

Forecasting: The Key to Successful Human Resource Management

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ABSTRACT

In the age of competition, companies do not have any other choice than to compete better than their competitors. Human resource management has a critical role to play in supporting the corporate strategic plan. All the HR functions contribute positively to achieving the objective. The main task of human resource management is to support other departments to have the best people. Therefore, there is a critical need to get the best people in the right place at the right time.

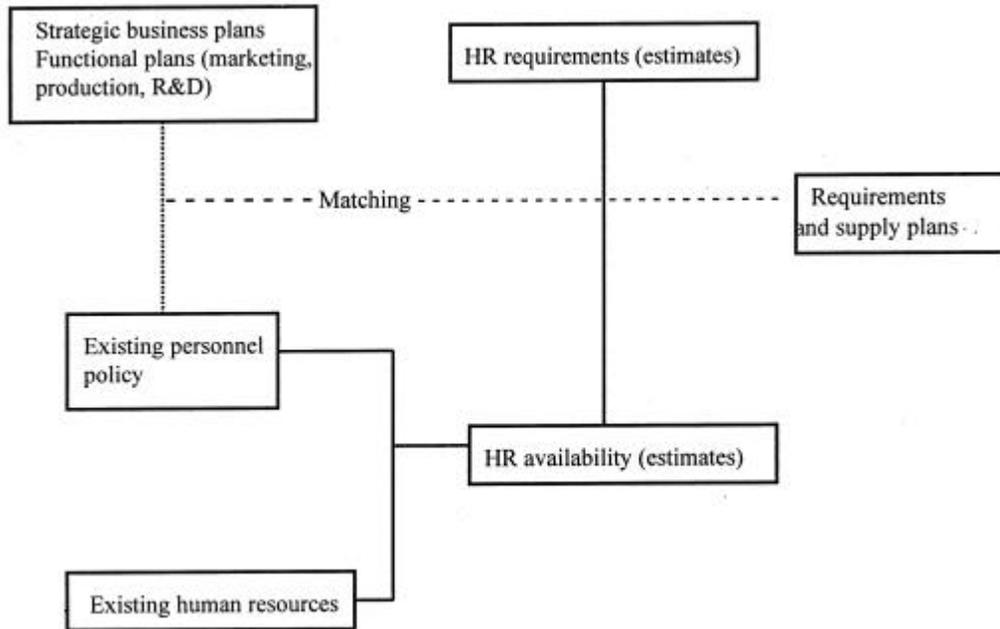
Forecasting helps to match the requirements and the availabilities of employees. There are two kinds of forecasting methods: qualitative and quantitative methods. On the other hand, the Miles and Snow typology could be used by companies as a tool to identify their positions. This paper discusses how typology and forecasting are valuable for successful human resource management to function in a company.

Keywords : Forecasting, human resource management

MATCHING HUMAN RESOURCE REQUIREMENTS AND POTENTIAL HUMAN RESOURCE AVAILABILITY

Matching human resources with planned organizational activities for the present and the future is one of the main problems faced by an organization. Human resources have a certain degree of inflexibility, both in terms of their development and their utilization. It takes several months to recruit, select, place, and train the average employee; in the case of higher-echelon management personnel in large organizations, the process may take years. Decisions on personnel recruitment and development are strategic and produce long-lasting effects. Therefore, management must forecast the demand and supply of human resources as part of the organization's business and functional planning processes. Long-term business requirements, promotion policies, and recruitment (supply) possibilities have to be matched so that human resources requirements and availability estimates (from both internal and external sources) correspond sufficiently (Alpander, 1982:78-79).

Establishing long-term human resources requirements is closely related to strategic business plans. Strategic business plans should provide a minimum base of information on which viable human resources plans can be built. On the other hand, management should consider labor availability when they establish strategic business plan because current and potentially available human resources affect the viability of strategic business plans (Alpander, 1982:79). The following figure illustrates the desired reciprocal relationship.



FORECASTING LABOR DEMAND AND SUPPLY

At the beginning, management needs to estimate future labor availabilities and needs, that is, to assess the supply of labor, both within and outside of the organization. Also, they need to determine the future demand for specific numbers and types of employees. Implicit here is that supply and demand analyses should be conducted separately (Walker, 1980). The main reason for this is that internal supply forecasts tend to rely heavily on organization-specific variables, such as turnover and retirement rates, transfers, and promotions. Demand forecasts, on the other hand, depend primarily on variations in external factors (e.g., product or service demand) (Duane, 1996). In sum, Cascio (1991) notes that in contrast to forecasts of human resource supply, demand forecasts are beset with multiple uncertainties—in consumer behavior, in technology, in general economic environment, and so forth.

Techniques used to perform demand and supply forecasts fall into two broad categories: qualitative techniques and quantitative techniques.

Qualitative Forecasting Techniques

Qualitative forecasts are essentially educated guesses or estimates by individuals who have some knowledge of previous HR availability's or utilization (Duane, 1996: 4).

Technique

Description

1. Nominal Group

A group of four or five participants is asked to present their views regarding labor forecasts. These views are written down, with no discussion until all of the

members have advanced their positions. The group then discusses the information presented and, subsequently, a final ballot is taken to determine its judgment.

2. Delphi Technique
This technique calls for a facilitator to solicit and collate Written, expert opinions on labor forecasts. After answers are received, a summary of the information is developed and distributed t the experts, who are then requested to submitted revised forecasts. experts never meet face-to-face, but rather communicate through the facilitator.
3. Replacement Planning
Forecasting estimates are based on charting techniques, which identify current job incumbents and relevant information about each of them. This information typically includes a brief assessment of performance and potential, age length of time in current position, and overall length of service.
4. Allocation Planning
This technique involves judgments about labor supply or demand by observing the movement of employees through positions at the same organizational level.

Quantitative Forecasting Techniques

There are several quantitative methods for determining labor supply and demand (Duane, 1996: 8).

<u>Technique</u>	<u>Description</u>
1. Regression Model	Fluctuations in labor levels are projected using relevant variables, such as sales.
2. Time-Series Model	Fluctuations in labor levels are projected by isolating trend, seasonal, cyclical, and irregular effects.
3. Economic Model	Fluctuations in labor levels are projected using a specified form of the production function.
4. Linear Programming Model	Fluctuations in labor levels are analyzed using an objective function as well as organizational and environmental constraints.
5. Markov Model	Fluctuations in labor levels are projected using historical transition rates.

CHOICE OF A FORECASTING TECHNIQUE

Forecasters can choose either the qualitative or quantitative techniques. Also, they can combine them. The assumption is that a pattern exists concerning the predictors of labor supply or demand. In choosing a forecasting technique, the following factors should be considered.

1. *Organization's environment.* Jackson and Schuler (1990: 22) observe that organizations operating in fairly stable environments may be able "to quantify the expected values of variables in their models, which means they can use statistical forecasting models." Conversely, for firms operating in unstable environments, quantitatively based predictions are likely to be highly tentative, since "both the variables and their expected values are difficult to specify accurately by relying on historical data".
2. *Organization size.* Stone and Fiorito (1986) suggest that larger organizations tend to use more sophisticated, quantitative techniques than do smaller ones. According to them, this relationship is particularly strong among government, mining, forestry, transportation, communications, and utilities organizations, which traditionally have had high internal stability due to low turnover among their employees (Duane, 1996: 13).
3. *Perceived uncertainty in labor markets and economy.* In particular, "more sophisticated techniques will be discontinued if perceived uncertainty increases to a point where techniques are no longer feasible, or if perceived uncertainty decreases to a point where techniques are no longer needed" (Stone and Fiorito, 1986: 639; Rowland and Summers, 1983).
4. *Competition.* Organizations in industries that are regulated, operate within predictable product markets, and acquire resource slack tend to use similar forecasting techniques (Doeringer et al., 1968; Fiorito et al., 1985; Moore and Reichert, 1983; Vatter, 1967).

In sum, these factors suggest that different types of organizations must approach it differently. Considering these factors, that is, organization's environment and size, perceived uncertainty in labor markets and economy, and competition, the Miles and Snow typology can be used to determine appropriate forecasting techniques in an organization.

MILES & SNOW TYPOLOGY AND FORECASTING

According to the research conducted by Doty et al. (1993), the Miles and Snow typology is the best organizational typology that organizations can use to categorize their strategy, structure, and process. It appears to be particularly well suited for the analysis of HRM functions. Indeed, this one reason why Olian and Rynes (1984) used it in their study of organizational staffing. Moreover, as Table 1 indicates, Miles and Snow (1984) specifically address the importance of fitting organizational type with the appropriate HR systems.

Table 1. The Miles & Snow Typology

HR SYSTEMS	DEFENDER	PROSPECTOR	ANALYZER
Basic strategy	Building human Resources	Acquiring human resources	Allocating human resources
Recruiting and selection	Little recruiting above entry level; selection based on low-cost devices	Sophisticated Recruiting at all levels; selection based on high-cost devices	Mixed recruiting and selection approaches
Training and development	Skill building and training Programs	Limited training programs	Mixed training and development approaches
Performance appraisals	Process-oriented (e.g., critical incidents or production targets) ; individual/group performance evaluations; time-series comparison (e.g., previous years performance)	Results-oriented (e.g., MBO or profit targets); division/corp. performance evaluations; cross-sectional comparisons (e.g., other companies during same period)	Mixed performance appraisal approaches
Compensation	Oriented toward position in organization; internal Consistency	Oriented toward performance ; external competitiveness	Mixed compensation approaches

Source : Duane, 1996:43

Miles and Snow (1984) identify three organizational types: defender, prospector, and analyzer. The following explains appropriate forecasting techniques in each type of organizations.

Forecasting in defender organizations.

Environmental conditions for the defender are relatively stable and simple. An industry that currently faces these conditions is the electric utility industry in the United States, for example, Lincoln Electric, McDonald's, New York Power Authority. It can be generally characterized as having a predictable product market, high barriers of entry, and little product variation, allowing it to engage in less environmental scanning and more long-range forecasting and planning. Therefore, as Fiorito et al., suggest, this low level of industry volatility allows organizations to use sophisticated or quantitative techniques, such as regression analysis, to forecast labor demand and supply (Duane, 1996: 46) There is an emphasis on internal labor-market forecasts (Duane, 1996: 138).

In part, this explains the ability of defenders to pursue low-cost operations. Indeed, production efficiency and tight business controls are at the heart of the success of defenders. Accordingly, few resources are devoted to basic research and development; instead investments are made to streamline operations. The jobs within a defender organization tend to be highly specialized, with vertically differentiated units. Coordination of work is brought about by formalization and specialization, thereby

making the defender the stereotypical bureaucratic structure (Duane, 1996: 37).

Forecasting in prospector organizations.

The prospector is at the opposite extreme. It competes in a dynamic environment, with a rapid rate of technologies, product development, and market shifts, for example, Paramount, Reebok International, entrepreneurial firms. As a result, long-range forecasting and planning in this organizational configuration are very difficult. The environmental constraints on prospectors limit demand-forecasting process in short-term methods. Forecasting labor supply is equally as difficult. Therefore, labor demand and supply forecasts are based on qualitative techniques, such as nominal groups and Delphi technique. There is an emphasis on external labor-market forecasts (Duane, 1996: 139).

The emphasis on innovation and adaptation forces prospectors to be inefficient, particularly when compared with defenders. Success of prospectors, therefore, hinges on investments in research and development, with the ultimate objective of earning large profit margins on uniquely design products. To accomplish this, prospectors must assume an organic structure, avoiding the rigidities and inflexibility associated with formalization. Moreover, they tend to be highly decentralized, delegating decision-making authorities to appropriate personnel so that quick, intelligent responses can be made to dynamic market conditions (Duane, 1996: 37).

Forecasting in analyzer organizations.

The analyzer configuration combines characteristics of both the defender and prospector. Like the defender, this configuration seeks efficiency of operation, but, at the same time, it is like the prospector, with an interest in new products and markets. Examples include Texas Instruments, Quaker Oats Company, and Carnation (Duane, 1996: 108). Doty et al. (1993: 126) notes that this dual focus "may result in increased size because the organization must engage in both mass production and research and development.

The analyzer's name originates from its ability to closely monitor competitors for new ideas and then to promptly react by developing efficient production methods for those ideas that appear to be most promising. In coordinating its work, the analyzer encounters a unique problem of separating the innovative activities (e.g., Research and Development (R&D) activities) from the formalized ones (e.g., production). One way that it resolves this dilemma is by establishing two separate organizations, one structured around the characteristics of the prospector, with the other structure similar to that of the defender. Another option for the analyzer is to focus on the innovative side, while contracting out the other organizations the production side (Duane, 1996: 38).

As mentioned, the analyzers are generally large organizations, governed by headquarters and grouped into distinctive sub units or divisions. Some divisions take on defender characteristics, while others act as prospectors. The duties of people at headquarters are anything but routine. To be sure, by their very nature, they require innovative responses to comparatively complex and dynamic conditions. For this reason, forecasting tools at this level can not depend on standardized data that are necessary for quantitative estimations. As a result, demand and supply forecasts conducted by managers at headquarters and within prospector divisions are likely to involve qualitative

techniques (Duane, 1996: 112); whereas within defender divisions use quantitative ones. While prospector divisions emphasize external labor-market forecasts, defender divisions focus on internal markets; to some degree, headquarters conduct analyses of both internal and external markets (Duane, 1996: 141).

CONCLUSION

Forecasting has an important role in successful human resource management of a company. By predicting the number of employees to be hired and also by estimating and knowing their quality, a company would get the best people for the right places and at the right time. This is necessary if a company wants to compete in the global market.

The typology suggested by Miles and Snow helps a company to understand itself. Then, the company could apply a certain forecasting method in order to match requirements and availabilities afterward.

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