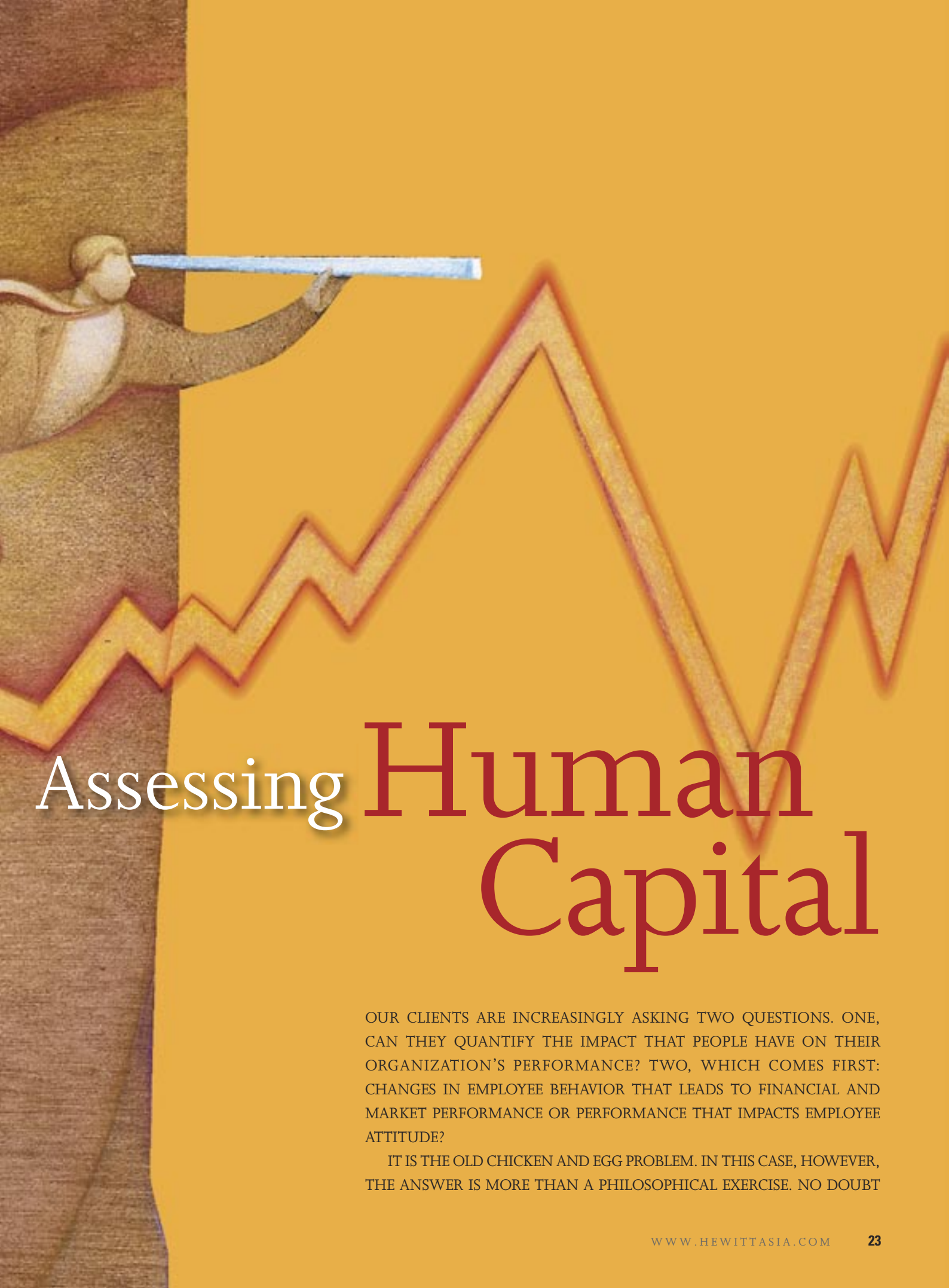




Predictive Models for

The impact of employee behavior on organizational performance has been a subject of study for quite some time. Human capital measurements and the models developed unravel this relationship and help guide people investments



Assessing Human Capital

OUR CLIENTS ARE INCREASINGLY ASKING TWO QUESTIONS. ONE, CAN THEY QUANTIFY THE IMPACT THAT PEOPLE HAVE ON THEIR ORGANIZATION'S PERFORMANCE? TWO, WHICH COMES FIRST: CHANGES IN EMPLOYEE BEHAVIOR THAT LEADS TO FINANCIAL AND MARKET PERFORMANCE OR PERFORMANCE THAT IMPACTS EMPLOYEE ATTITUDE?

IT IS THE OLD CHICKEN AND EGG PROBLEM. IN THIS CASE, HOWEVER, THE ANSWER IS MORE THAN A PHILOSOPHICAL EXERCISE. NO DOUBT

THE QUESTIONS ARE INTER-RELATED. STUDIES ON THE PREDICTABILITY OF EMPLOYEE ATTITUDES ON PERFORMANCE HAVE A LONG HISTORY IN ORGANIZATIONAL RESEARCH. THE RESEARCH SUGGESTS THAT WHILE THE RELATIONSHIP BETWEEN HUMAN CAPITAL AND ORGANIZATIONAL PERFORMANCE IS COMPLEX, IT CAN BE QUANTIFIED AND THERE ARE METHODS TO ESTABLISH THE DIRECTION OF THE RELATIONSHIP.

HEWITT ASSOCIATES HAS DONE A NUMBER OF STUDIES ON THIS TOPIC AND THERE IS SUPPORT FROM ACADEMIC RESEARCH THAT INDICATES CHANGES IN EMPLOYEE ATTITUDES AND BEHAVIOUR PRECEDE CHANGES IN PERFORMANCE. THE ANSWER, HOWEVER, IS NOT 100% CLEAR. OUR VIEW, WHICH IS SUPPORTED BY A RECENT ACADEMIC STUDY CONDUCTED OVER AN EIGHT-YEAR PERIOD, SUGGESTS A MORE RECIPROCAL RELATIONSHIP-A VIRTUOUS CYCLE. SO WHILE THERE IS SOME INCONSISTENCY, EXAMINING THE RESEARCH IN MORE DETAIL PROVIDES A MORE COHERENT PICTURE.



BUILDING HUMAN CAPITAL MODELS

Understanding the links between people and business performance is just the beginning. It is not the endpoint for organizations interested in improving their performance. Human Capital (HC) Modelling is not only about proving the value people add to the business. Good leaders already have this fundamental philosophy. It goes further to allow organizations to:

- Quantify the relationship between people attitudes, behaviours and performance;
- Identify areas of focus to improve employee performance;
- Quantify the benefits and trade-offs in people decisions to guide investment decisions; and
- Increase understanding of inter-relationships which allows for better performance management of particular areas of business.

Just as marketing departments collect and use data on consumer behaviour and resulting sales or customer satisfaction to guide decision making, Human Resources can develop similar predictive models of employee behaviour and resulting performance. This supports decisions regarding people investments such as pay, communications, training and development and even merger and acquisition activity. Such models offer organizations more insight and allow them to allocate funds efficiently for the greatest financial benefit.

Just as there are unique models for customer segments in marketing, organizations will have HC Models unique to their employee environment. Our research and experience already shows that HC Models will vary depending on an organization's value proposition, business strategy and employee demographics (See the National Australia Group Experience in this issue of HQ).

How do we Build HC Models?

Having collected a significant amount of data on employee behaviour and performance, there are a number of approaches for using data to build HC Models. This article outlines four of the methods we have used and what we can learn from each approach. Our philosophy is not to rely on a single method, but to link the analysis to the type of issues faced by an organization and the type of information available. Our basic approach is to focus on both key people measures along with key performance indicators (KPIs). These measures often vary across organizations, but we have identified a set of KPIs that are measured by most companies:

- Employee engagement – emotional and intellectual commitment to the organization;
- Employee opinions – employee perceptions of opportunities, communication, work-life balance, management, how HR programs affect productivity;
- Employee skills, utilization & alignment – do employees have the skills needed to complete their work? Are all of their skills being utilized and are they aligned to support company goals and strategy?
- Employee behaviors (e.g. innovation, customer service, absenteeism)– are employees engaging in the behaviors you need to be successful?
- Non-financial measures (e.g. retention, productivity, work processes) – do employees remain with the organization and are they productive? Do the work processes support company products and services?
- Customer measures (e.g. satisfaction, quality, churn) – are customers satisfied and loyal?
- Financial measures (e.g. revenue, profitability, return on investment) – are you realizing appropriate increases in revenues and profitability?

Depending on the amount and level of detail of data, structure of the organization and number of time periods among other things, there are a number of analytic approaches we use to study the relationship between attitudes and performance. They can be classified into four major categories:

- Relationship assessments (correlation or Regression approaches);
- Experiments (test & control group);
- Time Series; and
- Value mapping.

Relationship assessment

This is perhaps the most popular and easiest to execute approach. It involves collecting attitude and performance data from a number of independent groups. These groups can consist of individuals, locations/stores or business units. Once we have these two pieces of information (people measures and business performance), we can do a number of analyses (e.g. correlations, regressions, structural equations) to demonstrate the relationship between employee attitudes and performance. An example of this type of analysis is shown in Figure 1.

Experiments

In the strictest sense, an experiment would consist of two units (stores, locations business units, plants) that are identical on all or more realistically, the most important variables. We would then manipulate employee attitudes in one or a subset of the locations (test), but not in other locations (control). The next step is to measure the difference between test and control, and attribute the change to engagement (the manipulated variable).

This is an ideal, but often not a realistic or practical approach to demonstrate how changes in employee attitudes impact performance. Companies that believe in the relationship between human capital and performance would





FIGURE 2: **Employee Engagement and Revenue**

Store A

- 1,000 employees
- Region 1
- Age 6 years
- Product Line A

- Revenue = \$1,100

- Engagement = 60%

Store B

- 1,200 employees
- Region 1
- Age 7 years
- Product Line A

- Revenue = \$1,000

- Engagement = 42%

Store A

18-point higher engagement
10% higher store revenue

By comparing two stores within similar traits, difference in performance can be attributed to engagement. In this case a 1.8 point improvement in engagement led to a 1% increase in revenue.

not want to implement programs to improve performance in only a few of their locations. In addition, it would have the potential to impact some employees negatively (why is the company experimenting with my unit or conversely why is my unit being ignored?).

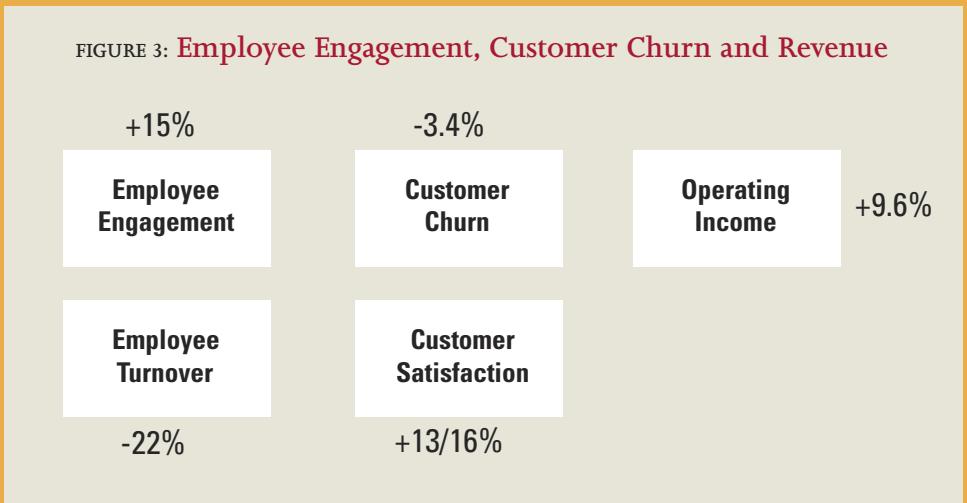
Another way to approach this is to examine historical data. In the example in Figure 2 we have identified two locations that are identical or similar on number of employees, region, age, etc. They do differ, however, in engagement. This allows us to attribute the difference in revenue to the different engagement levels.

Time Series

This is a more time intensive approach, but also an approach that provides a clearer answer. For this approach to be successful, we need to collect multiple measures of both variables—people and business performance over a period of time. This allows us to determine the lead and lag time for changes in both employee attitudes and performance. In other words, do changes in engagement precede or lag changes in performance and by how much? An example of this approach is shown in Figure 3 (above).

Value-Driver Mapping

This approach requires the highest level of involvement from our clients, and a deeper understanding of the organization. Much of the information for this approach would be based on in-depth interviews with key individuals

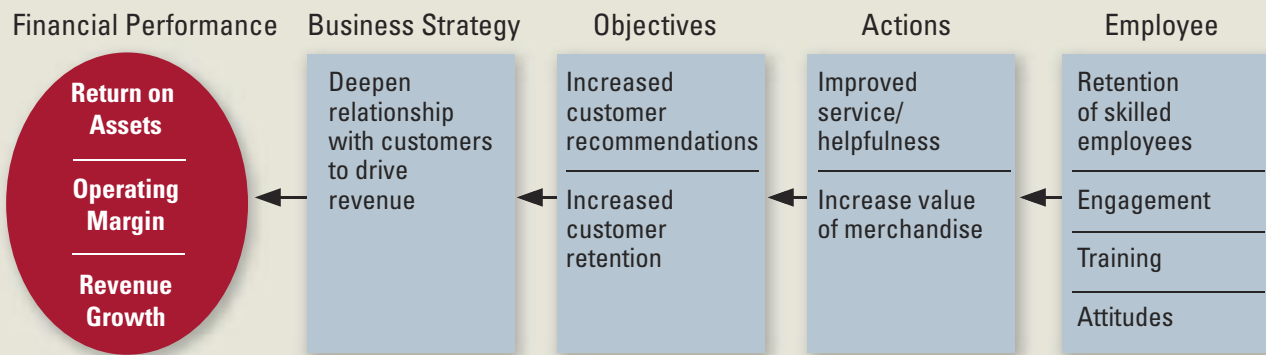


in the organization, such as their finance, operations and business unit leaders. Due to the involvement of these key individuals, it requires a high level of commitment from both Hewitt and the client to be successful.

Basically, in this approach we work with the client to identify their key outcome variables. Depending on the company objectives, these could be growth measures such as revenue, sales, job creation or earning, or they could be return measures such as return on investment (ROI) or total shareholder return (TSR).

Once this step is accomplished, we then identify the business strategy, objectives, actions and employee behaviour that influence these measures. This would include an exhaustive set of variables (like competitors, marketing). We continue to work backwards in this manner until we can isolate the specific employee behaviours that influence the client's key measures. This allows us to identify key

FIGURE 4: Value-based Modelling



Working from left to right, take the company's strategies and distill performance against these into specific employee behaviors. Then we work from right to left to influence financial performance.

employee attitudes and behaviours that drive performance (see figure 4).

You have the relationship. Now what?

Having defined the relationship and identified the strength of the relationship, you are able to better plan HR resources and spending. First, you can determine where to focus your efforts – recruiting, training on knowledge, training on behaviours, retention and so on. Second, you can identify the type and amount of return you should anticipate for your investment. This allows HR to be a part of the financial planning process and the company's success measurement.

The predictive nature of models is managed like any other modelling process. A number of assumptions should be created based on the data and a level of tolerance around the predicted value helps to build the model's credibility. Continuing to collect the same data over time allows these models to be tested and updated as the business grows and changes.

Conclusion

Our experience with organizations such as National Australia Group (National) and Cargill demonstrate the power of understanding these relationships. At the National this process identified areas where employees were not adding value in the way expected. It also identified what the key people drivers were for longer-serving sales employees. The National will continue to refine the predictive models, to narrow tolerance levels and increase their decision support capability. Cargill was able to demonstrate how developing and implementing action plans from their employee engagement survey led to improvement in safety, less waste and an increase in ROGI. We also have many examples of how organizations decreased turnover resulting in a large reduction in recruiting and training costs and no loss of productivity, which goes right to the bottom line.

Developing Predictive Models with Singapore Economic Development Board (EBD)

Late in 2003, the Singapore Economic Development Board engaged Hewitt Associates and AC Nielsen to undertake a study to investigate the relationship between their employee engagement and customer satisfaction levels. The hypothesis being that employees who are more engaged will have higher customer satisfaction scores. The first round of data gathering took place in November 2003, and pulse surveys are scheduled for Q3 of 2004, and Q2 of 2005. By adopting such a longitudinal approach, and partnering with a reputable research house such as AC Nielsen, the intent is to create a causal pathway model to identify what are the right areas to focus on in the employee engagement model to drive up customer satisfaction.

Work on this project is still in progress.

HCF Foresight

Employee valuation continues to challenge organizations. Hiring and retaining talent is time consuming and expensive. Aligning your talent to business goals, engaging your workforces to optimize results and providing training in the latest skills and knowledge takes resources and funding. How can you justify this spending and how do you know its impact?

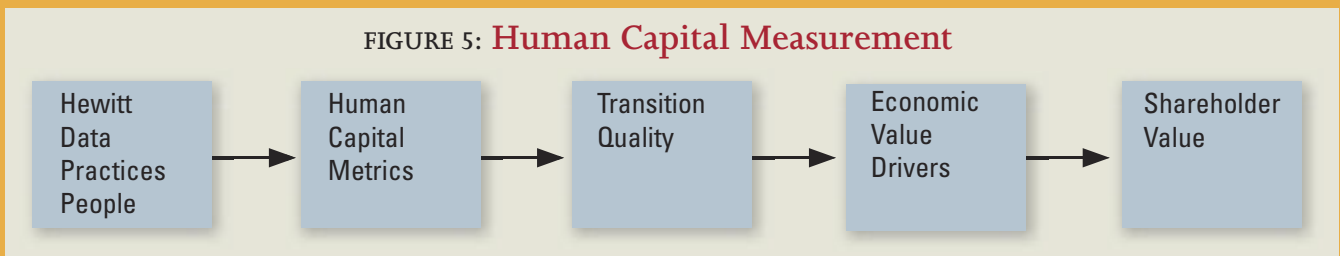
To address this question, Hewitt has developed Human Capital Foresight (HCF), a service that will turn a company's HR data into actionable insights. HCF was developed based on data from over 900 clients and 17 million employees and allows organizations to analyze people investments and their impact on business.

HCF is an array of sophisticated predictive measurement techniques that evaluate the present and future impact of their human

a Transition Quality Measure, which refers to the flow of employees into and out of the company and is used to determine if the inflow of high performers exceeds their outflow. Using these and other tools, we can determine what factors drive these flows.

While circumstances vary by function and business units within an organization, the analysis of pay differential packages indicates that application is critical. While attractive in theory, organizations can apply them inappropriately which results in a loss of good employees. The predictive analytics of HCF will identify the actual gain and loss of employees from various HR applications and investments. In the variable pay example, poor transition quality can be improved by actual/target bonus distributions that are more uniform or team based as opposed to individually determined.

FIGURE 5: Human Capital Measurement



capital on business results. Organizations are working with Hewitt to pilot and refine HCF. Says Mark Ubelhart, Hewitt's Value-Based Management Practice Leader, "These new metrics will lead to insights on how key characteristics of human capital such as talent attraction, motivation and retention, impact shareholder value and what can be changed to enhance the ROI."

How does it work? Let's take differential pay packages as an example. Companies are using differential pay packages to retain their best talent. To assess the impact of pay differential, HCF uses a variety of measures and techniques. For example, we calculate a Gini Coefficient to assess pay uniformity across the organization and compare it to other companies. We then determine its impact on attracting and retaining top talent by calculating

Findings from transition quality, in combination with other metrics and employee data will create linkages to economic value drivers of the business. These include cash flow return on investment (CFROI^{®1}), as well as customary financial metrics. The predictive analytics employed focus on the human capital characteristics that enable a company to "beat the fade" – that is, sustain performance in spite of competitive pressure.

Ubelhart predicts this is just the beginning of decisive measurement tools for human capital. "This is just the tip of the iceberg as we evolve strategy-shaping benchmarking of labor costs, the related implications for business performance and shareholder value, and the ROI on HR programs," he says.

The immeasurable will soon become measurable. ■■■

Following a pilot of the Human Capital Foresight, the service will be added to Hewitt HR outsourcing (Workforce Management, Benefits and Payroll) engagements at no charge by early 2005, at which time we expect to provide clients with an initial, customized Human Capital Foresight report.

(Footnotes)

1 Registered trademark of CSFB HOLT.