April 2013

**Announcing A CEO Research Program:**

**Impact of New HR Information Systems on Organizations and HR**

A tremendous surge in the adoption of new Human Resource Information Systems (HRIS) technology is underway, primarily involving Software as a Service (SaaS) offerings. The numbers are stunning. A 2012 CedarCrestone study of 1,246 companies found that spending on HRIS is accelerating and that SaaS deployment has grown from 23% of companies to 35% in just one year, from 2011 to 2012. A 2012 Knowledge Infusion survey of 1,446 users found that 55% were likely or very likely to change their core HR platform within the next three years – certainly an unprecedented level of change. SaaS systems are clearly the future for HRIS.

Companies are adopting and implementing the new HRIS systems without guidance from academic research on the organizational effects of these systems and their impact on the Human Resource function. The available reports are market research, using large-sample surveys that track usage levels as well as functionality offered by and satisfaction with different vendors, including reports published by Forrester, Bersin & Associates, i4cp, and CedarCrestone. There is virtually no in-depth research on the implementation of SaaS HR systems in specific organizations, making it difficult to know what really happens when firms implement such systems, what challenges arise and how such challenges are overcome, and what factors are associated with successful and unsuccessful implementations. A new CEO research program on HRIS will attempt to help fill the void.

**Value Proposition In Brief**

The total cost of your company’s investment in a new HRIS, including software, consulting fees, training cost, and so on can easily be $1 million, $10 million or far more, depending on the size of your organization and the scope of the HRIS. What percentage of that investment are you spending to determine whether the implementation is on track, determine the effectiveness and ROI of the HRIS, learn about what works, and learn how other companies are managing their HRIS implementation? Participation in this research program can greatly increase the odds that your investment in HRIS will succeed.

We are looking for CEO Sponsor Companies and others that are interested in sponsoring in-depth research that will inform action. This prospectus outlines:

- Background on recent HRIS developments
- Research focus
- Research approach
- Deliverables
- Research team
**Background: What is HR Software as a Service (SaaS)?**

SaaS systems replace or supplement earlier generations mainframe and client-server software (such as PeopleSoft and stand-alone ASP offerings) with Software as a Service (SaaS) systems. SaaS systems use a subscription model in place of a perpetual license model – that is, the user rents the software, which remains in the “cloud” rather than behind the user’s firewall.

Despite rapid consolidation in the industry, literally dozens of vendors remain, including Workday, Success Factors, ADP, Halogen, and Cornerstone on Demand. The major mainframe software vendors have purchased SaaS vendors or offered their own products in the past year. SAP bought Success Factors, Oracle acquired Taleo and announced its homegrown Fusion software, and IBM bought Kenexa.

Why is the tide of adoptions rising so quickly? Adopters cite many reasons for purchasing SaaS systems, but the primary reasons may be summarized as follows.

1. **Better user experience.** SaaS systems promise an improved user experience compared to paper systems and clunky mainframe software, using a well-designed user interface as easy to use as a web browser. Workday, for example, strives to be as intuitive and easy to use as Amazon.com. Vendors design systems to be used by managers and employees, not just HRIS specialists.

2. **Cheaper, faster.** SaaS systems also promise a significantly lower total cost of ownership, rapid implementation time, and a reduced internal infrastructure. These advantages arise from the cloud-based architecture of the SaaS systems. It is no longer necessary for the user company to maintain the software on its own computers or to manage upgrade cycles, for example. Upgrades are done regularly and in the cloud for all users simultaneously. Users need fewer internal IT staff because the software is hosted and managed outside the enterprise.

3. **HR role.** Of great importance to HR executives is the hope that the new software will enable the HR organization transform into a less transactional, more effective, more business-centered function. The promise is that the new systems will automate routine activities, permit self-service without the need for HR hand holding, and reduce the time that HR spends on transactional work. On the other hand, the analytic and reporting capabilities of the new software are intended to help HR transition to a more effective, strategic business partner.

**Research Questions**

The new HRIS systems present the opportunity to ask many interesting research questions. Our research questions about SaaS HRIS technology will be informed by the literature on several major topics that are directly relevant. First, understanding the effects of a new HRIS requires an appreciation of how the Human Resource function adds value to the business, and what constitutes HR effectiveness. Second, it requires an understanding of how technical systems interact with social systems, including organization design and work design. Finally, it also requires an understanding of how to manage large-scale organizational change. Here we outline several research topics that are among the most important organizational issues posed by the new technology.

**Topic 1: What are the positive and negative effects of new HRIS technology on organizations that adopt it? What are the unintended consequences?**
It is important to understand the costs and benefits of the new HRIS technology, as well as its return on investment. It is critical to recognize that different stakeholders have different reactions to the new technology and want different things from it. Business executives, HR leaders, and Information Technology leaders have different goals for the technology and different concerns about it. The direct users of the technology in the organization, including managers, supervisors, and employees in both business units and the HR function, have still other concerns. For example, users tend to be most concerned with their experience of using the software; executives tend to worry about costs; and the IT function tends to be highly concerned about data security and access protocols.

A solid analysis of costs and benefits will collect data from multiple constituencies and cover the variety of goals and concerns that the interests that these groups reflect. Almost all data in market surveys come from one informant per company; that is not the same as collecting data from the actual business users of the software or other constituencies.

Almost all major changes have intended as well as unintended consequences, especially when they are new. Some may be positive, others negative. One of the important tasks of in-depth research is to understand the unintended consequences and their implications.

**Topic 2: What are the positive and negative effects of new HRIS technology on the HR function?**

We will investigate HR outcomes using a three-level approach. Higher-level outcomes entail more change and are probably rarer but deliver more impact on organizational performance.

The first level of outcomes is **efficiency**. That is, do SaaS systems increase efficiency and reduce costs? Efficiency comes from automating existing processes, using software that generates a better and more intuitive user experience, more self-service, and reduced HR staffing. How do the users themselves view the SaaS systems? What are the actual costs and benefits? There are market research data about how these outcomes are perceived, but there are no rigorous studies about costs, benefits, and ROI.

Of particular interest here is that the most common contemporary model of HR organization that attempted to reduce staffing and increase self-service without new HR technology. That is, HR generalist or “business partners” work with management to provide strategic advice, respond to business needs, and offer HR services in the organization; Centers of Excellence (such as Rewards, Talent Management, and Learning & Development) create and manage specialized programs and support the generalists; and HR Service Centers provide automation and a high level of efficiency in routine transactions, as well as help desks to facilitate self-service. An organization that has not moved in this direction may see far higher
benefits when adopting a new HRIS than an organization that has already moved to the business partner-COE-service center design of HR. How much of a cost and efficiency advantage does the new technology provide when the organization already has adopted the new HR organization design and when it has not? How does the staffing pattern in HR change, both in overall numbers and in mix of positions, after adopting SaaS technology?

The second level of outcomes is concerned with effectiveness. Improving organizational processes – which requires expertise in process design, organization design, and work design – offers tremendous potential for improving performance in most firms. However, there appears to be considerable concern that HR may simply be automating bad, old processes rather than using new technology as an opportunity to rethink HR processes. For example, it is one thing to automate a broken performance management system, and another to automate an improved version with, for example, a simplified ratings process or an improved goal setting process. Another example is in training and development. It may be helpful to automate existing training processes, and quite another to use the new SaaS system as an opportunity to consolidate training offerings and vendors or to streamline the training approval process.

Although there is a fair amount of discussion about transforming HR processes as part of a move to SaaS technology, we are skeptical about how often this occurs. The entire SaaS adoption and implementation cycle can be completed in a matter of months – too short a period to rethink processes as well as automate them. Indeed, part of the sales pitch is that the implementation is very fast. On the other hand, SaaS technology may actually make process redesign easier because these systems are far more easily configurable than previous generations of HR technology. Does the software tend to make it easier or more difficult to evolve the organization design of the HR function?

Another way in which the HR function can increase effectiveness is by outsourcing work that is done more efficiently and effectively by outside vendors specializing in a given process or set of activities. Almost all HR functions outsource some activities today, with payroll, benefits administration, and sourcing of recruits most commonly outsourced. A handful of companies have outsourced the entire HR function, although there does not appear to be a trend in this direction. For most companies, it is a matter of which activities they outsource and which they keep in house. The automation of HR processes through new HRIS technology may create opportunities for more outsourcing of transactional HR work, increasing overall effectiveness.

The third level of outcomes concerns transformation of the HR role. HR leaders often hope that the function will gain a greater strategic perspective on the business and play a more impactful role than before the adoption of the new technology. The primary way in which SaaS vendors suggest that they will spur HR transformation is through robust reporting and analytic capabilities. There is broad recognition that new different HR capabilities are needed to elevate the role of HR. HR metrics need to help executives manage the business (for example, ways to change the cost structure of the firm or identification of key types of talent that are critical for business success), not simply reflect the efficiency of HR processes (for example, time to fill job openings or percentage of employees receiving training in a given year). From the use of dashboards to display key metrics graphically and in real time, to tools for analyzing and reporting on results from complex, disparate datasets. SaaS promises to “up the HR game.”

A recent study by i4cp (2012, p.2) found that “HCM SaaS vendors failed to deliver on customer expectations on two key selection criteria: robust reporting/analytics and integration tools.” Here, we wonder how much of the problem is in the software, and how much is in the capabilities of the HR function to use the tools. HR software cannot simply discover Key HR metrics; such metrics must be discovered and programmed based on thorough, detailed analysis. Moreover, the way in which the tools are used is likely to be important. The new HRIS software makes it possible to monitor HR processes in a far more detailed way than ever before. For example, HR and business managers can see at a glance
who has completed performance appraisals on time, and what percentage of supervisors have done so. If it becomes HR’s job to monitor and enforce compliance with organizational directives concerning HR processes, this will reinforce the stereotype of HR as the “people police.” Giving business managers tools and accountability for using them seems more likely to be successful. On the other hand, a focus by HR on business-related metrics, for example in HR dashboards that have clear business relevance, may help change perceptions of HR’s role and status.

There is much emphasis in the contemporary HR literature on developing analytic capability that enables HR to advocate business-based policies that earn it a “seat at the table” in business decision making. HR SaaS tools automatically collect much of this and have powerful capabilities for collecting and mining data. However, our experience as organizational researchers makes us skeptical about how easy it is to pull together disparate data sources and to analyze organizational data. Even the most user-friendly tools require that analysts have the theoretical and statistical training needed to make sense of the data.

HR analytic capabilities are in short supply in most HR functions. HR research groups staffed by Ph.D.-level staff were common in an earlier era, but are now a rarity. Do organizations with SaaS installations make use of data mining capabilities of their software? If so, how do they staff the groups that perform this work? Do they hire data analysts, retrain existing employees to do the analysis, or use people from other parts of the organization?

<table>
<thead>
<tr>
<th>Outcome Level</th>
<th>Examples of Changes Leading to Outcomes</th>
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| 3. Transformation of the HR Role                   | • Analytics  
• Use of reporting capabilities |
| 2. Effectiveness                                   | • HR process redesign  
• Outsourcing |
| 1. Efficiency                                      | • Greater automation  
• More self-service  
• Reduced HR/IT staffing |

Overall, we are interested in learning about how the role of the HR function evolves as a result of the technology. What are the effects on the role of HR, HR tasks and priorities, staffing patterns, the skills required of HR employees, and status the HR function in the eyes of others in the organization?

**Topic 3: What organizational factors are associated with which organizational outcomes?**

There are a great many organizational factors that may explain the success of some organizations and the failure of others to achieve a high return on their HRIS investment. The research will identify key factors. Factors that are likely to be important, and our hypotheses about their effects, include the following.

- **Organizational size and complexity:** The larger and more complex the organization, the more difficult, costly, and time-consuming the conversion to a new software system
- **Business strategy:** Organizations differ in their emphasis on cost control, customer satisfaction, and innovation. We hypothesize that a cost control emphasis will be associated with an emphasis
on efficiency outcomes from the HRIS; a customer satisfaction focus will be associated with effectiveness outcomes; and an innovation emphasis will be associated with a focus on transformation outcomes.

- **Stability and maturity of HR processes**: To the extent that HR processes are mature, stable, and well-engineered, there will be less opportunity for new HRIS to stimulate increases in HR effectiveness based on process improvement.

- **HR skill portfolio**: An HR function that includes or hires personnel who have skills in process improvement, outsourcing, and data analytics will achieve greater HR effectiveness and greater transformation of the HR role as a result of the new HRIS.

- **HR work redesign**: HR functions that specifically address the skills required by the new HRIS, as well as implications for the type of work that needs to be done, will achieve more positive outcomes as well as higher employee satisfaction with the technology.

- **HR structure**: To the extent that the organization already uses some form of the Business Partner – Center of Excellence – Service Center model, it will be better able to achieve positive outcomes as a result of the HRIS than an HR function using an older functional structure; this is because HR functions with a more traditional structure will have considerable work to do before they are able to take advantage of the new technology.

**Topic 4: What characteristics of the technology are associated with positive outcomes?**

There is considerable variation in HRIS technology. We hypothesize that HRIS representing greater change have both greater opportunity for success and greater risk. These characteristics of the HRIS include the following.

- **Comprehensiveness**: Degree to which all or only some HR processes are included.

- **Integrated versus patchwork system**: Some HRIS packages are relatively comprehensive, while others address only one HR process. The 2012 i4cp study found that, on average, respondents used two different packages, with some organizations using up to nine; the lack of integration represents a potential problem.

- **SaaS versus hybrid HRIS approaches**: CedarCrestone found that it is quite common for firms to use a combination of SaaS solutions side-by-side with older technologies such as PeopleSoft.

In addition, prior HR technology is likely to be important. If the HRIS is replacing manual systems or very old mainframe systems, it may be more welcome than if it is replacing more contemporary ASP or client server systems.

**Topic 5: How is the change management strategy related to positive and negative outcomes?**

A great deal is known about how to manage change, including changes in software technology, effectively. The literature indicates that the following factors are likely to be related to the success of the HRIS implementation.

- **Goal alignment**: Agreement among different constituencies about the goals of the new HRIS and the preferred HR role should be associated with a smoother implementation and greater certainty about outcomes.

- **Top management alignment with HR leaders on preferred HR role**: If business leaders do not endorse a transformation in the HR role, because they prefer the handholding and
administrative support provided by a more traditional HR function, HR is not likely to be able to pursue role transformation successfully.

- **Preparation of users for change:** An implementation process that includes communication and training efforts to help users see the new HRIS as an improvement that is in their own interest will be more effective, seen as more useful and of higher quality, and will be associated with increased satisfaction.

- **Project planning and structure:** Use of well-established methodology of managing technological change should be associated with more positive outcomes. This includes
  - Use of a Project Office with personnel dedicated to the project
  - Creation of one or more project teams broadly representing various constituencies
  - Written plans for the project, managing change, communication, risk management, and addressing contingencies posed by the risks
  - Use of consultants experienced with the technology
  - Monitoring implementation issues, rapid response

### Research Approach

**Research Model: In-depth Case Studies.** The greatest need at this point is for in-depth, longitudinal case studies on companies that are adopting HR SaaS technology. Large sample market surveys provide general guidance on adoption patterns, success rates, and market trends. However, there are no detailed cases that document the experience of companies going through the implementation process. Case studies are especially important when the issues are not well known; case studies make possible the discovery of causes, effects, and unexpected consequences when the phenomenon under study is new.

**Action Orientation.** The Center for Effective Organizations is committed to research that is useful for both theory and practice. We work with clients to provide research results rapidly and in a format that helps guide managerial action. A member of the research team will provide a day of consulting assistance every six months to each participating company for tasks of its choice that are relevant to the project, such as reviewing the firm’s data, considering changes in the implementation process, working with HR leaders on the implications of the data for the HR function, and/or making presentations to senior managers and/or the project team.

**Data Collection: Types of Data.** We plan to collect several types of data from each organization. These include interview data, survey data, archival data, and outcomes data on costs and benefits.

**Interviews: Research Project Coordinator.** The company will designate the internal coordinator for the research project. The coordinator would be responsible for coordinating data collection for the firm and gaining value from the research. A typical candidate will be an HR Director who has a leadership role in the HRIS project. We will maintain regular contact with the Coordinator and will formally interview him or her by phone for an hour at least quarterly.

**Interviews: Key Leaders.** We will interview at least two key interviewees in person from each of the following constituencies: senior business leaders, Human Resources, Information Technology, and Project Team leaders responsible for implementation of the HRIS. Having more than one respondent from each group provides a more complete picture and makes it more likely that we will be able to interview someone from each group throughout the study period, despite normal organizational transfers and departures. We
will interview each respondent for approximately an hour every six months. If possible, we will meet with key HR leaders before leaving the site to summarize the key issues.

**On-Line Survey:** We will assess the views of key constituencies, including users of the HRIS, through an on-line survey that we would administer twice during the study. If employees have access to and are using the HRIS, they would be included in the user sample. We will work with the organization to develop an appropriate sample. We can use a random sample survey of users – we do not need to survey everyone in the organization. We will use a web-based survey that will require 20-30 minutes of each respondent’s time to complete.

**Archival Data:** These are quantitative data from organizational records.

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<tr>
<th>Data Source</th>
<th>When Collected</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>Interview of primary research project manager</td>
<td>Quarterly and as needed</td>
<td>To understand the implementation timeline and key events, organizational context, overall progress, as well as project planning</td>
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<tr>
<td>Interviews with key leaders from each major constituency</td>
<td>Semi-annually</td>
<td>To understand the HRIS adopted by the firm and how it evolves over time; goals and success criteria; implementation lessons; views on the success of the HRIS</td>
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<tr>
<td>Survey of users including supervisors and (if relevant) employees</td>
<td>Semi-annual or as appropriate (Two surveys total)</td>
<td>To understand the reaction of these groups to usability, positive and negative effects, as well as positive and negative unintended consequences, if possible comparing responses the old and new HRIS</td>
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<tr>
<td>Archival data, including performance data</td>
<td>Semi-annually</td>
<td>Data relevant to changes in the efficiency, effectiveness, and transformation in the role of HR; cost and benefits of the new HRIS; HRIS usage patterns</td>
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**Data Collection: Timing.** We foresee collecting data for a year to 18 months. If possible, we will collect the first wave of data before the implementation of the new HRIS system, followed by data collection six and twelve months after implementation. Thus, we would collect at least three waves of data if we begin data collection before implementation and at least two waves of data if not.

**Data Collection Schedule: Interviews of Key Leaders and Archival Data**

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<th>Implementation Status</th>
<th>Before</th>
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<th>After</th>
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<tr>
<td>If Case Begins Pre-Implementation</td>
<td>Time 1</td>
<td>Time 2</td>
<td>Time 3</td>
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Multi-Company Study. We hope to use the CEO network of Sponsor Companies to interest several companies in participating in studies of new HRIS technology. This will have two primary benefits for participants. First, we can spread the cost of developing research instruments across multiple companies. Second, we will host conference calls and/or a conference in which participating companies can learn from each other. The calls and/or meeting will focus on why they are making changes to their HRIS, details of the changes, and what they are learning about the effects of the new HRIS.

Cost. The exact cost of participating in the study will be determined by the final research design for a particular company and how many companies participate. We anticipate that research costs (not including a consulting role) will be in the range of $50,000 - $75,000 per year for CEO Sponsor Companies, depending primarily on whether we can generate a multi-company sample. The cost for non-sponsors will be 15% greater. We will be pursuing seed funding from one or more companies involved in the HRIS space. If we are successful in obtaining such funding, the cost per company may be greatly reduced.

Deliverables

1. Executive summary. We will provide an executive summary of our research findings for the company after each wave of data collection (interviews with key leaders and archival data), suitable for use in communicating about results of the study with senior managers.

2. Survey feedback report. We will provide a formal report with detail results from the survey, including statistical summaries and a brief PowerPoint report highlighting key findings.

3. Detailed case study. A formal report will review our findings based on the analysis of all sources of data for the individual company at the conclusion of the study.

4. Consulting support. As indicated above, we will provide a day of consulting support every six months to ensure that the research findings are understood and used wisely by the company.

5. Research papers based on the data from all participating companies. These are likely to be available to study participants as working papers years before research papers are published in academic journals.

6. Collaborative exchange. CEO will organize one or more conference calls and/or conferences of participating firms to share experiences in implementing performance management interventions, providing participants with an opportunity to learn from each other.

Research Team

Gerry Ledford, Senior Research Scientist, CEO. Dr. Ledford returned to CEO in September 2012 after working as a human resource consultant from 1998-2012. Gerry previously was a key contributor at the Center from 1982-1998. He was at Sibson Consulting (1998-2003), where he

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was Senior Vice President and Practice Leader, Employee Effectiveness. Since 2004, he has been President of Ledford Consulting Network, LLC. He is a nationally recognized authority on aligning human capital practices to business strategy. He has many years of experience working with major companies to improve the structure and processes of the HR function.

**Ann Majchrzak, Professor of Information Systems, Marshall School of Business, University of Southern California.** Dr. Majchrzak studies how information systems can support worker agility and ingenuity in collaborative settings. She has investigated information systems support for distributed teams, knowledge sharing and creation, and corporate wiki use. Professor Majchrzak's work has been widely published, and she serves as a Senior Editor for MIS Quarterly and Organization Science. She has developed several software programs to help manufacturing process engineers, and she has consulted with many prominent technology firms.

**Ed Lawler, Director and Founder, Center for Effective Organizations and Distinguished Professor of Business, USC.** Dr. Lawler has been honored as a major contributor to theory, research, and practice in the fields of human resources management, compensation, organizational development, and organizational effectiveness. Ed is the recipient of the highest research awards given by the HR People & Strategy, the Society for Human Resource Management, the Society for Industrial and Organizational Psychology, the Academy of Management, and World at Work. He has conducted many studies of the HR role and the HR function over the years. He is the author of over 40 books, including *Effective Human Resource Management: A Global Assessment* (2012) and *Human Resources Business Process Outsourcing* (2004).

We will draw upon other CEO and USC resources as appropriate in particular projects. For example, CEO Senior Research Scientist Alec Levenson has done considerable research on HR metrics and analytics. Among USC faculty, Paul Adler is Professor of Management and Organization at the Marshall School of Business, University of Southern California, where he holds the Harold Quinton Chair in Business Policy; he has studied technology and its impact on work and organization for decades.

**Point of Contact**

Gerry Ledford will be the primary point of contact for this research program. Please contact him for more information about the study. He can be reached most easily at 310-318-6405 (office), 310-874-5971 (cell), or gledford@marshall.usc.edu.