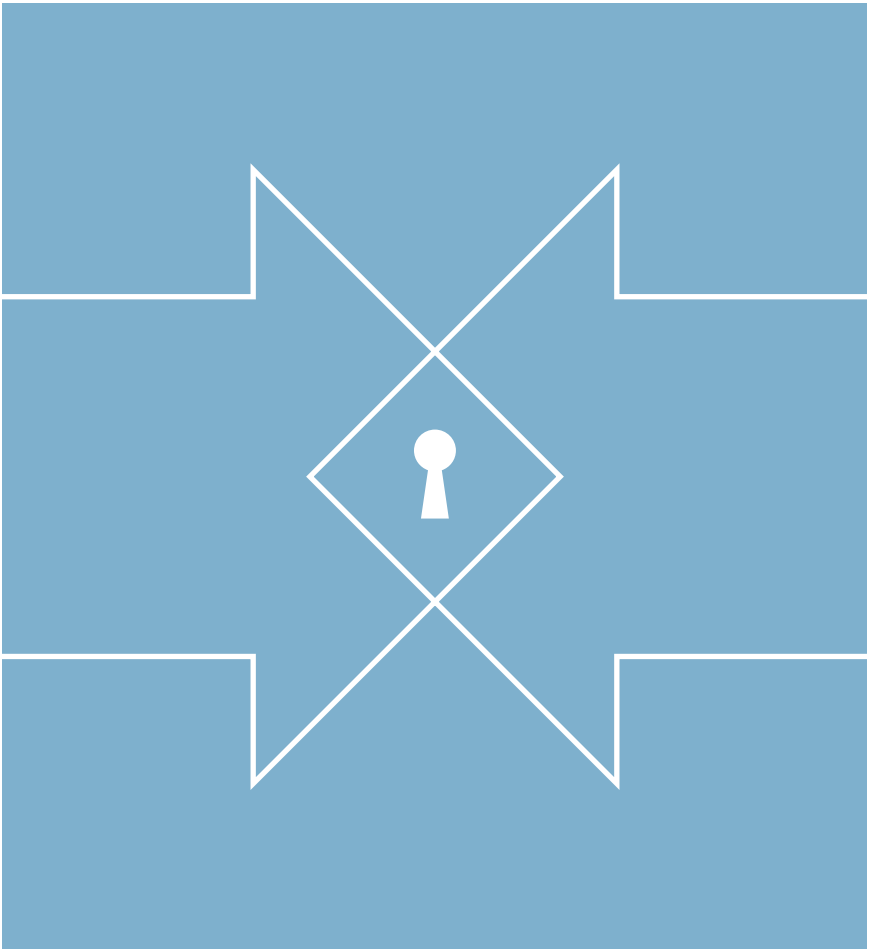


**Hewitt**

Human Capital  
Foresight™ Framework  
and Empirical  
Foundations



# Optimizing Human Capital Investments for Superior Shareholder Returns

## Introduction

The goal of business strategy is clear—to invest capital in a way that maximizes shareholder value. But defining the actions that will accomplish this goal is complex. Financial tools to guide the process generally focus on cash flow projections to value strategies relative to required investment in physical capital. For decades, these tools have provided useful guidance for decision making, albeit relying on numerous assumptions on risk and return.

Management information today is, however, at odds with the data and tools needed to drive superior decisions. Most management teams are not short on ideas or the ability to source capital to support business strategies. What is missing is a clear understanding of how to execute a strategy successfully. Success depends on the skills and motivation of employees who assume responsibility for taking a strategy to fruition. Access to intellectual and operational know-how, customer and supplier relationships, a committed workforce, and other such intangibles critical to success is ultimately a function of a firm's investment in such capital—in other words, *human capital*.

Traditional capital budgeting and financial planning frameworks offer very little to guide human capital investment decisions; yet payroll and benefits typically constitute 30%–70%<sup>1</sup> of operating expenses, with training, recruiting, and other such expenses adding substantially to this cost. In spite of the magnitude of these investments, most companies are without a compass when it comes to people issues. Decisions are usually based on opinion or benchmark surveys rather than data or predictive analytics linked to business results. For example, there is little in place to guide management on how to engage pivotal employees at all levels of the organization, what drives them and what doesn't, and the “flight risk” of such talent. Most firms lack a basis for structuring or prioritizing human capital investments, and a concrete notion of what return on investment is generated over time.

<sup>1</sup>Service firms are typically at the higher end of this range.

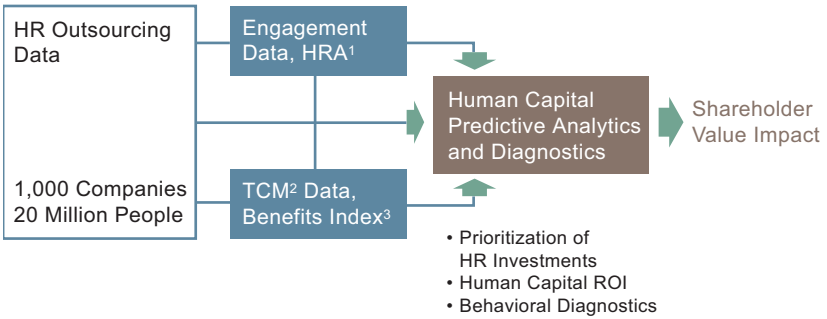
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Hewitt's Human Capital Foresight (HCF™) initiative seeks to address these questions with factual analysis grounded in data representing more than 20 million people from approximately 1,000 companies—in effect, a microcosm of the U.S. labor market. We test various hypotheses by means of statistical methods and develop insights about human capital management and sustainable economic returns. Studying companies over several years, we seek to find the degree to which optimal people investments truly help companies create more value than their peers in good times, and lose less value than their peers in times of economic hardship. This, in a nutshell, is what we refer to as *beating the fade*—the tendency to trend toward average performance.

## Data Sources and Research Background

Data from several sources is employed in this study, combining multiple years of employee demographics, employee transitions, employment history, compensation data, company-specific people practices, and behavioral information derived from engagement surveys (Figure 1). For public firms in our sample, we access multiple years of operating and stock price data. The combined data offers a unique set of observed patterns of employee performance, behaviors, and transitions in response to people practices at respective companies. In our context, people practices refer to pay levels, pay differentiation, performance management, career opportunities, benefits, leadership, etc. In effect, the data allows us to observe not only movement of employees across firms over multiple years, but also whether employees joining or leaving a firm are those who are deemed pivotal to business success, at all levels of the firm. This in turn is weighed against company-specific financial results over several years. So, we now have an opportunity to develop and test several hypotheses on human capital policy, prioritization of investments, and long-term economic value.

**FIGURE 1: DATA SOURCES**



<sup>1</sup>Hewitt's HR Analyzer provides clients with cost-saving insights on how to improve the efficiency of their HR organization.

<sup>2</sup>Hewitt's Total Compensation Measurement™ provides clients with insights on compensation data gathered from the largest and most comprehensive data resource available.

<sup>3</sup>Hewitt's Benefit Index® assists employers in analyzing the competitiveness of their benefit programs.

## A Focus on Employee Transitions and a Firm's Talent Quotient™ (TQ™)

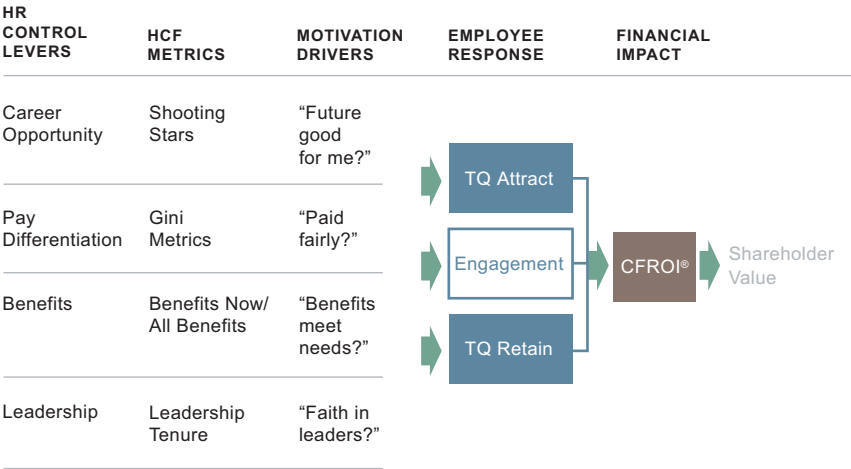
Talent Quotient (TQ) is a measure of a company's ability to attract and retain critical employees, those who may be thought of as *pivotal* to business success. Our proxy for identifying employees critical to an organization is based on where a company chooses to invest compensation dollars in the form of top-quartile pay progression relative to others in the organization. The measurement is adjusted by means of a 27-cell matrix defined by age, tenure, and pay level. This helps overcome differences inherent to these segments of the employee population, and specifically addresses where an employee is positioned within a pay range for the job (for a detailed description, see Appendix section A-1 in the *Human Capital Foresight Scouting Report*).

TQ is unique in that it is derived from data representing *employee response to management decisions*. It is benchmarkable across companies after adjustments for industry and demographics. It is a key outcome of labor market transactions and a demonstrable driver of business performance. As such, it will likely be included in internal and external reporting for public companies.

TQ measures two key components—the proportion of pivotal employees joining an organization as a ratio of all new hires in a given period (*TQ Attract*) and the proportion of pivotal employees leaving the organization as a ratio of all employees leaving over a given period (*TQ Retain*).

The model of human capital investments and employee behaviors that drive TQ and engagement is shown in Figure 2. TQ and other HCF metrics are founded on fact-based data. TQ measures employee decisions to join or leave a firm in response to that firm’s human capital practices. Employee survey data, such as employee satisfaction (or engagement) scores, offers useful insights on employee motivation and, in combination with TQ, enhances the basis for management decision making on people practices.

**FIGURE 2: LINKING TQ AND ENGAGEMENT TO SHAREHOLDER VALUE**

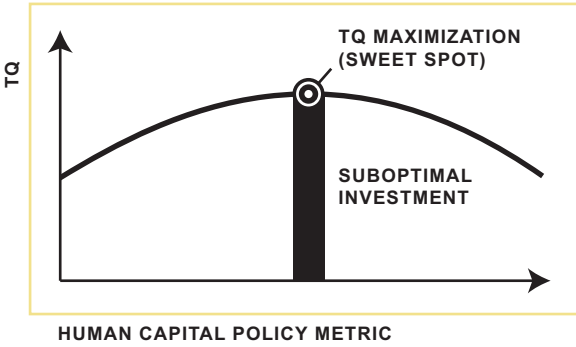


## Conceptual Underpinnings

Talent Quotient may be thought of as a market outcome of *labor market* transactions; its value to a company, however, is derived from the market outcome in *capital market* transactions, e.g., stock price performance and shareholder returns. As such, we do not consider TQ an objective in itself; rather, it is a key driver of economic value creation. To complete the circle, the long-term benefit of TQ improvement is weighed against implementation costs to ensure that an optimal balance is achieved. For a detailed description of the TQ calculation formula, and conversion to a log-odds scale, refer to Appendix sections A-2 and A-3 in the *Human Capital Foresight Scouting Report*.

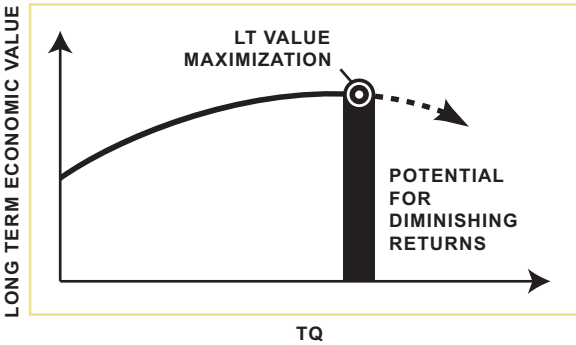
### FIGURE 3: VALUE OPTIMIZATION ILLUSTRATION

**(I) IDENTIFY OPTIMAL INVESTMENTS THAT MAXIMIZE TQ**



*First-Stage Optimization*

**(II) INVEST IN TQ TO MAXIMIZE LT ECONOMIC VALUE**



*Second-Stage Optimization*

The value optimization illustrations convey a few conceptual underpinnings:

- The factors that drive TQ are numerous and, in several ways, interdependent. For example, consider the impact of employee pay programs on the ability of an organization to attract, retain, and motivate talent. Pay is no doubt a key factor, but generally not independent of a firm’s leadership, benefit programs, career opportunities, employee relationships, etc. Some balance among these drivers would likely deliver optimal results for TQ. Empirical models such as the Classification and Regression Tree method (CART) allow us to estimate these optimal points, or “sweet spots,” with reasonable accuracy given a sufficiently large sample size. For

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a detailed description of CART, see Appendix section A-4 in the *Human Capital Foresight Scouting Report*.

- We seek to *optimize* human capital investment and TQ so as to *maximize* long-term value—see Figure 3. For several metrics, there is an inherent nonlinear relationship among the intervening human capital metrics, which simply suggests that planned people investments should be structured in a way that seeks the right balance between the extremes of policy choices to drive highest levels of TQ and seeks the right balance between long-term benefit versus long-term costs.

The challenge, ultimately, is in the determination of optimal investments from a practical, policy-oriented standpoint. Employee costs are clearly visible and draw the most attention, but the value of human capital investments is not as easily traced back to these investments; invariably, these relationships are not well understood. As a consequence, HR's role in the strategic planning process is more often than not considered ambiguous. To help eliminate such ambiguity, Hewitt's Human Capital Foresight team has developed empirical methods to calibrate these relationships significantly better than what was previously possible.

This rich source of data is used to develop several hypotheses relating to human capital. For example, we test the Gini Coefficient (or distribution) of pay progression within an organization to assess the optimal level of pay differentiation, relative to other “conditional” factors that determine whether employees perceive high levels of differentiation to be an opportunity or a barrier to success; and whether it results in retention or loss of pivotal employees. Our analysis enables us to suggest, within limits of statistical significance, the optimal level of differentiation in the presence of supporting factors such as a “shooting star” program, e.g., policies that enable top performers to move rapidly into higher levels of responsibility and pay. Several such hypotheses are developed and tested.

We also test for differences between manufacturing versus service industries, large versus small companies, etc., in how these metrics interact to drive TQ. As one might surmise, there are no universal truths, rather a set of insights that are interpreted and applied on a case-by-case basis.

## **The Link to Cash Flow, Intrinsic Value, and Shareholder Returns**

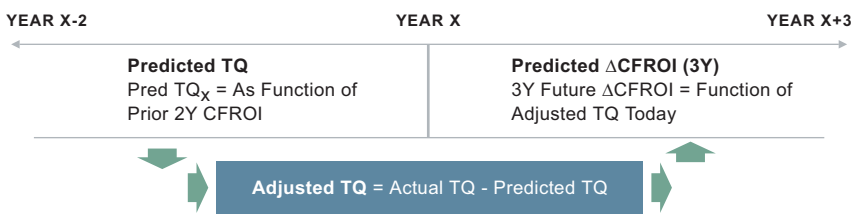
A key goal of this research is to develop empirical benchmarks that provide guidance for cash flow projections relating to human capital investments. Cash flow valuations are the basis on which analysts make buy/sell recommendations that ultimately move stock prices.

The *causal* relationship between human capital metrics and economic performance is not easily determined. There is evidence to suggest that well-developed employee programs have a significant impact on business results; however, there is also truth in the counter-argument that financial performance that allows a firm to invest in people will also explain the ability of that organization to attract, motivate, and retain talent. No doubt, high-performing employees will stay with companies that are expected to have the financial strength to grow and invest in their people.

This circular and reinforcing relationship leads to an interesting notion that we refer to as the *success spiral*. Simply put, companies that invest in talent have the potential to generate financial success, which in turn generates funds to further invest in talent, hence continuing to build on their success. Conversely, the *death spiral* refers to situations in which companies cut back (suboptimally) on people investments in response to market downturns or other financial pressures resulting in the departure of pivotal employees, reinforcing the likelihood of poor performance and financial distress.

Empirical techniques using lead/lag data (Figure 4) allow us to separate the circular relationships to develop sensitivity estimates of a unit change in TQ, adjusted for industry and demographics, to the corresponding change in operating and financial results. This is a key step in a process that offers practical benchmarks for making cash flow projections relative to human capital investments.

**FIGURE 4: ESTIMATING THE CASH FLOW IMPACT OF A CHANGE IN TQ**



CFROI refers to Cash Flow Return on Investment, a financial metric developed by CSFB-HOLT. CFROI measures the level of cash returns generated by a firm, adjusting for factors such as asset age, life, and mix, as well as inflation. As such, it is a sophisticated measure of performance and, to a reasonable extent, comparable across firms. TQ results are adjusted for prior years' financial results for each firm, thereby ensuring that we are measuring the prospective future impact of changes in TQ rather than what may be a result of prior years' business success or failure. In addition, CFROI is measured relative to company-specific cost of capital such

that an “excess return” metric is used for measuring firm performance, adjusted for industry trend. GICS codes define the industry groups.

In addition to CFROI growth, several other metrics are referenced to develop a more comprehensive view of performance differentials across low versus high TQ firms. Operating margin, a driver of CFROI, offers perspective on both market presence (pricing power) and cost efficiency. Asset growth indicates reinvestment in the business, and relative revenue growth is indicative of market share. Total business return (TBR) is an internal proxy metric for growth in shareholder value. Value to cost (V/C) is a supporting metric that indicates the capital market multiple on a company’s capital, reflecting the growth and return prospects of the company. A higher V/C indicates investors are placing a premium value on a company in anticipation of value creating future growth. All financial metrics are provided by CSFB-HOLT. *Results summarized in Table 1 indicate that by all key measures of shareholder value creation, high TQ Retain firms are at an advantage.*

**TABLE 1: RELATIONSHIP OF TQ RETAIN TO FINANCIAL PERFORMANCE**

**IMPACT OF TALENT QUOTIENT (TQ) ON FINANCIAL RESULTS**

**TQ Retain Range for Sample Companies<sup>1</sup> (N=115):**

	BOTTOM THIRD		TOP THIRD	
	2001–2004		1997–2000	
2-Year Average TQ Retain	80.4	126.3	73.4	115.7
Current CFROI over 5-Year Median	-0.2%	0.7%	-1.2%	-0.6%
CFROI % Change 3-Year Annualized	-1.0%	7.9%	-2.0%	2.7%
Delta CFROI 3-Year Average	-0.2%	0.9%	-0.8%	0.1%
Operating Cash Flow 3-Year CAGR	5.0%	11.6%	11.2%	13.8%
Operating Margin (% Sales) 3-Year Average	20.5%	26.3%	19.7%	30.7%
3-Year Real Asset Growth (CAGR)	8.4%	6.0%	9.4%	8.5%
3-Year Revenue Growth (CAGR)	2.2%	4.5%	10.5%	12.3%
3-Year Average V/C	1.45	1.49	2.98	3.29
3-Year TBR (Annualized)	11.7%	15.1%	12.1%	30.6%

<sup>1</sup>Statistically significant at a 90% confidence level

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Results over two non-overlapping time frames are shown in Table 1, 1997–2000 and 2001–2004. Economic conditions changed over this period; therefore, the median results for financial metrics also changed. These differences reflect market conditions in the respective time periods. However, our focus is in the *relative performance difference* between high TQ versus low TQ firms, as measured by the economic value metrics in Table 1. There is remarkable consistency in the rank ordering of these metrics for high versus low TQ firms over two distinct periods, adding to the empirical significance of these findings.

The ranking of various growth and return metrics is clearly in favor of high TQ companies. One exception is in the rate of asset growth. Interestingly, asset growth is higher for lower TQ companies. However, the median *revenue* growth for low TQ companies is much lower than that of high TQ companies, implying lower performance on capital efficiency<sup>1</sup>—i.e., the rate at which revenue is generated relative to capital invested. Since margins are also lower for low TQ companies, it is no surprise that, as a group, the median CFROI performance for low TQ firms is well below that of firms with higher TQ.

Another key result emerges, directly relevant to estimating the cash flow impact of improvement in TQ Retain. For the two time frames shown in Table 1, an average ***10 point difference in TQ Retain, on a log-odds scale, corresponds to an average 0.7% increase in CFROI over a three-year time frame***. This is a critical point of reference relating TQ to economic performance. To customize this to firm-specific impact on cash flow, we consider additional factors such as labor, capital, and knowledge intensity. For example, financial services firms, characterized as having a high degree of knowledge intensity, show on average a 1.6% increase in CFROI for a 10-point TQ Retain improvement. Given the multiple stages of estimation, there is variance around these point estimates specific to the time period, industry, and company in question. However, stability in results over two distinct periods has statistical implication that is worthy of consideration.

<sup>1</sup>*Capital efficiency (sales/invested capital) and profit margin (profit/sales) are key drivers of CFROI.*

Additional perspective is gained by looking at the size-adjusted compensation dollar spend for companies ranked by low to high TQ. Do high TQ companies also spend more per employee? We look at the results for companies ranked from low to high by TQ-Retain:

**TABLE 2: RELATIVE INVESTMENT IN EMPLOYEE COMPENSATION<sup>1</sup>**

**TQ Retain Range for Sample Companies (N=115):**

	BOTTOM THIRD	TOP THIRD	DIFFERENCE
Compensation Expense <sup>2</sup> / Revenue	4.2%	5.1%	0.9%
Compensation Expense <sup>2</sup> / Total Operating Expense	5.7%	7.6%	1.9%
After-Tax Cash Flow/ Compensation Expense <sup>2</sup>	3.5	3.8	0.3

<sup>1</sup>Financial and compensation data for FYE2004.

<sup>2</sup>Compensation reflects base salary only for benefits-eligible U.S. employee population. Financial data is not adjusted to this subset of employee population; therefore, shown percentages are significantly smaller than what would result with all-employee compensation data.

Results in Table 2 suggest that high TQ companies spend more compensation dollars in aggregate (size-adjusted), but also generate a greater economic return on their compensation dollar investment, as measured by the impact on cash flow. Higher CFROI return for high TQ companies was shown in Table 1. As before, this is a benchmark reference that can help guide investment decisions.

Future research utilizing a larger sample size will consider separation of companies by labor intensity, capital intensity, and knowledge intensity. This will yield valuable insights on differences in leverage from human capital investments and policies in different industry environments.

## Prioritization of Human Capital Investment and Policy Decisions

The link to cash flow returns that was previously demonstrated allows us to develop a basic reporting format for prioritization of investments and policies. The methodology underlying such prioritization is that we first estimate the impact of people policies on TQ and engagement, which in turn are linked to cash flow projections over a three-year period.

When TQ and engagement are measured in tandem for the same groups within an employee population, the information in engagement surveys can help develop an understanding of what drives TQ behavior in that employee group. In this sense, engagement is a lead indicator of TQ.

Alternatively, TQ and engagement can be measured for different employee populations. For example, if TQ is measured for the top-performing employee group, engagement scores for the remaining population can be used to develop balanced policy guidelines that are consistent with business objectives and positioned for the maximum positive impact on long-term performance.

An illustrative prioritization table is shown below (Figure 5). For a given firm, the table refers to the impact of changes in each policy metric from current level to the optimal levels suggested by HCF methodology, and the estimated cash flow impact of the policy change over the next three years.

**FIGURE 5: ILLUSTRATIVE PRIORITIZATION TABLE**

METRIC		Δ TQ	Δ ENGAGEMENT	\$ COST	Δ CASH FLOW IMPACT RANGE <sup>1</sup>
Pay at Risk	↑	█	█	\$ _	\$X-Y M
Differentiation in Bonus Payout	↑	█	█	\$ _	\$X-Y M
Leadership Tenure	↑	█	█	\$ _	\$X-Y M
Shooting Stars	↑	█	█	\$ _	\$X-Y M
LTI Mix	↓	█	█	\$ _	\$X-Y M
All Benefits % Median	█			\$ _	\$ _

<sup>1</sup>Cash flow estimates are cumulative for a three-year period, based on estimates around the sweet spot range.

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The prioritization table summarizes the impact of people policies on key metrics representing attraction, retention, and motivation of employees. The intent of the prioritization table is to capture, within limits of statistical significance, the net cash flow impact across these metrics to guide management toward an optimal set of policy choices.

Most decisions are ultimately based on a combination of factual data, judgment, and other business considerations. HCF offers insights that are unique and provide a tangible link to business results, as such a strong complement to management decision making.

## The Promise of HCF

The promise of Hewitt's Human Capital Foresight is to provide our clients with a framework for making confident decisions on people investments and policy decisions. Anchored in predictive analytics, these are leading-edge solutions providing answers that have long eluded HR professionals.

With a foundational link to shareholder value, HCF addresses the needs of management and shareholders with a clear portrayal of both cost and benefit of human capital investments and the long-term impact on business results. This represents a significant departure from the legacy that has long prevented HR from a seat at the planning table. The cost side of the equation for human capital has been apparent; the economic benefit has never been sufficiently clear for planning purposes. The HCF framework addresses both sides of the economic value equation. HCF data and analytics that help management understand the potential shareholder value impact of human capital decisions are in many ways similar to, or more robust than, capital budgeting and cash flow forecasting tools used to make traditional asset investment decisions. Ongoing research will further enhance the depth and breadth of information to guide such decisions. These will be provided to you in the form of research updates.

Scientific progress in any field occurs over time as the body of data, evidence, and methodology grows progressively toward the stated end goal. In our case, the end goal is simply to *enable you to make the best possible business decisions with respect to people issues*. This is both an investment and commitment on our part, and we look forward to partnering with you on this fascinating journey ahead.

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