their companies' value [2]. But those leaders continue to struggle with how to best use their human capital. About 60% of businesses merely react to basic data they collect, rather than refining it and deploying it for strategic or predictive purposes.

Fewer than one in 10 businesses say they understand what factors drive employee performance—and just 8% believe they possess data they can use. Interestingly, a 2017 survey of global attitudes about people analytics found that 81% of respondents in China rated this area as "important" or "very important" – behind only Brazil and India, and above the UK and United States [3]. Business leaders' familiarity with human capital analytics varies greatly, depending on their field, their background, their industry, their location and their company's size.

2. MATURITY MODEL

Through its work with hundreds of companies, Spring International has identified four levels of maturity in assessing and leveraging human capital analytics: reactive, proactive, strategic and predictive, as shown in Figure 1 below. Based on a recent regional study of 105 companies in the Northeast United States of companies with at least $50 million in revenue, we identified only 11% that were using advanced or predictive analytical models to make more informed business decisions [4]. Most companies react, using generic surveys and basic analytics, resulting in few or even no behavior changes based on practical evidence. Proactive organizations deploy custom, targeted

surveys and assessments and more refined analytics to identify vital issues and then plan to act based on those findings. The strategic approach to human capital analytics seeks to shape a business's decision making by using sophisticated tools to solve challenges and anticipate—and prevent—future problems. Finally, the predictive level in the model incorporates analytics data, tools and models that shape business strategy and enable evidence-based decision making.

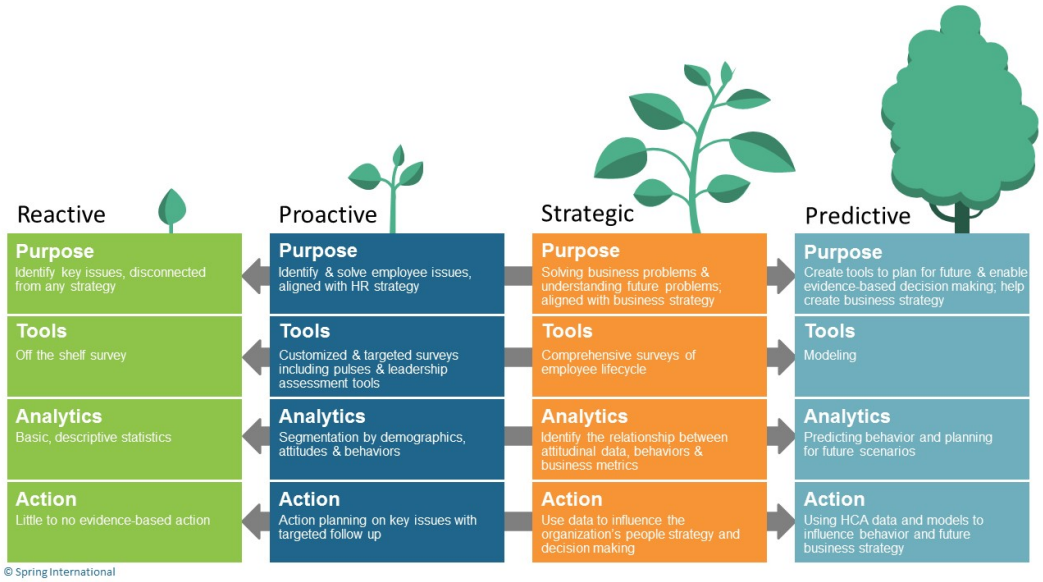

Figure 1: Human Capital Analytics Maturity Model

Spring International's research and extensive consulting work has shown again and again that when organizations leverage data on a regular, proactive basis to make informed and strategic decisions about their people, their business, their customers and their operations, they enjoy a significant competitive advantage. This can manifest as lower turnover, higher job satisfaction, less shrinkage (employee theft of merchandise or materials), reduced accident rates, increased quality leading to higher revenues and profitability.

2.1. USING A HUMAN CAPITAL ANALYST

Leaders typically seek help from human capital analysts only after failing to correct missteps themselves, which prolongs their problems. Human capital analysts and consultants are, at their best, unbiased parties who provide a fresh perspective on business operations and challenges. Using deliberately crafted data collection, data mining, surveys, interviews, observations and focus groups to gather new data and information, they put this information into context and suggest clear, actionable remedies.

Many companies start their effort with a small pilot project that directly addresses a "pain point" that is troubling an organization's leadership. That was the case with a Pennsylvania healthcare system that suffered from significant turnover of its nursing staff. The churn was beginning to affect the patients' quality of care and forced the human resource staff into an exhausting and frustrating pattern of continually recruiting, hiring and training new nurses, only to see them leave. Top executives didn't understand the root causes of why this was happening, but they knew they had to act because nurse turnover was costing them about $3.1 million per year.

Using data drawn from several years of nurses' engagement surveys and the human resource information system (HRIS), Spring International built a model that predicted, with 90% accuracy, the demographics of the nurses most at risk of leaving in the next three months. Deploying 2016 Engagement and HRIS data, Spring International first built a model using logistic regression to determine the strongest predictors of voluntary leave. The model was

then applied to the 2018 Engagement and HRIS data to identify nurses with the greatest likelihood of quitting. Figure 1 below outlines the final model.

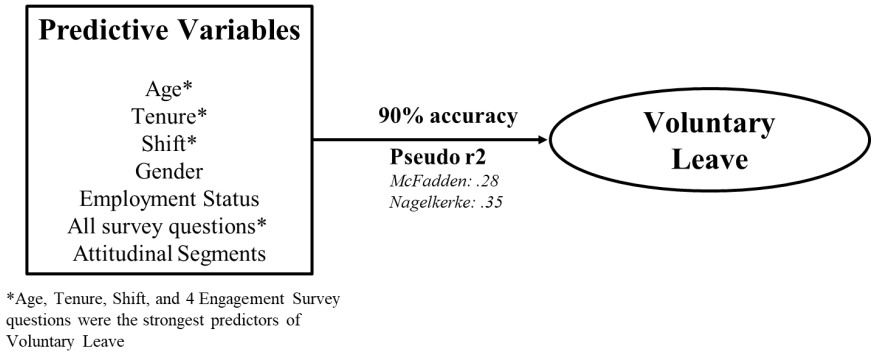

Figure 2: Nurse Turnover Model (Summary Visual)

The Nurse Turnover model was able to identify that nurses younger than 35 with less than 4 years of tenure and employed at a particular location were at the greatest risk of leaving. The model further identified that nurses were, on average, twice as likely to stay if they received regular feedback on their performance, felt recognized for their work and described themselves as not planning any major life changes (stated intent to leave, planning to retire, move or go back to school full time in the next three years). While this model helped identify key areas for the health organization to focus on, it was limited in the type of data it could include. First, attitudinal engagement data was collected only every two years. Ideally, the model would be built on more current data, which makes the case for collecting attitudinal data more frequently through surveys. Further, the HRIS data was limited to basic demographic data such as age, tenure, gender and shift. Additional metrics such as distance to work, time since last promotion and performance ratings would provide stronger models.

Additional analysis, including in-depth, one-on-one interviews, homed in on exactly why these nurses were unhappy. Data showed that nurses were stressed and burned out. They felt overworked and unappreciated. Once the leadership knew precisely what work conditions were triggering the nurses' dissatisfaction, it could directly address those issues—and stem the tide of resignations. As a result, the health system began a targeted recognition and feedback system to support nurses and adjusted its scheduling system.

Those solutions were specific to that healthcare company and those nurses. Each office, factory and business is unique, with its own quirks and particular strategies for providing service, handling operations and customer interactions and managing growth. Each organization also faces its own limitations in the data available to them, which illuminates the need to ensure that a solid data-collection plan is in place so an analyst can pull current, accurate data that can be linked between systems. There are no one-size-fits-all solutions to solving service, personnel or management problems, but data can help identify the right solution.

2.2. TARGETING EFFORTS TO DRIVE TACTICAL SOLUTIONS

Gathering data for its own sake is pointless. A valuable study is one that drills deep into a specific problem area and provides practical, tactical solutions. In the case involving nurse attrition, Spring's analytics team learned that nurses wanted meaningful feedback about their performance and recognition. The team then took this information a step further to learn exactly what "meaningful" feedback looked like to these nurses. Was it a supervisor's "thank you" at the end of a shift? A day off? A pin for their uniform? An award? The team learned that nurses wanted both feedback on their performance and recognition when they went above and beyond. The only way to impact the bottom line is to translate detailed analysis and survey findings into actions an organization can take.

In another case, the leadership team for a chain of convenience stores asked Spring to analyze why the employee-recognition program it had created wasn't motivating its workers. Company leaders hoped the program would boost morale, but instead, the data showed that leaders were relying too much on the recognition program and not managing

employee performance. Over a two-year period, Spring collected data from more than 15,000 employees across 500 stores. The survey measured employee engagement, job satisfaction, leadership and operational effectiveness. This data was compiled into a centralized data set with the recognition award system and customer and operational data. Using a combination of structural equation modeling, regression and correlation analysis, Spring uncovered a surprising truth: The organization's best managers rarely made use of the employee-recognition program—but their workers didn't care. These employees were happy and engaged and felt appreciated and respected. The stores' lowest-performing managers, however, handed out many awards to their workers, yet morale was low, and management was ineffective. What was going on?

In-depth interviews revealed a strong link between disengaged employees and ineffective managers. When an employee called in sick or failed to show up for a shift, the manager would ask another worker to cover the hours and then "recognize" the hard-working employee with a management-sanctioned trinket. The unreliable worker, however, was never confronted, disciplined or fired. Bad managers exhibited poor leadership skills and an over-reliance on meaningless employee-recognition "awards."

The company's executive team was initially surprised by these findings. But they couldn't argue with the findings of an analysis crafted specifically to understand their particular problem and suggest solutions. Executives took the corrective action: They changed how they trained managers and reduced their investment in the employee-recognition program.

2.3. Analytics Is a Journey, Not a Destination

Human capital analytics enables leaders and managers to transition from decisions made on the fly or on a hunch to analysis-based recommendations grounded in data and evidence. This approach, however, requires an ongoing commitment, and that takes time and money.

All organizations are dynamic. The workforce's demographics change. The economy changes. The industry changes. Management changes. Technology changes. Correct one problem and something else will crop up in a month or a year. But when leaders have a clear understanding of how these variables affect the intersection of employee engagement, employer costs and profitability, they can better use a predictive approach to manage operations to keep customers happy and staff engaged.

That was the case for big-box retail chain that experiences seasonal sales fluctuations. The retailer asked Spring's team of analysts to probe the relationship between leadership engagement, employee engagement and turnover, customer loyalty and satisfaction, sales volume, average ticket and profitability. Spring collected and studied quarterly data from more than 200,000 employees across 1,800 stores – data from attitudinal surveys, HRIS, operational metrics and financial data [5]. Spring used structural equation modeling to build several models answering a variety of business, HR and service-related questions. Specifically, when the analysts calculated the level of staffing the stores needed to ensure the highest quality service, the retailer realized it needed to change its staffing ratio and supervisor support structure and leadership training. Leadership reorganized its staffing model to provide better customer service, which ultimately improved the chain's profitability.

3. Summary

The pressure on HR executives to adopt and optimize human capital analytics has intensified over the last several years. Human resource leaders are beginning to use analytics as a route to greater strategic influence. Our research shows that the longer an organization collects, analyzes and deploys data, the more precise and meaningful that information becomes. Over time, the process becomes a roadmap to making better decisions, more effective management, more engaged workers, better overall service and, for businesses, greater profitability. Making a long-term commitment to a predictive model for human capital analytics pays rich dividends for everyone.

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