

THE R*eview*

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HRMS:

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STRATEGIC ASSET OR LIABILITY

PART II

HRMS AS CLERK

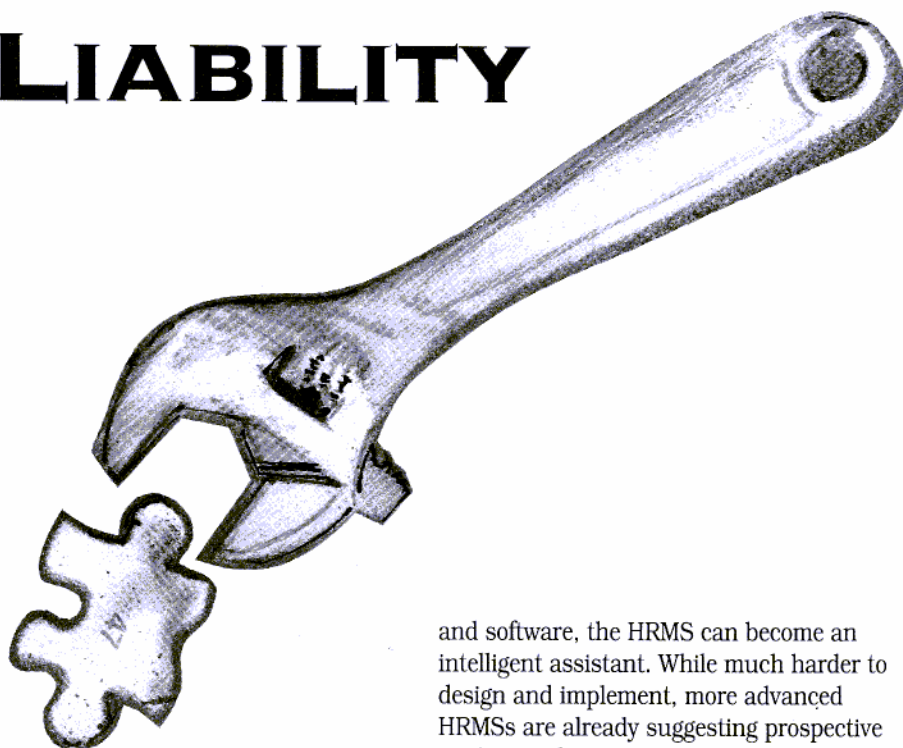
Depending on the information technology used, the automated components of the HRMS can assume many roles. In the simplest case, the computer is used to handle primarily clerical functions - recording, storing, calculating and making data available. With clear and normalized data definitions, solid edits, a suitable data base management system, table-driven calculations, calendar-driven processes and a straightforward inquiry language, a clerically-oriented HRMS can be an enormous help. Such an HRMS can prepare regulation compliance reports, calculate payrolls, track the status of applicants, locate employees who are due for performance evaluations, identify managers who are late with their salary increase recommendations, test benefit plans for discrimination, collect the costs

and output measures of various HRM programs, and perform many other repetitive, labor-intensive and very important tasks. And these tasks, when properly automated, cost less to perform and incur far fewer (if any) errors.

HRMS AS ADVISER

With more sophisticated hardware

and software, the HRMS can become an intelligent assistant. While much harder to design and implement, more advanced HRMSs are already suggesting prospective applicants for interviews based on targeted selection criteria and context-sensitive resume scanning, identifying gaps in management succession, and forecasting the costs of proposed benefits programs. Such functions rely heavily on real-time interactions through user-oriented interfaces, on relational data base management systems that allow unstructured access to much broader (and evolving) data, on complex models of



human decision trees, and on a far richer and more integrated data resource. While providing considerable leverage to their human users, the adviser HRMS does not make HRM decisions independently.

HRMS AS EXPERT

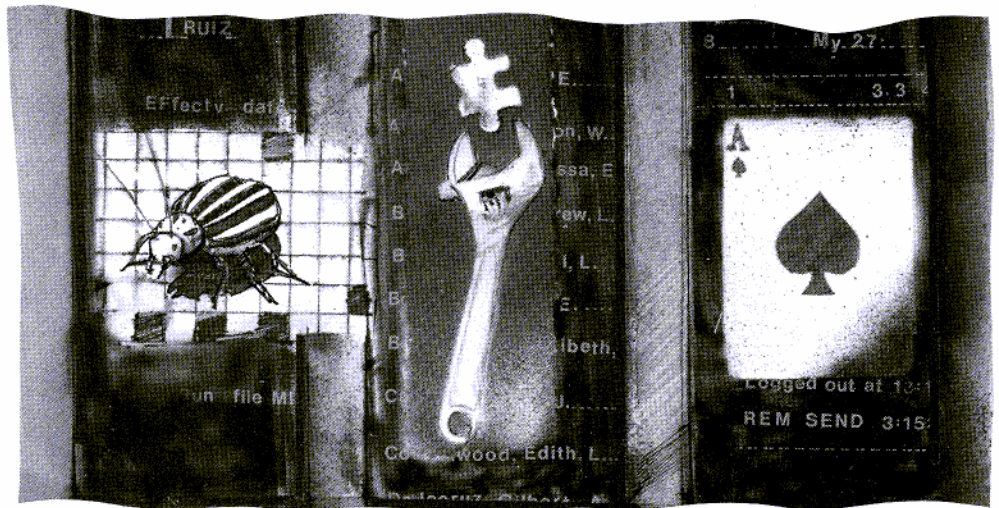
The most sophisticated HRMSs use the emerging technology of artificial intelligence not to merely leverage but to actually replace the human decision-maker. Expert HRM systems can guide employees through complex benefits selections, provide referrals in an employee assistance program, process health care claims, formulate relocation packages, and provide actuarial assessments of the workforce. While still quite rare and experimental, expert HRM applications offer tremendous opportunities to do more with less.

WHY HRMS PROFESSIONALS LOOK FRAZZLED

The flaws, limitations and shortcomings in most of today's HRMSs are frightening, especially as we begin to appreciate the importance of the HRMS to corporate survival and success. Is your HRMS:

- Fragmented, duplicative, inadequate, and/or just plain under-automated?
- Filled with inconsistently defined, hard-to-understand, limited, inflexible and/or hard-to-change data?
- Suffering from limited, hard-to-use and slow-to-respond data access and manipulation tools? A virtual Tower of Babel of tools?
- Based upon limited, inflexible and hard-to-change automated processes
- Poorly documented and overly dependent on expensive, hard-to-find-and-retain users and support staff
- Overly dependent on expensive, hard-to-control, and unreliable outside resources; and/or
- Unable to support current volumes, policies, regulations, geographic dispersion, organizational changes, etc.?

You are not alone! An HRMS, however wonderful, ages and degrades. Many of our current systems are based on already decade(s) old software. There are third party HRM packages being sold today whose underlying software design is more



than two decades old!

This aging process is exacerbated as:

- Normal staff turnover erodes the "oral tradition;"
- Routine maintenance strains the system's original design and the regression testing of each change consumes a disproportionate share of system investments and resources;
- Technical system limits are reached and cannot be overcome without major investments;
- Advances in technology create obsolescence even as they offer opportunities - this is a large and growing factor in HRMS investment decisions;
- Manual system components must increasingly compensate for limitations and flaws in automated HRMS components, with the attendant increases in costs and errors, while data quality and timeliness degrades; and
- Latent system flaws ("bugs") emerge, new flaws are created as a byproduct of layered maintenance, and mild HRMS eccentricities become fatal flaws.

Over time - and seven to ten years is a long life for such a critical system given the pace of technology, organizational and, most importantly, business change - even an effective HRMS will gradually lose its competitive edge. And many of today's HRMSs are senile.

Hopefully, your HRMS does not have all these problems. However, there is a growing opportunity cost* to come, by not being able to expand the data content, processing capabilities and delivery technologies of the HRMS beyond its role as clerk. The HRMS as clerk, i.e. having just an HRIS, is not a strategic asset.

functional dimensions of the HRMS must be aligned closely with the way in which the company conducts HRM, as well as with the corporate culture and general attitudes towards information technology. Although HRM is subject to many of the same objectives and constraints regardless of organizational setting, how these objectives and constraints are addressed in the HRMS can vary considerably.

... BUT ALL EFFECTIVE HRMS ARE!

Faced with many common HRM objectives and constraints, organizations are moving quickly toward common HRMS solutions. While there is no industry standard in this regard and many different approaches can be successful, there are some pervasive trends in the design, implementation and use of successful HRMSs. Those companies that have achieved a strategic business advantage via their HRMS are moving in similar directions.

DIFFERENCE DUE TO SIZE, COMPLEXITY AND DISPERSION

Highly centralized micro-computer-based HRISs that primarily automate payroll and various recordkeeping and reporting tasks may be suitable for small organizations. However, companies - especially 50,000+ employee companies - usually need far broader automated functionality, distributed data capture and access, and much more powerful comput-

* Opportunity cost is an economic concept which involves the cost of a thing being greater than the price; the actual opportunity that is missed or denied because the resources were spent elsewhere.

ers to manage company-wide data and processing. While HRMS users - which increasingly include employees and applicants as well as line managers - are geographically dispersed, communications networks of various types, including Local Area Network (LAN) over short distances, are needed to move data and processing power to these users. And the larger and more complex the organization, the greater the leverage that can be achieved by developing the HRMS as advisor and expert.

INFORMATION TECHNOLOGY MATURITY

Many of the differences between HRMSs are a result of the different stages of maturity of the information technology functions among organizations. Where the use of technology is in its infancy or still focused on highly centralized, batch-oriented "bruce force" applications, it may be quite difficult to justify the technical infrastructure which makes a sophisticated HRMS possible. For example, if a geographically dispersed organization does not already have a substantial telecommunications network, the cost of implementing one simply to support the HRMS cannot be easily justified.

Since HRM has been an under-supported (by information technology) business area in many companies, it is rare to find an HRM group utilizing information technology at the leading edge of its corporate technology usage curve. Most often, the HRMS is far from the leading edge. And in some cases, the HRMS remains a backwater of technology usage. With the growing importance of the HRM business and the recognition by information technology professionals of this importance, many organizations are rushing to apply new generation technol-

ogy to HRM. However, it is not prudent to place the HRMS far from the mainstream of IT activity - in either direction.

HRM PROFESSIONALISM AND SOPHISTICATED

There are many reasons why HRM has been an under-supported business area with respect to information technology, but much of the responsibility lies with the HRM community. Not trained in (nor entirely comfortable with) the analytical, quantitative, very precise mindset which lends itself to working with computers, many HRM professionals simply accepted the opportunity costs of paper-intensive and labor-intensive HRMSs. With those opportunity costs skyrocketing and today's HRM professionals more broadly educated and computer literate, there is a growing demand for improved HRMSs and the user skills to design and implement them. Nonetheless, the HRMS cannot be successful if it far outdistances its user community in sophistication.

PACKAGE-BASED

There is a clear preference for packaged, third-party software as the foundation of common HRMS components rather than to develop custom systems from scratch. As HRM packages have grown in number, variety and quality - and in their ability to be customized, often without writing new code to meet individual company needs - fewer organizations can justify the higher risks and costs of total custom development. Furthermore, scarce information technology resources are needed by these companies to develop applications that are unique to the company and whose potential for delivering strategic advantage is greater. As the common needs of HRM across industries have become clearer and as HRM software vendors learn to provide greatly improved products, most organizations are finding that they can use packaged software to meet at least some of their HRMS requirements.

SOURCE DATA CAPTURE

There is universal recognition that the quality and timeliness of data improves, while the cost of its capture often decreases when that data is captured directly from its source via information

technology. It is interesting to note that employees, applicants and managers - not HRM professionals - are the source for most HRM data! From allowing employees to directly assess their health care options and input their selections, to providing line managers with background information on the applicants they will be interviewing and directly capturing the results of those interviews, source data capture - with the associated provision of direct data access - is revolutionizing the quality and value of HRM information.

While there are many valid technical approaches to delivering such source data collection and direct data access, almost all such approaches combine innovative human interfaces - touch screen terminals, voice recognition, scanning, light pens, context-sensitive help, icon commands and even telephone as a terminal - with sophisticated data base management systems (DBMS), which can randomly store and access data, with highly automated business event-oriented data edits.

MICRO-COMPUTERS

The reality of a micro-computer on every information worker's desk is not far off, whether as the sole computing platform for very small organizations, connected via LAN for work group computing, or the user-interface and local processor in a multi-tiered architecture. With public terminals (including telephones) to provide HRMS access to deskless (e.g. sales or production) workers, many organizations are moving toward direct line manager and even employee access to HRMS automated components. The ubiquitous micro-computer is giving all participants in the HRM business a common tool for data capture, access and processing.

There are certainly obstacles to the effective spread of micro-computer usage: initial direct costs versus payoff in often subtle improvements, fear of change, intimidation by the substantial learning curve that faces new users, and the turf-blurring effect of automation. But spread it has. And HRM software vendors have been quick to provide hundreds of full-function as well as special purpose HRM software packages designed for stand-alone or networked micro-computers. By taking advantage of the less-costly development environment



and user friendly interfaces available with micro-computers, software vendors have done a great deal to overcome these obstacles.

ADAPTIVE SOFTWARE ARCHITECTURES

Given the volatility of HRM and the many differences within and across companies, HRM software must be adaptive to be successful. There are specific software design features that, taken together, create software that can be modified easily to accommodate the varied needs of a single organization over time or, in the form of a third-party package, to accommodate the varied needs of many organizations. These features include:

- Using **reference tables** rather than program code to drive such changeable processes as calculation algorithms and data edits. Reference tables should be date-sensitive (i.e. include in each entry the effective data range for that entry) and available to users for online, real-time update. In this context, the data dictionary provided with most DBMSs is a very fancy reference table;
- Using open-ended, **relational data base management systems** to store system data and an **active, integrated data dictionary** to define that data external to the programs that use it. An open-ended DBMS allows for the addition of new entities and/or more data about existing entities without impacting programs that do not use the new data. Furthermore, relational DBMSs do not require users to pre-define their inquiries nor the full extent of required data.
- Providing **user exits** at strategic points to accommodate custom code without disrupting otherwise uninvolved portions of program logic. Even the most adaptive software may require direct customization in order to meet unique needs. Rather than weaving customized code through the uninvolved portions of the program, perhaps disrupting the flow of already proven code, user exits provide a very controlled way of introducing custom code; and
- Supporting **alternative user interfaces**, from command format to icon/mouse selection, to accommodate a wide range of user skill levels and usage frequencies. HRMS software must not only

adapt to functional volatility but also to the varied needs of the interested parties. Therefore, alternative user interfaces are needed to let frequent, skilled users move quickly to their desired features while leading less frequent and/or less skilled users by the hand. Such user interface features as context-sensitive help, online reference table code lockups, and non-keyboard (e.g. touch screen or light pen) interaction technologies can further enhance the software's adaptation to different users.

BEFORE YOU SIGN THE CHECK

Information technology is a two-edged sword. When properly applied, it provides leverage to human users, improves the quality of HRM activities, and provides an opportunity to reinvent the business of HRM to better meet evolving business needs. When improperly applied, information technology increases costs, reduces quality, increases the risks of doing business, and, in the worst case, can so disrupt the organization as to jeopardize its survival. The horror stories are true.

Before leaping into HRM software development or procurement projects, or even into substantial upgrades to existing automated or manual HRMS components, organizations should take a formal, strategic planning approach to determine how best to deploy information technology in support of HRM. Such an approach:

- Rigorously identifies and delineates IT opportunities and then sets priorities among them in full recognition that there are more opportunities to use IT than there are resources;
- Avoids the all-too-common creation of a fragmented, reactive, duplicative, expensive-to-maintain and not necessarily useful HRMS;
- Helps ensure that if a more highly automated HRMS is warranted, it can be implemented in manageable, successful increments;
- Identifies the policy, data definition, manual procedures and many other non-IT issues which require attention as part of improving the HRMS;
- Provides a framework of HRMS architectural principles (i.e. of design objectives and constraints) for deciding whether and how best to employ information

technology to conduct the business better, faster and more cost-effectively; and

- Emphasizes the use of business priorities, rather than technical opportunities, to guide IT investments in HRM.

All organizations have an HRMS, and significant ongoing investments are needed (and being made) to maintain and enhance its manual and automated components. The purpose of developing an HRMS strategy is to determine what kind of HRMS would best serve the organization, and to develop a plan for getting from today's HRMS to the desired one. The HRMS strategy is a blueprint for guiding future investments.



ABOUT THE AUTHOR



Naomi Bloom has nearly 25 years experience in strategic planning and design, development, implementation, audit, and support of financial, data analysis, administrative and, especially, human resource management systems. Her experience includes resolving the organizational, functional, technical, and project management issues related to these systems. She is also trained in the use of state-of-the-art life cycle productivity tools and techniques, including CASE concepts and principles. Using her formal systems planning methodology, Bloom leads large corporate clients from strategic systems planning for HRM through the life cycles of recommended projects. Bloom, who holds an MBA in finance and accounting systems from Boston University, can be seen nationally on the PBS television course, "The New Literacy: An Introduction to Computers."