EVALUATING THE PRACTICAL EFFECTIVENESS OF HUMAN RESOURCE PLANNING APPLICATIONS

James W. Walker

In the past several decades, large organizations have put into use a wide range of programs and practices aimed at the improved utilization of their human talent. The thousand largest business and industrial organizations in the world together spend in excess of $10 billion each year in human resource management activities, excluding the value of time spent by individuals and managers away from work for purposes of training, development, interviewing, performance planning and review, and other activities.

A discipline of human resource planning (manpower planning) has developed and is now widely used to guide management in planning and conducting these activities, and allocating these financial resources. Nearly all of the organizations in a recent survey of major U.S. and Canadian firms indicated that they practiced manpower planning (Walker, 1973). These organizations also indicated, however, that these practices are extremely traditional and rudimentary. The tools being used in manpower planning do not appear to be adequate to meet the needs of management for proper evaluation and planning of investments in the human resource area.

If the major financial investments being made are to yield the returns that they should, more rigorous tools need to be added to the discipline of manpower planning. This paper proposes a four-stage model of human resource planning.

Through human resource planning, management prepares to have the right people at the right places at the right times to fulfill both organizational and individual objectives. With the proper planning and evaluation, management is able to attract, retain, develop, and utilize talent to meet organizational challenges of the future. At the same time, the organization is able to provide employees with realistic and satisfying career opportunities. The human resource planning process may be viewed as having three elements:

1. Through forecasting, management anticipates talent requirements by examining both individual and organizational plans.

2. Through programming, management plans actions that will meet these needs and at the same time support key individual career decisions, as follows:
   - organizational and occupational choice by attracting, recruiting, and orienting new talent to the organization.
   - job assignment by matching individual interests and talents with opportunities.
   - performance and development planning and review by helping individuals perform effectively and develop their capabilities.
   - retirement by helping individuals prepare for satisfying retirement.

3. Through evaluation, management assesses the effectiveness of this forecasting and programming in terms of both organizational and individual impact.

In each of these elements of the human resource planning process, organizations display a variety of
practices. The types of practices vary with the circumstance of the organizations, including the number of employees; the geographic dispersion; the stage of development of the organization; the technologies involved; the economic, social, political environment; and the personalities and experiences of key executives.

We find that practices in each element of planning may be viewed in terms of a four-stage evolution, linked to circumstances such as those noted above. Simply put, the organization uses a combination of tools and management practices suited to its needs. This evolutionary view of human resource planning, outlined below, must be considered tentative and subject to validation through further research. At this point, nevertheless, it serves as a useful framework for auditing human resource planning practices and for evaluating their effectiveness.

The four “stages of human resource planning” represent successive levels of complexity and scope in the systems, procedure, and activities that make up an organization’s human resource management. Stage I represents a rudimentary, basic approach to an organization’s needs as might be applied in a small organization or an entrepreneurial organization in its early stages of growth. For such an organization this approach is quite proper and appropriate.

Stage II represents a short-range planning cycle, and a sensitive but largely paternalistic approach to human resource management. It represents an effort by an organization to supplement its informal, personal management style with more formal, objective tools. Today, many organizations, particularly those in the range of 3,000 to 10,000 employees, are in this stage.

Stage III represents “state-of-the-art” practices in human resource planning involving use of computer capabilities and coordinated activities aimed at satisfying both short-range and long-range needs. Major business organizations are operating in this stage, where the focus is improved career management.

Finally, Stage IV represents the ultimate in human resource planning practices, requiring in many aspects tools that may be on the drawing boards. Practices here are innovative and experimental. As a management process, Stage IV may be viewed as futuristic at this time, even though the techniques are widely discussed in the popular and professional literature and are the focus of attention by manpower researchers.

While organizations appear to develop more advanced systems as they mature and grow, there should be presumed no normative progression from Stage I to II and so on. All organizations should not necessarily operate in Stage II, III, or IV. Rather, each organization should operate in the stage—the human resource planning system—best suited to its present needs, its past successful experience, and its projected immediate future requirements. Above all, it appears that practices are well-planned when they are consistently applied within one of the stages. These points will become more clear as the elements of the four stages are examined more closely.

The Four System Stages

As shown in Exhibit I, the ways organizations may forecast future talent requirements and human resource management needs range from the very informal and subjective to the very quantitative, formal, and analytic. Similarly, as shown in Exhibit II, the ways organizations plan actions to meet needs range from the very simple, personal, and informal, to the very systematic, open, and comprehensive. In the Exhibit, practices are identified as they relate to each of the primary aspects of career management.

Each of these approaches to human resource planning requires a different base of information—both in terms of the type and extent of data and the nature of the system by which those data are gathered, stored, and made available for management use. In Exhibit III, the pertinent data required for or provided by each stage of human resource planning are displayed. While providing personnel data is not an integral part of the planning process, it is critical to it. Information provides the foundation for human resource planning and especially for the third major element: evaluation—the way we ensure that human resource planning is effective. This last element of human resource planning is the focus of this paper.

Evaluation

Techniques used to evaluate the effectiveness of human resource planning and human resource management generally are simple, subjective, and traditional. Analysis of current practices indicates that in most business organizations the various human resource activities are subject only to a personal review by key managers. The philosophy prevailing seems to reflect such assumptions as:
### EXHIBIT I

**FORECASTING:** The way we anticipate future talent requirements and Human Resource Management needs

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<td>Managers discuss goals, plans and thus types and numbers of people needed in the short-term.</td>
<td>Annual planning and budgeting process includes manpower needs.</td>
<td>Using computer-generated analyses, examine causes of problems and future trends regarding supply and demand (the flow of talent).</td>
<td>On-line modeling and simulation of talent needs, flows and costs to aid in a continuing process of updating projecting needs, staffing plans, career opportunities and thus program plans.</td>
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<td>Highly informal and subjective.</td>
<td>Specify quantity and quality of talent needs as far out in time as possible.</td>
<td>Use computer to relieve managers of routine forecasting tasks (such as vacancies or turnover)</td>
<td>Provide best possible current information for managerial decisions.</td>
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<td>- Identify problems requiring action: individual or general.</td>
<td>- Analyze career paths and career progress using computer data files.</td>
<td>- Exchange data with other companies and with government (such as economic, employment and social data).</td>
<td>- Exchange data with other companies and government.</td>
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<td>- Analyze management succession and readiness of successors.</td>
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### EXHIBIT II

**PROGRAMMING:** The way we plan actions to satisfy talent requirements

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<td>Individuals recruited and assigned to jobs as needs arise.</td>
<td>Recruitment based on projected short-run needs and on analysis of past recruitment and selection experience.</td>
<td>Recruitment coordinated among organizational units and linked to plans for the future flow of talent in the organization.</td>
<td>Fluid exchange of talent on reciprocal basis among organizations and with government.</td>
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<td>Necessary on-the-job orientation provided.</td>
<td>On-the-job orientation supplemented by formal orientation programs.</td>
<td>Long-term indicators of individual career interests, capabilities and performance are considered in recruitment and selection.</td>
<td>College recruitment begun during training so as to guide individual preparation.</td>
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<td>- Recruitment is corporate-wide for managerial, professional, and technical talent and the talent market is multinational.</td>
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### The way we match individual talents and interests with opportunities

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<td>Informal knowledge of individual capabilities and readiness is relied upon for new assignment results in matching. Managerial judgment and personal contact are of prime importance.</td>
<td>Career information is communicated to employees.</td>
<td>Internal search precedes outside recruitment; the information system is used to search for individuals interested in and qualified for vacancies.</td>
<td>Individuals plan their desired career program in an open “internal labor market” in the organization.</td>
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<td>- Internal search is conducted for all assignments, including review of available appraisal data and personal biographical data.</td>
<td></td>
<td>- The chain effect of assignment is fully considered and planned. A comprehensive job posting or career tracking system is used.</td>
<td>Individuals may initiate reviews of their qualifications for vacancies as they arise (position or job). Assignments may cross departmental and functional lines on the basis of career paths.</td>
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<td>- A limited job posting system may be used.</td>
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<td>- Individuals provide data on skills, preferences, and development needs in advance of vacancies for consideration in matching process.</td>
<td>Managers review individual plans and provide developmental opportunities needed to prepare individuals for planned future responsibilities; level with individuals when plans are unrealistic and provide out-placement assistance when suitable opportunities are not available.</td>
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<td>- Managerial replacement planning is informal, based on personal knowledge and an “heir apparent approach.”</td>
<td></td>
<td>- Individuals provide data on skills, preferences, and development needs in advance of vacancies for consideration in matching process.</td>
<td>- Managerial succession results from effective normal career development and progression covering employees. An annual management review of human resource planning ensures effectiveness of action.</td>
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| - Systematic backup planning includes use of charts, appraisals, and/or management-level development committees. | - Management succession candidates are prepared for career to fill projected needs on a pooled basis. |                                                                   |                                                                     |
EXHIBIT II (CONTINUED)

The way we help individuals perform effectively and develop their capabilities

I
- Job descriptions provide guides for managers in directing the work of others.

II
- Managers interpret position responsibilities with individuals and coach them to assure understanding and commitment to them.

III
- A goal setting and review process draws together individual career plans with task/role aspects of a job.

IV
- Individual plans work (roles/tasks) and development actions in the context of career planning.

EXHIBIT III

INFORMATION: The way we keep track of information on talent in the organization

I
- Basic employment data:
  - Personal education, experience
  - Biographical data

II
- Appraisal data added:
  - Performance
  - Potential
  - Qualifications
  - Limited data on skills and interests

III
- Qualitative data added:
  - Individual interests
  - Self-appraisal data
  - Job preferences
  - Specified individual skills and knowledge areas
  - Psychological assessments

IV
- Behavioral attitude data added:
  - Role/task elements
  - Behavioral characteristics of individuals and jobs
  - Investment and benefit measures

EXHIBIT III (CONTINUED)

The way we help individuals prepare for a satisfying retirement

I
- Pension benefits and pertinent information on them and company retirement policy are provided.

II
- Pre-retirement counseling is provided to encourage individual preparation both financially and psychologically.

III
- Retirement is viewed as a career step and is prepared for as such by individuals.

IV
- Individuals move in and out of "retirement" through mobility (with vested pension benefits).

EXHIBIT III (CONTINUED)

INFORMATION: The way we keep track of information on talent in the organization

I
- Manual files contain basic personnel data.

II
- A semi-automated data storage and retrieval system is used.

III
- It may be an expanded payroll file or a stand-alone file.

IV
- System is on-line providing access to data for retrieval, analysis and updating.

This traditional approach to evaluation becomes more critical only where major problems emerge, such as:

- a union organizing drive among employees
- a period of cost-control emphasis
- a period of low or declining profitability
- a sharp upturn in employee turnover
- a tight labor market, with inability to recruit needed talent.

Then a series of special studies, attitude surveys, and other analyses are often conducted to help management determine the best course of remedial action. Many companies look to their competitors

"If it works, don't fix it."
"If we wanted things different, we'd make things different."
"We look at results—and we're making profits, aren't we?"

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for a guide to their own human resource planning effectiveness. Such insightful questions are addressed as:

"Where do we stand with other companies?"

"What are other companies doing differently?"

"What are the trends?"

When a need for reconsideration of existing practices is recognized, the common procedure is to conduct a special study of the issue. For example, if there is some concern about management development not being adequate, a task force or committee may be formed. If manpower planning itself appears inadequate to meet company needs, a specialist may be commissioned to survey practices of other leading companies and recommend remedial actions. The result is usually a specific set of recommendations aimed at revising or replacing current practices with a new approach based on the information gathered. This new process remains in place until a need for further change is strongly felt.

This traditional evaluation approach is not necessarily inadequate. It is simple, personal, direct, and responsive to important business needs. It may be slow, but it is inexpensive and avoids frivolous changes and actions. It is subjective, but relies on business judgment—a key to business success. In small organizations and in organizations with human resource planning in Stage I, this approach may be perfectly appropriate and sufficient. As the need for more rigorous evaluation in human resource planning develops, new tools and different procedures may be introduced.

Such additional, more rigorous, tools and procedures for evaluation might include the following:

- in-depth review of specific policies, systems, programs, and activities—with regard to the manner in which each is actually applied, and its merits (Gordon, 1973).

- interpretation of quantitative data—including rates and levels of participation in programs, movement of talent, turnover, and absenteeism.

- interpretation of employee attitudes—based on periodic employee attitude surveys or other forms of organizational climate audit.

review and interpretation of activities by an external party, such as a consultant—permitting a possibly more objective view and evaluation and further inputs regarding comparisons with practices of other organizations.

measurement of direct expenditures of such programs as recruitment, training and development, or training of disadvantaged employees (Rohan, 1972).

analysis of turnover costs and the causes of turnover (Bassett, 1972).

analysis of the breakeven point/payback period for new hires.

analysis of productivity changes, the impact of incentive compensation on productivity, and other factors affecting productivity.

analysis of recruitment results—optimal sources of recruits, recruitment practices, costs of recruiting versus developing talent available internally.

analysis of staffing mix to optimize personnel costs.

analysis of the economics of layoff and retention of good talent during periods of staff reductions.

analysis of talent requirements associated with possible mergers and acquisitions.

These types of evaluation procedures may be found in industrial practice today, but they are not widely used. They are concerned primarily with: a) examination of current practices in light of costs, employee or management perceptions, and results; and b) measurement and analysis of cost and variations in costs under decision alternatives.

These evaluations may be conducted readily in most major business organizations. The data are available; the tools are available. They provide substantive, factually-based information for management's consideration in making decisions. They are, however, merely supplemental to basic, rudimentary managerial judgment. They do not provide estimation of the benefits related to costs, nor do they constitute an ongoing evaluation process to guide management planning and budgeting. The techniques that provide for this type of evaluation include cost-benefit analysis, human capital budgeting, reporting of human resource data, and estimation of human resource values. These techniques are not fully
developed for application in the human resource planning area. They are used, however, in other functional areas of management and thus may be applied effectively where they are appropriate and where individuals understand how to apply and interpret them. We will review each of these techniques briefly.

1. Analysis of cost in relation to estimated benefits is a direct application of a well-accepted tool of financial analysis. This tool is particularly applicable to evaluation of specific training and development programs, evaluation of fringe benefit and compensation changes, and evaluation of new systems and organization structures (Thomas, 1969). Cost-benefit analysis can be a useful element in the evaluation of alternative programs that may be implemented in an organization. For example, a division of Xerox Corporation evaluated various proposed personnel expenditures in terms of cost-effectiveness and technical and operational feasibility. The various proposals were then ranked the best were adopted (Cheek, 1973).

2. Cost-effectiveness evaluations are essential for human capital budgeting—a process whereby management allocates available resources for human resource programs through a budgeting process, normally a part of the management budgeting and planning process. At a minimum, a company attempting human capital budgeting establishes common budget lines in all divisions covering training and development outlays, recruitment expenses, relocation expenses, and other major types of expenditures. This tool permits an ongoing review of these expenditures as investments.

3. The very process of reporting basic human resource data to management can prompt consideration of human resource planning issues in the context of regular business planning and management. Some companies, for example, provide human resource data and plans as part of the five-year business planning process. This information provides a basis for increases and shifts in capital allocation for human resource development and utilization to meet the organization’s anticipated needs. Of course, payroll costs, staffing levels and projections, and results of special studies would supplement basic budget-line data.

4. Some companies have attempted to estimate the value of their human resources—as information useful in planning layoffs, further developmental actions, compensation changes, and other types of decisions where asset values are helpful information. Granted, this is not common practice, and the rationale for developing measures or estimates of the worth of employees and executives is not always clear. The insurance industry has encouraged such an effort, with limited success, for purposes of establishing key man insurance in business organizations. The effort has also been of considerable interest and attention in academic research and publications (Flamholtz, 1971; Lee, 1972; Likert, 1967, 1973; Waters, 1972). As a matter of information, there are primary approaches for estimating human resource value:

   **Accrued costs**: an accounting approach based on historical asset-costs/predicted-values, i.e., an organizational systems approach that examines human facts in relation to organizational performance.

   **Replacement value**: a “market value” approach pioneered by the insurance industry in the 1950’s and 1960’s.

   **Economic value**: a discounted present-value approach based on projecting earnings of the individuals and/or other pertinent variables.

There are numerous variations on each of these themes, but these are the primary ones recognized today. Others include a goodwill approach (either based on total stock value or net worth), a discounted total earnings approach (part of the present value of future earnings is attributable to the human element), and a value-structure approach (in which skills groups are ranked ordinally and then priced as a structure according to the market value).

To date, the value of such surrogate measures of human resource value has been largely one of drawing attention of managers to the sizable investment in people. With extremely few exceptions, this information has not been used in human resource accounting systems, it remains primarily an academic exercise.

Beyond human resource evaluation and the various evaluation techniques outlined there is a great deal of interest in a broad-scope process of human resource accounting. Under this umbrella name, researchers have developed processes for continuous monitoring and reporting of investments and values, computerized simulation of alternative human re-
source investment decisions, and ongoing accounting and financial reporting for human resources. At this point you may take these to mean pretty much what you wish, as they are still largely undefined and subject to much further development. The thrust is in the same direction as that of the techniques now being used—toward more rigorous evaluation of human resource expenditures. These broad processes, however, are such major departures from current business management practice that they can best be described as futuristic (Alexander, 1971).

The pioneering steps taken by William Pyle, Director of the University of Michigan’s Human Resource Accounting Program, and the R. G. Barry Corporation, an Ohio-based manufacturer, have been widely publicized. The company, with the assistance of the University of Michigan, has reported human asset information in its annual financial statements since 1969. The accounting system uses a replacement cost, and company-developed standard costs are added. The initial steps taken at Barry were to place “people on the balance sheet” in terms of accrued costs. Steps to supplement and refine this data and to make it useful as management information have followed (Pyle, 1970).

Steps for Evaluation

So what should an organization do to evaluate properly its human resource planning effectiveness? Which of these varied tools and techniques should be applied? Is human resource accounting the ideal process to be implemented, or is subject evaluation best suited for some organizations?

In the context of human resource planning as an evolutionary process, there is no one best evaluation technique. Different evaluation techniques and measures apply to each stage of human resource planning practice, as displayed in Exhibit IV. Management should use the evaluation practices that are consistent with the forecasting and programming practices used and the personnel information available.

As discussed in this paper, an organization should operate in the stage—the system—best suited to its present needs, its past successful experience, and its projected future requirements. Above all, it should strive to be consistent in its practice so that time and resources will not be wasted.

This suggests that pitfalls endanger many well-intended managers who seek to apply human resource accounting techniques, human capital budgeting, computerized simulations, or other advanced tools. There are many cases in which organizations have introduced practices ahead of their time.

Even at R. G. Barry, the balance-sheet approach which was developed is leaps ahead of the company’s overall human resource planning. At Xerox, the cost-benefit analysis and budgeting process which was developed is apparently not being used on a continuing, valid basis. Too often, new, state-of-the-art techniques are introduced with initial interest, and promoted. Then, as the practical appli-

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**EXHIBIT IV**

**EVALUATION: The way we assure that human resource planning is effective**

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<td>- Policies, systems, programs, and activities are subjectively reviewed.</td>
<td>- Policies, systems, programs, and activities are reviewed and evaluated. Available quantitative data, attitudes of participating individuals, and practices in similar organizations are examined. This may be conducted by a third party for improved objectivity.</td>
<td>- Cost-benefit analyses of systems, programs and activities are conducted; expenditures are budgeted according to priorities resulting from these analyses.</td>
<td>- Computerized simulation of alternative human resource investment decisions and the long-term impact of human resource investment and amortization practices.</td>
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<tr>
<td>- Problems, strengths and value received from expenditures are evaluated intuitively.</td>
<td>- Direct expenditures—outlays for acquisition and development of human resources—are measured and reported.</td>
<td>- Indirect costs are estimated, accounts on all costs and measured benefits, and the estimated net organizational impact are reported for management consideration.</td>
<td>- Direct and indirect investments and related values accruing to the organization are monitored.</td>
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<td>- Analyses of turnover, productivity shifts, recruitment results, and other manpower patterns are conducted so as to identify problems.</td>
<td>- Surrogate measures (such as replacement cost, accrued cost, or economic value) of human resource value are developed and applied suited to the organization’s circumstances, technology and market.</td>
<td>- This information is included in accounting, financial analysis and reporting processes for management and investor information.</td>
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cations of the results lag, the technique loses its sparkle and falls into disuse and possibly disrepute (loses its support) among operating personnel. Then it is time to move on to another "new" tool or to return to basics. It is the latter that makes sense from the approach outlined here.

The steps to be followed for evaluating the practical effectiveness of human resource planning applications are as follows:

1. Determine the objectives of the human resource planning process in terms of the objectives and plans of the organization. This may require discussions with key executives, analysis of corporate long-range plans, and examination of characteristics of the organization, the available talent, the tasks performed, the technology or technologies involved, and the environmental conditions of the organization.

2. Examine the various policies, systems, programs, and other elements of the human resource planning process—including all aspects of forecasting, programming, and information systems. Determine the overall pattern of human resource planning in relation to the four-stage framework presented in Exhibits I, II, and III. Identify the practices that appear to be consistent, within one of the stages described. Identify also those practices that appear to be more basic or more advanced by comparison with the predominant pattern.

3. Compare the current pattern of human resource planning practices with the objectives of the process and the needs of the organization (step one). Determine in which stage (or combination of stages, if appropriate) the organization should be conducting its human resource planning. As the organization grows and matures in the years immediately ahead, toward which stage of human resource planning should the organization be moving? These judgments are critical to the evaluation process. The framework presented here is designed to help managers make these judgments.

4. Apply specific evaluation tools and techniques, as outlined in Exhibit IV, for the review of the effectiveness of the practices involved in the stage determined to be suited to the organization's needs and objectives. This specific evaluation uses measures and assessments that fit the stage of human resource planning practice. As discussed, subjective review and intuitive evaluation are appropriate techniques in organizations operating with Stage I human resource planning.

Public reporting of human resource data appears suited only to organizations with the most advanced human resource planning practices. In the mid-range, specific tools appear applicable where necessary supporting information is available and practices are amenable to particular types of evaluation.

This framework for viewing the human resource planning process, including the evaluation of human resource applications, is tentatively proposed and is subject to further refinement and testing. In the organizations where it has been applied, however, it has been a useful tool for examining and improving human resource planning.

At a time when managers are looking for simple answers to complex problems, when personnel professionals are increasingly specialized and (unfortunately) program and technique-oriented, and when advanced resource accounting concepts are of high topical interest, a broad systematic diagnostic approach for evaluation is needed. It's hoped this framework contributes to the satisfaction of this need.

James W. Walker

is a consultant in human resource planning and development at Towers, Perrin, Forster & Crosby, Inc. He assists client organizations worldwide in the development and improvement of processes for effective development and utilization of talent. Formerly, he was an Assistant Professor of Management, Director of the Bureau of Business and Economic Research, and Editor of Business Inquiry at San Diego State College.
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