

# HR Transformation Technology

*Delivering Systems to Support the  
New HR Model*

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# The Evolution of HR Technology

## CHAPTER 2

How well is the HR function served by technology after 40 years of parallel evolution? Sadly our experience is that most organizations are caught in a continual process of 'technology tag': new developments in HR demand new approaches to HR computing, which in turn consume large amounts of time and budget whilst generally failing to deliver their promise.

While this is happening, the organization inevitably develops further, leading to demands for newer technology, and thus the cycle repeats. The result is that many HR organizations live with a patchwork quilt of technologies that chart the development of HR operations over many years but which add little value to the overall function.

### **The IT Legacy in HR**

Examples of poor HR architectures abound: personnel records are frequently held in multiple locations and systems (perhaps the legacy of past mergers and acquisitions) which fail to provide a complete picture of the workforce; mainframe payrolls sit alongside PC-based reward systems and are unable to share common data; web-based recruitment tools invite applications on an international scale, which cannot be shared or distributed within the organization.

Clearly this is not true in all organizations. Many enterprises on widely differing scales have successfully developed HR tools that serve the purpose of the HR organization without becoming a constraint on the ability to change. The development of complete and integrated HR data and effective management information in turn creates the climate for developing new service led models for HR delivery.

What is the difference between the two models? How are some organizations able to leverage technology effectively in HR whilst others have inherited a fragmented selection of applications that offer limited strategic value?

## Evolution of the HR Application Market

To understand the nature of current problems with HR technology, it is necessary first to understand something of how HR technology solutions have evolved. Many of the problems routinely encountered in HR systems have their roots in design and development problems that relate to older technologies and which no longer need be a constraint on the organization.

Throughout this chapter we have referenced the major stages in the historical development of HR technologies in the boxes detailing the *History of HR Technology*, which should be read in parallel with the points made here.

### THE PAYROLL-DRIVEN SOLUTION

The beginnings of HR technology arose with the need to process large numbers of employee payslips which, prior to the 1960s, was predominantly a manual or clerical exercise. The advent of large mainframe applications to process payroll calculations and generate paper payslips on a large scale was, for most organizations, the first major application of technology to an HR-related problem.

Such systems rapidly proved their value in reducing clerical activity and the number of staff required to support the process within both finance and HR. At the same time it was recognized that such payroll systems often held a useful repository of employee information, including data about jobs, pay, cost, absence levels and personal data. This stimulated demand for better information and quickly led to the development of HR-related applications that held additional management information on individual employees that could, for the first time, be used to produce meaningful information on which to base strategic decisions in the function.

At this point the 'market' for HR systems was split fairly evenly between organizations that built their own systems, often employing large IT armies to do this for them, and a small embryonic group of HR system vendors (in the UK this included vendors such as Peterborough Software, Midland, Dun and Bradstreet and Cyborg).

It was a testament to the quality of some of the solutions produced at this time that many are now still in use in some organizations and at least three of the above software vendors are still in existence in some form. However, as HR information needs developed, mainframe technologies quickly proved to be a constraint.

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### MAINFRAME SOLUTIONS

The earliest forms of HR systems were the large mainframe-based payroll solutions used to process large volumes of routine pay calculations quickly and efficiently. It was realized early on that the basic personal data used to manage payroll could be easily extended to support equally basic personnel records. Names, addresses, job titles and other basic employment data could be held alongside payroll records and, with the application of some reporting tools, could start to produce limited statistics on the employee population. This early stage was dominated by names such as Peterborough Software, Midland Software, Dun and Bradstreet and Cyborg Systems, many of whom still exist today, albeit in different incarnations.

The mainframe system had many advantages: for many organizations it was the first experience of automating the management of employee data, and the efficiency savings were significant. Mainframe computers themselves were significant assets in the organization and were managed in a rigorous and centralized manner. They offered little flexibility, and making changes tended to be a complex and difficult process; access to HR data was restricted by security systems but also by the accessibility of a suitable mainframe terminal.

Much of this suited the HR (or personnel) functions in large organizations of the time as they too tended to be centrally focused and steeped in routine transactional operations that changed little over time. HR systems existed to support the HR function and the concept of sharing data outside the function was not widely known.

Whilst mainframe systems are, by their nature, very adept at sharing data across a wide network and maintaining a secure and robust environment, at the outset of the business computing era mainframe systems tended to be highly inflexible and heavily dependent on skilled technical resources who could build required applications. At this point the relationship between HR and IT was often characterized by a harassed end user attempting to explain to a white-coated 'techie' what was required.

With such a focus on the technical difficulties of delivery, it was not surprising that the developed solutions were cumbersome, expensive to build and maintain, difficult to use and, generally, did not deliver what was needed.

### HUMAN RESOURCE MANAGEMENT SYSTEMS – EVOLUTION OF THE DEDICATED HR SYSTEMS MARKET

The development of the personal computer and related trends in computing such as client-server architectures unleashed a whole new set of computing possibilities for HR. The flexibility and local processing capability offered by PCs meant that HR users could maintain their own HR records and information

and could quickly generate the types of specialized management information that would previously have required dedicated technical resources. Whilst PC systems were easy to acquire and operate, they had a significant downside in that they tended to lack any real integration with the payroll system or indeed any other business applications. Therefore whilst PC systems offered significant advantages, their stand-alone nature led to a host of new problems in terms of keeping HR systems in step with other data.

Client-server architectures offered the potential to share this information across a wider network and to distribute data processing, data storage and presentation to the end user across different technical platforms according to the requirements of the task. At the same time, more advanced database and reporting tools, particularly the advent of fourth generation languages such as Oracle, provided far more flexibility to structure and analyze data in a way that was less dependent on the restrictive hierarchical data structures found in mainframe systems.

These changes in the options for technology delivery provided the catalyst the industry required to develop a new generation of HR specific systems and tools. Software vendors rapidly evolved applications to manage the complexities of HR processes such as historical record keeping, time and labour recording, organizational management, performance management, recruitment administration and a whole host of other functional areas. With the development of new functions, businesses started to recognize the possibilities and quickly wanted to tailor the new systems to meet unique or specialized requirements in their own organizations; thus the requirement for flexible business solutions was created.

New systems were generally delivered with a set of configuration tools that would allow the organization to make subtle (and sometimes not so subtle) changes to the core system to meet their local requirements. This in turn demanded a specialist set of skills to manage the implementation of the new system.

Vendor marketing messages focused on how technology solutions would provide the basis for a revolution in the way HR was managed in the organization, and a race began between the main vendors to develop functionality that would differentiate their system from their competitors'.

However, whilst the new systems and architectures offered considerable advantages they also opened up a wide range of complexity around HR solutions that brought a whole new set of problems. Because the applications market for HR was evolving so rapidly, many 'leading edge' products were

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### THE PERSONAL COMPUTER (PC) ERA

The advent of desktop PCs in the 1980s saw an explosion in the availability of cheap, flexible PC-based HR applications that were easy to install and offered a whole range of flashy reporting tools and functionality.

HR users were introduced to the possibility of managing much of their administration via a desktop system that would prepare standard letters, format sophisticated reports and support a range of functions such as succession planning and performance management that could not be attempted via a mainframe system.

The availability of such local processing power was a massive leap forward and many organizations still successfully use such solutions. However, in a pre-web era, the

limitations of PC connectivity made it difficult to share data and the PC was effectively limited to operating in one location. In a distributed organization this rapidly led to a computing free-for-all with many different users developing their own desktop tools and databases, which inevitably did not agree with each other and which led to a high level of manual effort to reconcile systems.

Thus in early iterations, the enhanced functionality of the PC solution came at the cost of the integration offered by mainframe applications. However, the advent of web-based technologies and client-server architectures (see below) changed the scope of activity deployed on PCs and has opened the potential to manage HR process at the local level via employee and manager self-service. The PC HR solution has changed radically since its inception but is now a major component of the overall HR systems architecture.

rapidly eclipsed by developments from rival vendors. For the organization wishing to buy an HR solution, this often meant a comprehensive and lengthy evaluation process to determine which system best fit their needs.

In addition, many of the new systems were IT platform specific (for example running only on IBM, HP or Dec hardware), which meant that the evaluation process often boiled down to a debate between IT and HR about technical platform versus functional needs.

Once the preferred system was selected, organizations often found their problems were only beginning. The flexibility of new systems was a new-found freedom for HR users used to being told what was not possible. The ability to adapt systems was frequently interpreted as 'we can tailor the system to do whatever we want', which in turn led the systems delivery project down a route of complex and costly development projects that only succeeded in delivering a system that did what the old system did.

What was often lacking from such projects was any clear understanding of what opportunities the new system presented for streamlining existing

process or how embedded process inherent in the system provided a basis for understanding and developing best practice processes. In addition, few business users were aware that tailoring an IT system was often a far more costly proposition than changing the process to fit the system.

From an IT perspective, the new technologies were often long on promise and short on delivery. PC systems proliferated as users discovered the advantage of personal computing power. However, in a pre-web environment, PCs were notoriously poor at sharing data, and systems integration became a major headache.

In a networked environment, the management of client-server solutions was frequently highly complex and beset by proprietary tools and systems that required a wide range of skills to implement. IT departments often resorted to imposing mainframe-like restrictions on the development of new systems in a deliberate attempt to limit the technologies they would need to support.

As HR solutions developed, therefore, the complexities on both the business and IT sides of the project frequently caused problems during delivery. Many high-profile delivery projects during this period floundered and successful systems delivery was often a hit and miss affair.

## ERP/WEB-BASED APPLICATIONS

The development of integrated HR solutions was given further impetus by the emergence in the 1990s of enterprise resource planning (ERP) applications, such as Oracle, SAP and PeopleSoft. Initially the term was coined to describe a complete set of business applications that would cover all aspects of an organization's core processes, although later it generally came to mean applications that specifically focused on back office operations including HR, finance and procurement.

The development of an integrated approach to the back office meant the potential to eliminate the complexities of integrating cross-functional processes such as the management of organization structures (where HR and finance information seldom agreed) and paved the way for fully integrated solutions that might cover multiple back office processes and geographies.

At the same time, the introduction of web-based technologies meant that the historical problems relating to the sharing of data and processes over a network could now be managed by means of a universal set of technology tools. This in turn meant that anyone in the organization with access to a PC and an Internet connection could now use self-service tools that enabled line managers

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### CLIENT-SERVER ARCHITECTURES AND THE WEB

'Client-server' is a term that refers to a network architecture whereby there is a separation of the system which interacts with the end user (the client) from the system that manages the bulk of the heavy lifting work (the server).

The benefits of such an architecture are that it allows each machine in the network to perform the task to which it is best suited, with powerful servers managing the application software and database and desktop PCs taking care of the presentation and manipulation of data to the end user.

This translates into significantly better performance than would be experienced via a PC solution alone, whilst at the same time providing far greater power to drive more sophisticated applications. At the same time, the client-server approach also allows a potentially limitless number of users to access and manage the same data from different points on the network.

For HR this architecture promised to resolve many of the drawbacks of previous generations of HR technology by providing connectivity between hardware platforms and ensuring that users had access to the systems they needed.

In early incarnations, however, the principal drawback lay in the cost and complexity of the underlying architecture and the applications that were designed to run on them, as well as performance issues on process-hungry

applications like payroll. More than one organization incurred massive costs trying to initiate a client-server solution without delivering any functionality to the user whatsoever.

The development of web-based tools meant that the principles of client server architecture could be deployed on a common platform over the Internet. Examples can be seen in a wide range of routine Internet transactions where an HTTP server provides information (typically a web page) to a client PC that requests access via a web browser using a standard Internet protocol.

The introduction of web-based self-service tools in a business environment mirrored users' personal experiences of Internet shopping or banking and has rapidly become a standard approach to delivering HR processes.

Although this approach brings significant benefits over earlier solutions, the transition has not been straightforward for all software providers, in particular:

- There can be a large variation in how applications manage the PC end of application – some systems still require a significant amount of code to be installed on a client PC to use self-service effectively, which can have implications for maintainability, support, upgrade and performance of the system.
- There are still big variations in opportunity of self-service tools – many software providers in the HR market have made rapid entry with 'web enabled' solutions, which offer very little flexibility to change these tools – users may find they are limited to what they can deploy via self-service.

and employees to access and update records and processes that, hitherto, had been the preserve of the HR function alone. It was the development of such fully integrated toolsets that made the organization of transactional activity into service centres and the reduction in administrative headcount a real possibility.

Through the course of the 1990s, three giants emerged in the vendor market as the main suppliers of such applications: SAP, Oracle and PeopleSoft; all three remain in a dominant position in the HR systems market, although PeopleSoft is now in the ownership of Oracle.

It was quickly apparent that the problems that had been experienced to date in delivering large-scale solutions needed to be addressed and the focus turned towards the techniques and methods used to implement these systems if such solutions were to be seen as credible and reliable. This period heralded the growing market in organizations specializing in systems integration and offering a wide variety of structured methodologies and preconfigured solutions. However, the fact remains that implementation remains the most problematic aspect of system.

#### 'TOOLS ON TOP' – THE BEST-OF-BREED ARGUMENT

During the period of explosive growth in HR systems in the 1980s and 1990s, a new systems market emerged providing technology to meet specialist functional requirements. This market included a range of systems that were specifically designed to meet the needs of specialists in the HR field such as recruiters or trainers.

The rationale for such systems arose from the realization that an HR system that tried to cover all processes would inevitably lead to some compromise in the functionality offered. Specialist systems, it was argued, could bring a unique focus on providing 'best-of-breed' functionality based on expert knowledge. The argument quickly took hold, particularly in organizations that had a critical focus in areas not adequately catered for by the mainstream HR systems and it rapidly became the norm to supplement a core HR solution with additional package functionality from other suppliers with some organizations even building their entire HR systems architecture from best-of-breed packages.

Best-of-breed solutions undoubtedly have an important place in the overall architecture for any organization; for example, an organization faced with a need for high-volume recruitment in an industry with strong competition for new recruits may need to invest in more comprehensive tools to manage the

process than may be available from the mainstream suppliers. The difficulty can arise when trying to integrate data from the specialist systems with data from the core systems.

Orion Partners frequently encounter organizations that have invested in a wide range of specialist technologies to manage their HR processes but have failed to make similar investments in ensuring that these technologies can share data effectively. Too late, many find out that, in buying specialist tools to support critical processes around resourcing, learning and development, performance management and reward, they have lost the ability to get a single view of the data and manage these processes in a coordinated fashion. Thus the ideal of leading edge functionality is often outweighed by a practical need to integrate core HR data, which, in our experience, is the more important of the two requirements.

## **Impact of the New HR Model**

The emerging web-based technologies from ERP and best-of-breed vendors paved the way for a reorganization of back office processes and the opportunity to devolve process and activity to its point of origin in the organization by means of self-service tools.

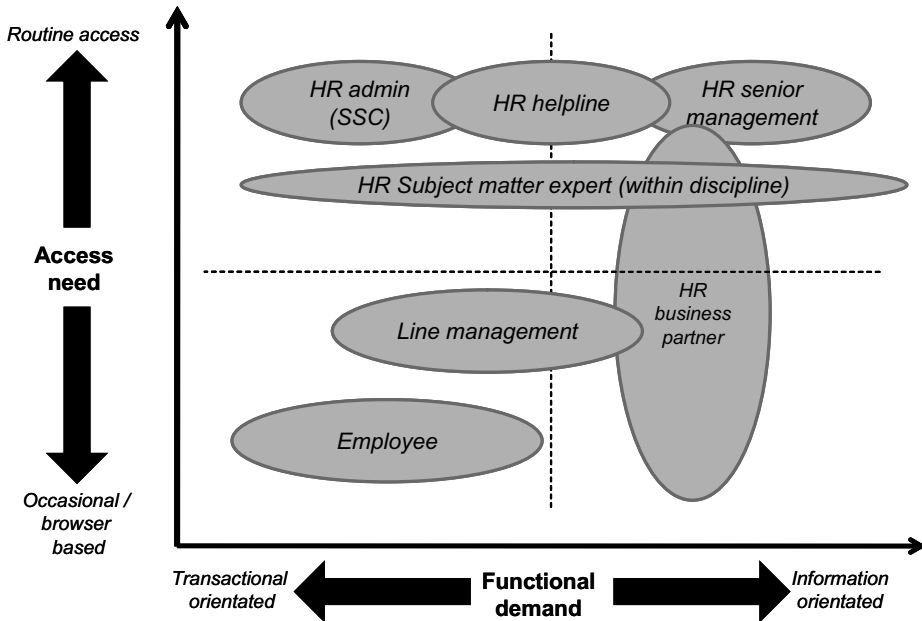
The work of David Ulrich and others demonstrated the impact that shared service centres (SSCs) could have on service cost and quality and prompted many organizations down this route. The shared service centre carried many of the requirements of a traditional HR operation but also created new demands for contact management, service monitoring and control and financial recharging that were new to HR operations.

### **EMERGING ROLES**

The new model brought new roles such as HR business partners (HR BPs) and centres of expertise, who emerged as specialists who would, naturally, develop their own demands for management information and systems to support their roles (see Figure 2.1).

For example, the focus in the SSC on customer services, key performance indicators (KPIs) and cost performance drove a demand for systems to support:

- contact management, to monitor and manage service delivery at the point of contact with employees;



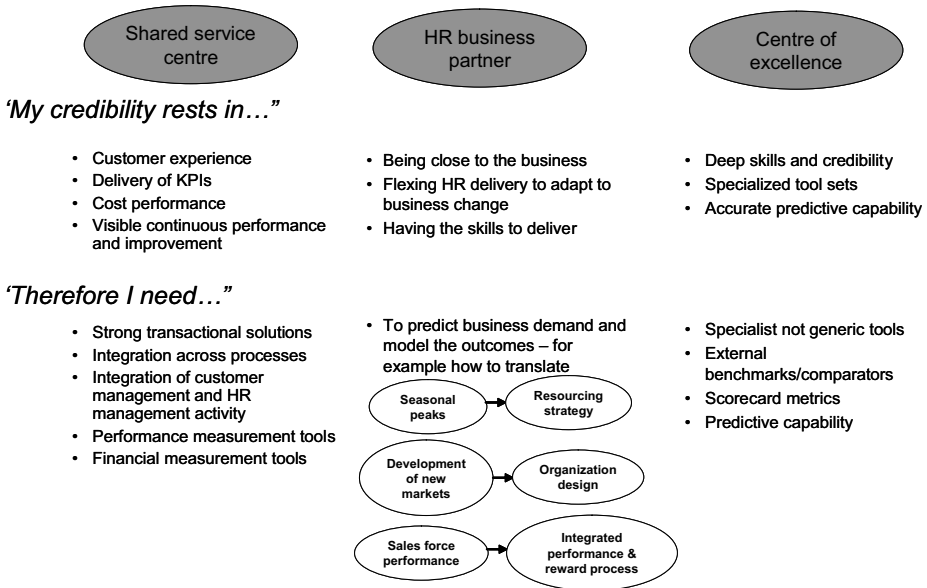
**Figure 2.1** New roles influence demands on HRIS

- strongly integrated end-to-end processes for core transactions;
- performance monitoring systems that provide effective metrics to measure and improve the service.

For the HR BPs and subject matter experts, the emphasis will likely be on the development of a coherent and reliable source of data that can drive predictive trend analysis from historical data. Particular questions the HR BP may wish to resolve include:

- predicting seasonal peaks in business demand for HR services as a basis for planning HR delivery strategy;
- accurate historical data on individual performance, reward and terms and conditions to support organization design decisions;
- providing data on external benchmarks and comparators;
- tools to support the development of scorecard metrics.

Most importantly, however, the evolution of HR technology had taken systems out of the sole preserve of HR and placed them firmly at the heart of business operations. Now a new set of demands and standards are emerging



**Figure 2.2 What drives performance in the new HR model?**

from business users of HR data who understand the importance of a single source of HR data to support multiple processes across the organization.

Requirements can be as varied as the organizations that generate them, but there is an increasing realization of the value of HR data to critical business processes and planning. For example, the construction industry has seen massive growth in the UK over recent years: retail expansion, a booming property market and the countdown to the London Olympics have led to a significant demand for scarce construction resources, high staff turnover and full employment amongst skilled workers.

Against this background, there is increasing realization that historical approaches to planning construction project resource requirements and managing project staff costs using informal, local planning systems relying on estimated data simply won't do. Such organizations need to make maximum effective use of their human capital and therefore are increasingly reliant on a common source of HR and finance data to support resourcing and costing decisions.

**THE DEMAND FOR INTEGRATION**

For the HR organization developing a technical strategy to support the new HR model, this inevitably means considering tools and systems that were previously

outside their domain. The use of contact management and customer relationship management (CRM) systems to monitor contact and service centres has now become standard practice in HR SSC operations. In addition, HR technology increasingly needs to include within its scope the use of telephony, document imaging and work management tools. The need for continuous improvement and service level monitoring has placed new emphasis on performance metrics and balanced scorecard reporting, and the move to commercial management of HR operations has driven a requirement for information to monitor transactional activity and manage the formal recharging of services.

The demand for integration therefore extends beyond the historical view of a requirement for integrated HR and payroll operations. New HR technologies have to address the need for integration on several levels:

- *Cross-functional integration within HR:* Whether or not HR systems are sourced from a single supplier or multiple best-of-breed vendors, there is a critical demand for related processes to share a common view of data and drive a seamless process. Performance management, reward management and learning and development are prime examples of three areas which are closely interrelated and where any fragmentation of the underlying data will impact HR's ability to deliver effectively in any one area.
- *Cross-functional integration outside HR:* Similarly, there is a need to consider how HR data will work in conjunction with other business applications, particularly back office applications such as finance and procurement. A common point of contact between these three applications is the organization structure; specifically the data HR holds on the organization is reflected in finance (expressed in the chart of accounts) and in procurement (as authorities to purchase). Unless these applications are designed with the ability to integrate this data, the organization will be required to maintain the same organizational data several times over.
- *Integration of channel technologies where the demands of the shared service centre require a range of different systems to work in close cooperation:* Contact management systems, HR system, telephony tools, work management solutions and document management all need to work together effectively in a SSC if process optimization and improved service levels are to be realized.
- *eBusiness systems:* Whilst self-service systems may be integral to the core HR system, there may equally be a number of legacy web-based

applications (for example, flexible benefits solutions or expenses systems) that lie outside the core and which need to work as part of the integrated process. Similarly there may be several repositories of HR policy data on existing intranet sites that may form part of the information base for the contact centre and which may require knowledge management tools to extract and present data as part of the contact centre's tool kit for answering caller queries.

- *Reporting requirements:* With such a wide range of technologies, careful consideration needs to be given to reporting requirements across the different sources of data. Standard reporting tools offered by an HR solution supplier may not offer the best solution to reporting across multiple platforms and the service centre architecture should include consideration of whether a data warehouse may be required to drive management information.

## CHANGING ROLE FOR SOFTWARE VENDORS?

For HR systems suppliers, therefore, the battleground has shifted away from the development of new and better functional solutions. The functional 'arms race' has led to a position whereby the majority of users of the main ERP solutions are unable to make effective use of the full range of functionality offered to them; many are simply buying more system functionality than they can use.

Of far greater importance now to the emerging models of HR is the need for effective integration of core HR applications with the wider set of technology tools that are required to manage an HR SSC. Software vendors need to demonstrate that they possess an understanding of how a single end-to-end process will be supported by the technology and how the components of their product offerings fit together to provide a seamless suite of applications for shared services.

Sadly this is still a challenge to many suppliers who may not have had to make their products work this way before. For example, contact management solutions are an essential part of SSC technology; however, suppliers have frequently evolved their CRM tools to do a different job – namely to manage relationships with external customers – and still do not recognize the significance of these applications to HR.

We see ample evidence that many market-leading suppliers are still focused on products that meet the demands of the 'old' model of HR delivery where the emphasis is solely on core process and HR-related management information. As long as this focus remains then suppliers will not provide adequate support to the needs of the new model for an integrated set of technology to support

shared services. Put simply – many suppliers are still focused on selling and shipping software models rather than building business solutions.

Against this background, the onus is clearly on the buyer of technology solutions to validate how and where a vendor's solutions have been delivered as an integrated solution for shared service.

## CAPABILITY NOT FUNCTIONALITY

Given the historical complexities of implementation and the sometimes very public disasters that have been incurred, together with the growing complexity of IT solutions for HR, organizations would be well advised to place much greater emphasis in future on low cost, low risk, practical methods of delivering HR systems safely. Our research indicates very clearly that the greatest single drive of project success lies in the skills and capabilities of the project leadership team. By contrast, multiple experiences have shown that comprehensive software selection exercises simply demonstrate that there is little to choose between the main vendors in terms of the capabilities of their systems.

For the organization embarking on an HR systems delivery the message is clear: time spent on software selection will not yield a significant return in terms of project outcomes. Whilst differences remain between the main solutions, projects rarely fail because the underlying software lacks functional capability. What does make a far more significant difference to project outcome is the quality of project management and a sound approach to implementation.

Despite this, it is still common to find organizations investing several weeks, if not months, undergoing a detailed system evaluation at the expense of investing in the capabilities of the individuals who will support the process. The expansion in scope of applications that touch the HR service model demands a comprehensive and systematic approach to delivery and a focus on the capabilities of the team who will be responsible for making it happen.

## SYSTEM GOVERNANCE

Effective technology delivery is still only part of the story in driving benefits from HR systems. Our experience of HR technology audits demonstrates that the problems with legacy systems often relate to problems with the governance of the solution as opposed to the technical implementation or support.

Problems frequently arise post implementation when management responsibility for the system is passed to a relatively junior 'super user', whose

role centres on system housekeeping and report production duties. Worse, this role may be passed to a technical support person with limited HR business context.

Whilst the new system may be planned and delivered very effectively, there may be a natural pressure over time to introduce new functional or regional requirements that need to be met by supplementary systems or by customization or future developments to the core system. The system governance role is vital to protect the investment in technology and ensure it is not watered down over time. This does not mean blocking future developments but ensuring there is a business-focused review of any future requirements and that changes are carried out in the context of the benefits they will bring.

Specific duties of the governance role may include, but are not limited to, the following:

- ensuring future development of systems does not compromise the 'single version of the truth', that is, that future developments do not fragment data in core HR areas;
- evaluating proposals for new requirements to determine whether these can be met by the core application; generally requirements for add-on functionality or specialist tools should be resisted unless it is apparent these cannot be met (at least to a high degree) by the existing technology;
- maintaining the overall integrity of the solution as it is rolled out in other regional or operational areas.

## Conclusion

Whilst past approaches to HR systems have focused predominantly on the product capabilities, success in the new model will be heavily dependent on the understanding and capabilities of the individuals involved. The delivery of complex business change projects associated with transition to SSC will demand a varied set of skills which will need to encompass:

- building a business focus into the design of services and systems and determining how the HR technology model will integrate with the overall design for HR;
- integrating organizational and process design in HR with the embedded capabilities of the solution;

- developing a technology model that combines proven solutions into an integrated whole;
- focusing on critical project factors such as the skills and capabilities of the project management team;
- managing mundane project elements such as data conversion and data cleansing, which have a disproportionate impact on project success;
- managing change and communications.

In Part II of this book we will explore exactly how new technologies are being integrated into a common platform to support the new HR model and the most effective approaches for delivery.

### **SUMMARY OF CHAPTER MESSAGES**

- The evolution of HR systems has forced many organizations into a persistent game of 'catch up' to adapt to the latest developments.
- However, the functional 'arms race' perpetrated by software vendors is now largely defunct – evidence shows most organizations successfully deploy less than 25 per cent of the functionality they acquire.
- Evidence also suggests that project leadership and programme management capability are far more reliable indicators of project success than choice of software.
- This suggests organizations should focus less on lengthy software evaluation processes and more on evaluation and secondment of the skills and capabilities to deliver the project.
- The capabilities of ERP technologies for HR provide the foundation for change in the HR function. However, integration of a wider set of technologies is critical to success, and vendors must be able to demonstrate that they understand the business need and can offer a proven, integrated solution.
- Effective, business-focused governance of the HR IT solution is critical to protect investment in the HR IT and ensure the solution does not become fragmented/watered down over time.
- Emerging roles in HR will drive new requirements outside the traditional remit of HR including:
  - contact management;
  - knowledge management tools;
  - document management and telephony;
  - development of HR metrics and scorecard analyses;
  - specialist tools and external comparator data.