Wright, Patrick M;Smart, Dennis L;McMahan, Gary C Academy of Management Journal; Aug 1995; 38, 4; ProQuest Central pg. 1052

> [©] Academy of Management Journal 1995, Vol. 38, No. 4, 1052–1074.

MATCHES BETWEEN HUMAN RESOURCES AND STRATEGY AMONG NCAA BASKETBALL TEAMS

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This study examined the relationships among strategy, human resources, and performance among National Collegiate Athletic Association (NCAA) basketball teams. Results based on survey data and a widely used performance rating indicated that coaches' preferred strategies influence the characteristics that they look for in recruits. Also, teams implementing a strategy different from a coach's preferred strategy performed less well than those implementing the preferred strategy. Finally, human resource capacities interacted with strategy in determining team performance for two different measures of performance.

Recently, strategic management research has been extended through discussions of the resource-based approach (Barney, 1991; Mahoney & Pandian, 1992; Prahalad & Hamel, 1990; Rumelt, 1984; Wernerfelt, 1984). In contrast to the more traditional industrial-organization (e.g., Porter, 1980, 1985) perspective, based on the assumption that firms competing in the same industries are homogeneous, the resource-based approach rests on the assumption that individual firms are unique and composed of distinct bundles of resources (e.g., Barney, 1991). According to the resource-based perspective, firms attempt to develop and exploit distinctive competencies based on the physical, organizational, and human capital resources under their control. Ultimately, these distinctive competencies may lead to sustainable competitive advantages and superior performance. The emphasis on human capital resources leads to understanding the role of strategic human resource management in gaining competitive advantage.

Herein, we employed the resource-based view of firms to explore how the match between strategy and human resources influences firm per-

Special thanks to Tony Barone, John Pigatti, and Porter Moser for their suggestions regarding the design of the survey. We also wish to thank Randall Schuler, Scott Snell, John Delery, Blaine McCormick, and Wanda Bird for their valuable comments on an earlier version of this article.

formance using a congruence approach (Burns & Stalker, 1961; Lawrence & Lorsch, 1967; Woodward, 1965). Congruence approaches to understanding firms' success focus on the fit among their various components (Chandler, 1962; Galbraith, 1977; Lawrence & Lorsch, 1967). In summarizing the congruence hypothesis, Nadler and Tushman stated this: "Other things being equal, the greater the total degree of congruence or fit between the various components, the more effective will be organizational behavior at multiple levels" (1979: 93).

Venkatraman (1989) noted that a number of different perspectives on fit exist in strategy research. Despite the differences in defining the concept of fit, there seems to be consensus regarding the organizational components that must achieve fit; these include a firm's resources, strategy, structure, and more. The congruence approach taken in this research focuses on the relationship between a firm's strategy, resource capabilities, and performance. Because much of a firm's resource capability is directly linked to the capabilities of the individuals who make up the firm's human capital pool (Wright, McMahan, & McWilliams, 1994), our research highlights the potential importance of human resources in determining both firm strategy and firm performance.

Thus, the purpose of this study was to examine the extent to which the congruence between an organization's strategy and its human resources affects performance. The underlying assumption was that different strategies require different skills. Thus, organizations seeking to pursue different strategies will seek out different skills in employees, and the relationship between skills and performance will differ across strategies. Our perspective emphasizes the contingency notion of strategy: no strategy is universally superior, and the effectiveness of a given strategy is contingent upon other variables.

THEORETICAL BACKGROUND AND HYPOTHESES

A Resource-Based View of the Strategy and Human Resources Link

Wright and McMahan defined strategic human resource management as "the pattern of planned human resource deployments and activities intended to enable an organization to achieve its goals" (1992: 298). This field has traditionally focused on how firms develop and align human resource management practices in a way that supports a firm's chosen strategy (Schuler & Jackson, 1987; Snell, 1992; Wright & Snell, 1991). However, strategic human resource management entails more than simply examining human resource management practices. In addition, it emphasizes the role of an organization's human resources in developing a competitive advantage (Kamoche, 1993; Wright et al., 1994).

For example, Wright and colleagues (1994) applied the resource-based approach of strategic management to examination of the role of human resources in creating sustainable competitive advantage. These authors suggested that a firm's human capital pool may lead to a sustainable competitive advantage when it can add value and cannot be easily imitated or replaced.

However, the "rents" a firm achieves may not be due to its having better resources, but rather to its making better use of those resources than do other firms (Penrose, 1959). The firm may maximize the use of its human capital resources by correctly assigning workers to positions in which they have high productivity (Tomer, 1987). Similarly, a competitive advantage may be more readily obtained when a firm's human resources are effectively matched with its strategy (Mahoney & Pandian, 1992).

According to the model offered by Wright and colleagues (1994), competitive advantage emanating from human resources stems most directly from a human capital pool that contains the necessary skills and whose members display the necessary behaviors. Human resource practices such as recruitment and selection are aimed at identifying individuals who possess the skills necessary for a firm's gaining competitive advantage. This goal often entails ensuring that the firm has employees with the skills necessary to carry out a chosen strategy (Wright & McMahan, 1992).

Few would deny the need to match human resource skills to strategic requirements. However, most of the prescriptions regarding the match between human resources and strategy have focused on organizational elites, including chief executive officers (CEOs) and general managers (GM's) (e.g., Gerstein & Reisman, 1983; Gupta, 1984; Kerr, 1982). As Lengnick-Hall and Lengnick-Hall (1988) noted, most studies look no deeper in an organization than the CEO or top management team. For example, Hambrick and Mason (1984) provided a theoretical framework for investigating these relationships through their development of the upper echelon theory. In addition, Olian and Rynes (1984) examined the relationship between organizational strategy and executive staffing practices using the Miles and Snow (1978) typology of strategies. Olian and Rynes stated as one of their assumptions that "different strategies require different types of people (especially at managerial and executive levels) for effective performance" (1984: 171).

Empirical studies exploring the match between strategy and human resources have also focused on top managers. For example, Guthrie and Olian (1991) examined the relationship between business strategy and GM selection and found that strategy was related to a GM's tenure level and age. Additionally, Gupta and Govindarajan (1984) found that certain characteristics of managers, such as willingness to take risks and tolerance for ambiguity, were positively related to effectiveness for firms with a "build" strategy but were negatively related for firms with a "harvest" strategy. Finally, with regard to corporate-level strategies, numerous researchers (Bantel & Jackson, 1989; Hitt & Tyler, 1992; Michel & Hambrick, 1992; Wiersema & Bantel, 1992) have empirically demonstrated the association between managerial characteristics and corporate strategies including diversification and restructuring. Although we recognize the importance of the link between an organization's strategy, which is the result of a decision process, and top decision makers, an organization's strategy must also be congruent with the organization's larger human capital pool, which contains those involved in the actual production of its product or service. Although top managers are responsible for making decisions regarding what strategies to pursue and how to implement those strategies, the total human capital pool is an important determinant of the success of those strategies (Wright et al., 1994). The best-laid plans of top decision makers may be for naught if the people of an organization are either unwilling or unable to carry them out (Wright & McMahan, 1992).

This dependence may be especially marked in labor-intensive, competitive environments (Terpstra & Rozell, 1993). Consider a firm pursuing a differentiation strategy that emphasizes service. Although top managers formulate the strategic direction and mid-level managers are responsible for implementing the desired strategy, the employees who have direct contact with the customers determine the ultimate success of the strategy. If employees do not possess the necessary customer service attitude and skills, it is unlikely that the strategy will be effectively implemented. These firms must focus significant attention on hiring, training, and motivating those employees who engage in direct contact with customers and have immediate responsibility for providing the service (Bowen & Lawler, 1992). Thus, it is reasonable to assume that the effectiveness of any given strategy is a function of the skills found within a firm's human capital pool (Olian & Rynes, 1984). We propose that the need to match strategies and human resources has implications for both the recruitment of human resources and organizational performance.

A Contingency and Resource-Based View of Organizational Strategies, Human Resources, and Performance

Many typologies of organizational strategies have been proposed with regard to profit-seeking firms (cf. Miles & Snow, 1978; Porter, 1980). Empirical research has suggested that no pure, generic business-level strategy leads to better performance than any other (Miller & Friesen, 1986; Smith, Guthrie, & Chen, 1989; White, 1986). Thus, it appears that there is no "one best strategy" for competing. However, the same research suggests that various firm and environmental contextual factors moderate strategyperformance relationships. Within this study, we note that one important moderator might be the fit between a firm's human resources and chosen strategy.

In the analysis of a firm's strategic choice, top managers examine the environmental opportunities and threats it faces as well as its internal strengths and weaknesses (Hofer & Schendel, 1978; Learned, Christensen, Andrews, & Guth, 1969). The focus of such an analysis is choice of a strategy that exploits environmental opportunities, avoids environmental threats, utilizes firm strengths, and negates or minimizes firm weaknesses. Strategy implementation, then, is viewed as a structural problem addressed by achieving a fit among strategic, structural, and managerial systems (Hammermesh, 1982).

Traditional treatments of the role of strategic human resource management in strategy formulation and implementation have focused primarily on the implementation of chosen strategies (Cappelli & Singh, 1992; Galbraith & Kazanjian, 1986; Lengnick-Hall & Lengnick-Hall, 1988; Miles & Snow, 1984; Schuler & Jackson, 1987; Wright and Snell, 1991). Specifically, armed with information regarding its chosen strategy, a firm (usually via its human resources department) seeks to ensure that it has employees with the skills necessary to implement that strategy. The following proposition was one basis of this research: An organization with a given identifiable generic strategy will seek to recruit individuals possessing skills consistent with that strategy.

However, often this decision process is driven more by market opportunities than by strategy, with decision makers assuming that the firm strengths that might be required to capitalize on opportunities can be easily developed. For example, Cappelli and Singh (1992) noted that situations might exist in which a firm does not possess the resources necessary to implement a preferred strategy. They questioned whether it is easier to rearrange or acquire resources to suit a choice of strategy or to rearrange the strategy to suit the resources. Those authors suggested that the traditional view of strategy is that the former is easier, even though substantial research exists noting the difficulties of organizational change. Similarly, Lengnick-Hall and Lengnick-Hall (1988) noted that traditional models of strategy imply that it is easier to adapt people to strategy than vice versa.

Advocates of the resource-based view of firms recognize a rich connection among a firm's resources, distinctive competencies, and top management team's mental models; they posit that the firm's current resources influence managerial perceptions and strategic decisions (Mahoney & Pandian, 1992). In fact, Wernerfelt (1989) argued that the resources of a firm limit the markets it can enter and the levels of profits it can expect. Thus, an organization may be unable to implement a desired strategic choice because its human resources are incompatible with the strategy (Barney, 1991; Wright et al., 1994).

This summary points out an important aspect of more recent views of strategic human resource management (Cappelli & Singh, 1992; Wright & McMahan, 1992; Wright et al., 1994). In some situations it may not be possible to simply acquire employees with the skills required for a given strategy. Thus, a second proposition guiding our hypothesis development was that when a firm cannot obtain or develop employees with the skills needed to implement a strategy, the firm will seek out an alternative strategy that better matches its employee skill base.

However, this choice presents another dilemma. Usually a firm's chosen strategy reflects in part the skills or mental models of its management team, or both (Prahalad & Bettis, 1986). A number of authors have noted the need to align managerial characteristics with strategic demands. The extent of managers' ability to work within a given strategy often stems from their education, training, and experience (Gerstein & Reisman, 1983; Kerr & Slocum, 1989; Leontiades, 1982; Olian & Rynes, 1984). Thus, it appears that matching a top manager's skills (or those of a top management team) to a strategy can result in significant benefits in a competitive situation (Gupta & Govindarajan, 1984; Guthrie, Grimm, & Smith, 1991, 1993). This statement implies that when top managers adjust their strategy to fit the skills of other employees, performance will decline because the adjustment creates a less-than-perfect match between the new strategy and the skills of the management team. Thus, a third proposition was that firms implementing a strategy consistent with their managers' skills will exhibit higher performance than those implementing a strategy inconsistent with the managers' skills.

Finally, our first two propositions are based on the assumption that strategic decision makers have some rational basis for understanding that certain strategies require certain types of skills. To the extent that the assumptions are correct, we would expect to find that the relationships between various aspects of a human capital pool depend upon strategy (cf. Schuler & Jackson, 1987; Snell, 1992; Snell & Dean, 1992; Wright & Snell, 1991). For example, employee creativity might be necessary for a firm pursuing a differentiation strategy but not for a firm pursuing a cost strategy. If that statement is true, we would expect to find a strong relationship between creativity and performance among firms following a differentiation strategy but no such relationship among those pursuing a cost strategy. Thus, our final basic proposition was the following: Strategy will moderate the relationship between human resource capabilities and performance in such a way that skills will be differentially related to organizational performance across strategies.

Sample and Methodological Considerations

The empirical examination of these propositions required a sample that met three criteria. First, the industry had to be one in which human resources strongly influenced organizational performance. Terpstra and Rozell (1993) examined how staffing practices were related to organizational profitability across a number of industries and found that the correlations between selection practices and firm performance were higher in labor-intensive service industries than in capital-intensive industries like manufacturing.

Second, the industry should be characterized by a consensus regarding the types of strategies available to competitors. If no consensus exists, it is virtually impossible to find systematic relationships. Third, these strategies must have important implications for the characteristics of the human capital pools (Olian & Rynes, 1984). In other words, each strategy should call for different human resource skills. Finally, a focus on only one industry, although not necessary for studying the phenomena under investigation, would allow control for extraneous variables such as capital intensity, technology, and labor markets that might confound the relationships.

For these reasons, we chose to examine the match between human resources and strategies among the National Collegiate Athletic Association (NCAA) men's basketball teams. NCAA men's basketball teams represent an extreme of labor intensity. A team's success relies almost entirely upon its people (both coaches and players) rather than on technology or equipment. Although differences in physical capital resources (e.g., quality of facilities) exist, substantial regulation by the NCAA attempts to equalize those resources and probably achieves a greater degree of similarity than exists in industry. Second, among NCAA teams, there is consensus regarding the strategies a team might pursue (these strategies are discussed below). Finally, each strategy requires different human resources, or at least differentially values certain characteristics of human resources.

It is important to note that using basketball teams as a sample presents some limitations to the generalizability of results. Obvious differences exist between basketball teams and businesses in terms of how to measure resources and the concept of fit. First, the traditional business strategy typologies, such as cost versus differentiation and defender, prospector, analyzer, and reactor, do not readily apply to basketball teams. Second, the business skills that affect firm performance are quite different from the team-member skills that are relevant to basketball performance. Third, measures of business firm performance (sales, profitability, etc.) differ from measures of basketball team performance (e.g., won-lost records).

However, basketball teams and business firms also share a number of characteristics. Both exist in highly competitive environments with established measures of performance. Both types of organizations have decision makers who choose strategies aimed at increasing competitive stature, and both rely on people (employees or players) to implement those strategies. In addition, both types of organizations exist for a significant length of time. An NCAA Division I basketball team is a year-round organization, and a player is part of that organization for four years, probably as long or longer than the average number of years of employment of the members of most business organizations. Given these similarities and the fact that the resource-based view seeks to explain organizational performance for all organizations (not just business firms), we considered the propositions developed above relevant to both kinds of organizations. The following statement of hypotheses applies the contingency and resource-based perspective taken herein to NCAA basketball.

Hypotheses

In our study, we examined a sample of organizations, each one of which represented one of three distinct strategic types. Interviews with industry experts (Division I NCAA men's basketball coaches) indicated a consensus regarding the availability of three generic strategies: (1) The *speed* strategy relies on an up-tempo, fast-breaking offense and is often accompanied by a full-court pressing defense. Users of this strategy seek to compete by constantly applying pressure on the other team. (2) The *power* strategy emphasizes offense and defense that work inside the free-throw area. Users of this offensive strategy often seek to work the basketball inside to take shorter, higher-percentage shots. (3) The *finesse* strategy focuses on a structured, patterned offense. The offensive strategy consists of executing well-designed plays and often relies on outside shooting.

Although every team uses all of these strategies to some extent, each team tends to favor one over the others. The fact that all three strategies are employed throughout NCAA basketball suggests that no one strategy has been determined to be the single best one. Furthermore, the existence of multiple strategies is consistent with the contingency view that different strategies must exist to accommodate different resources.

Our first two propositions imply that managers have preferred strategies and implicit theories regarding the importance of skills for their preferred strategies. In the context of NCAA basketball teams, it is important to note that most coaches prefer one strategy over another as a guiding philosophy, or system. A team's system usually stems from the coach's own education, training, and experience. Examining coaches over time reveals that most will consistently maintain a system that emphasizes one strategy over the other two. We refer to the former as the coach's "preferred strategy."

If, in fact, different strategies require different skills from players, coaches should seek to recruit players who have the skills needed to successfully implement the preferred strategy. Thus,

Hypothesis 1: The importance a coach places on the various skills for which recruits are evaluated will vary with the coach's preferred strategy.

In spite of efforts to acquire team members who possess the skills required by a coach's preferred strategy, mismatches between preferred strategy and existing team skills is a problem that is often evident among NCAA teams. In any given season, a human capital pool might not include the capabilities necessary for implementing a coach's preferred strategy. Coaches are not always successful in attracting and retaining the recruits they value most highly. In addition, a coach may inherit a team that does not possess the skills required for implementing his preferred strategy.¹ For example, a coach whose system emphasizes a speed strategy may be hired by a school whose team members do not have speed and quickness. The

¹ Although we recognize the importance of nonsexist language, the population of NCAA Division I men's basketball coaches from which we drew our sample was entirely male. Therefore, for the sake of accuracy we refer to a coach as "he."

coach then has two strategic choices. First, he can use the strategy anyway and hope that the players will be able to successfully implement it in spite of the skill shortage. However, this is not a likely choice because the coach's implicit theory is that the strategy cannot be successful with the existing type of team.

Thus, the second and more likely choice is to adopt a strategy more congruent with the skills of the existing players. We refer to such a strategy as the "chosen strategy." From the previous example, if our coach inherited a team whose skills were more congruent with finesse than speed, he could choose to implement the latter until he could recruit players with skills more consistent with his preferred strategy.

The potential weakness of this strategic decision, however, is that the coach's present system, including the skills of the coaching staff, will not necessarily be congruent with the chosen strategy. This incongruence may depress performance.

> Hypothesis 2: A team implementing a strategy consistent with its coach's preferred strategy will exhibit higher performance than a team implementing a strategy inconsistent with the coach's preferred strategy.

Finally, Hypothesis 1 is based on the fact that coaches have implicit theories regarding the importance of given skills for a given strategy. Additionally, different sets of skills are most valuable to different types of strategies. Obviously, the speed strategy requires players with speed, quickness, and endurance. The power strategy entails playing the game at a slower pace and most requires physical strength, jumping ability, and rebounding skills. Finally, the finesse strategy most requires playmaking ability, ball-handling skills, and, to some extent, intelligence.

If, in fact, certain skills are more important to certain strategies than to others, we would expect the strength of the relationship between skills and performance to vary across strategies. For example, if speed and quickness are most important to a speed strategy, correlations between assessments of these skills and performance would be higher when a speed strategy is in use than when a power or finesse strategy prevails. Thus,

> Hypothesis 3: Strategy will moderate the relationship between human resource capabilities and performance. so that skills will be differentially related to team performance across strategies.

METHODS

Sample

Surveys were sent to the coaches of all 300 NCAA Division I men's basketball teams. Of these, 143 were returned, resulting in a response rate of 48 percent. However, because data were missing, only 134 teams were examined in this study. In addition to the variables reported here, the sur-



vey also elicited information regarding SAT scores; relevant results are reported in another article (Wright, McMahan, & Smart, 1993).

Measures

Preferred strategy. As noted previously, coaches primarily use one of three strategies: speed, power, or finesse. Although all teams may employ components of each strategy to some extent, each team seeks to emphasize one strategy over the others. Therefore, the survey attempted to assess the extent to which a coach preferred each one. We asked respondents to indicate the percentage of time that the head coach used each strategy over the past 5 to 10 seasons and defined a coach's preferred strategy as the strategy used the most. By asking about past strategy, we assessed a coach's preference rather than the strategy his present team had used over the same period. Thus, a coach who was in his first season at a particular school would have based responses on his strategy at previous schools.

Actual strategy. Actual strategy was assessed by asking respondents to indicate the percentage of time their teams used each of the three strategy options during the 1991–92 season. Actual strategy was defined as the one emphasized the most.

Comparing the team statistics of teams using the different strategies provides some evidence for the construct validity of this measure. Teams using a speed strategy scored more points (78.9) than those with either power (72.8) or finesse strategies (70.2), but they also gave up more points (75.8, 69.6, and 69.6, respectively). They also forced more turnovers (16.7, 14.8, and 14.4, for speed, power, and finesse strategies, respectively). They had more rebounds (37.1, 36.0, and 34.2), but also gave up more rebounds (37.0, 32.8, and 33.6). Also consistent with the typology, power teams had greater rebounding margins (3.8) than either speed (.1) or finesse (.5) teams, indicating their superiority in the inside game. There are significant differences in various aspects of performance. Regression equations computed on these variables indicated that strategies explained between 8 and 22 percent of the variance, demonstrating significant support for our typology.

Importance of recruits' skills. Interviews with coaches revealed 16 characteristics they sought in players. These characteristics included speed, quickness, free-throw shooting, and rebounding; the Appendix gives a complete list of skills. Each coach was asked to indicate the importance he placed on each skill when evaluating recruits to play his preferred strategy using a seven-point scale (1 = one of the least important, 4 = average importance, 7 = one of the most important).

However, because the number of variables assessed was large, we conducted a factor analysis to simplify the data and submitted ratings to a principal components analysis with varimax rotation to gain an understanding of the structure of the data. The factor analysis revealed three interpretable factors. We called these factors recruit skills and summed the items forming each factor to create a scale for that variable. The first factor, basketball skill ($\alpha = .69$), contained six items (playmaking ability, free-throw shooting, physical strength, and rebounding, defensive, and ball-handling skills) that describe generic basketball skills. The second factor, attitude ($\alpha = .83$), contained three attitudinal items, work ethic, competitive orientation, and team concept. The third factor, physical ability ($\alpha = .58$), consisted of two items, athletic ability and speed-quickness.

Team skills. The same 16 items that composed recruit skills were used to rate team skills. Each respondent rated his team as a group on the level of skills shown in the previous season (1 = poor, 4 = average, 7 = outstanding). These ratings were also submitted to a principal components factor analysis with varimax rotation that revealed three interpretable factors. These factors served as the three basic team skills, so we summed the items forming each factor to create a scale for that variable.²

The first factor, team orientation ($\alpha = 91$), heavily emphasized skills directly related to less glamorous, yet highly important aspects of basketball. These items included playmaking ability, defensive skills, work ethic, intelligence, competitive orientation, and team concept. The second factor, athleticism ($\alpha = .78$), contained the items athletic ability, speed-quickness, and depth (availability of strong players for all positions), all of which refer to the generic athletic skills. Finally, factor 3, shooting ($\alpha = .76$), contained the three shooting (free-throw, field goal, and three-point) items.

Team performance. Team performance was assessed in two ways. First, Sagarin's power ratings, a widely used numerical measure of NCAA teams' performance, provided an objective performance assessment over the course of the focal season. Won-lost records tend to ignore the quality of a team's competition and the average margin of victory achieved. The power ratings control for the quality of competition (as measured by wonlost records of opponents) as well as for a number of other variables that confound the won-lost outcome variable. Sagarin's power ratings apply a diminishing returns principle to prevent high ratings derived from large victory margins against weak teams. Instead, they reward teams that do well against good opponents. Sagarin's ratings form the basis for ranking the 300 NCAA men's teams, are the best-accepted measure of team performance among coaches, and are heavily weighted by the NCAA Tournament Selection Committee when it chooses teams to invite to the annual Championship Tournament. We used Sagarin's final rankings for the 1991-92 season as an objective measure of team performance. It is important to note that these rankings are inverted (1 is the highest).

² It is not at all unusual for factor analyses using the same variables to have different factor structures, given the differences in rating criteria. The first rating was made regarding the importance of the skills for individual recruits, a group that should exhibit greater variability on these variables. The second rating was made regarding an existing team as a whole, which through selection and training should be more restricted than the recruit sample.

Although Sagarin's rankings provide an external measure of team success, they ignore the day-to-day performance of a team. For example, teams can exhibit conflict among players or between players and coaches, disciplinary problems, and problems in players' learning the system. We gained a subjective assessment of day-to-day team performance by asking the respondents to indicate their agreement with seven statements (see the Appendix). Summed, these items had a coefficient alpha of .91.

In summary, Sagarin's rankings can be considered a results or bottomline performance measure, whereas the coaches' evaluation can be considered a behavioral performance measure.

Procedures

Surveys and self-addressed postage-paid return envelopes were mailed to all 300 NCAA Division I men's basketball teams during the summer of 1992. A cover letter explained that the purpose of the survey was to examine how an organization's people are linked to its strategy and how that link affects performance. The cover letter also requested that the survey be completed by the head coach or an assistant coach. Respondents were assured that their responses would remain confidential. Approximately six weeks after the initial survey was sent out, follow-up letters and surveys were sent to those schools that had not yet responded.

RESULTS

Table 1 shows means, standard deviations, and correlations among the variables. Team strategy was dummy-coded as two variables, with use of the speed, finesse, and power strategies respectively coded 1, 0; 0, 1; and 0, 0.

Hypothesis 1 states that the importance of various skills of recruits will vary across coaches' preferred strategies. To test this hypothesis, we computed three regression equations, in each regressing one of the recruit skill factors on the dummy-coded preferred strategy variable. Strategy explained 1.2 percent (n.s.) of the variance in basketball skills, 2.5 percent (n.s.) of the variance in attitude, and 13.7 percent (p < .001) of the variance in physical ability. Comparison of the B-weights according to the method recommended by Cohen and Cohen (1983) indicated that coaches preferring the speed strategy rated physical ability as significantly more important than did those preferring either power or finesse. There were no significant differences between those preferring the latter two strategies in the rated importance of physical ability. Thus, differences observed across preferred strategies for one of the three recruit skill variables provide limited support for Hypothesis 1.

Hypothesis 2 states that a team implementing a strategy inconsistent with its coach's preferred strategy will exhibit lower performance than one implementing a strategy consistent with the preferred strategy. To test this prediction, we first computed a new dummy-coded variable, consistency (1 = actual and preferred strategy consistent, 0 = inconsistent), and

Variable	Mean	s.d.	1	7	3	4	10	9	7	8	6	10	11	12
1. Actual speed	0.42	0.50												
2. Actual finesse	0.34	0.47	66											
3. Preferred speed	0.43	0.50	.74	47										
4. Preferred finesse	0.30	0.46	58	.65	62									
5. Consistency	0.78	0.41	.17	03	.14	60'								
6. Basketball skill	5.07	0.76	60.	00	90.	11	.13							
7. Attitude	6.16	0.83	.01	.13	.16	08	.10	.49						
8. Physical ability	5.98	0.88	.34	25	.35	31	.01	.31	.37					
9. Team orientation	4.90	0.99	.11	05	.08	01	.21	.25	.21	.03				
10. Athleticism	4.46	1.12	.28	23	.35	23	.10	.11	.14	.23	.47			
11. Shooting	4.34	1.07	- 00	.05	06	01	.05	.25	.13	.07	.59	.32		
12. Coach-assessed												1		
performance	4.43	1.10	60'	.01	.05	.03	.18	.10	.12	01	.76	.33	41	
13. Power ranking	137.20	84.42	13	.19	15	.20	20	06	15	17	41	46	30	35
^a Correlations greater	ter than or	than or equal to .20 are significant at $p<.05;$ for $r>.23,$ $p<.01.$.20 are si	ignifican	t at $p <$.05; for 1	· > .23, <i>I</i>) < .01.						

TABLE 1 s, Standard Deviations, and Correlati

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regressed the performance measures on consistency. For the power ranking, consistency explained 4.1 percent (p < .05) of the variance in performance. A negative regression weight indicated that teams implementing strategies consistent with their coaches' preferences outperformed (were ranked higher, or closer to 1) others.

For the coaches' evaluation of performance, consistency explained 3.2 percent (p = .07) of the variance. Although only marginally significant, a positive regression weight indicated that day-to-day performance was also higher for teams implementing strategies consistent with the coaches' preferences. Together, these results suggest that teams playing outside of their preferred strategies are less effective, demonstrating support for Hypothesis 2.

Hypothesis 3 states that strategy will moderate the relationship between team skills and performance. We regressed performance on strategies in the first step of a hierarchical equation, team skills in the second step, and the interactions in the third step. A significant amount of variance explained in the first two steps would indicate a main effect for either strategy, skills, or both. A significant amount of variance explained in the third step would indicate that it is the match between skills and strategies that determines performance.

As the results in Table 2 show, the first equation, using the coaches' assessments of team performance, indicated that strategy explained 2 percent (n.s.) of the variance, that team skills explained 57 percent (p < .01), and that the interactions explained an incremental 8 percent (p < .01).

The second equation regressed the objective power rankings on the focal variables. Strategy explained 4 percent (n.s.) of the variance in power

	Coach-Assessed Performance		Power Rankings	
Variable	Change in R ²	Beta	Change in R^2	Beta
Step 1	.02		.04	
Speed		0.18		0.19
Finesse		0.11		-0.01
Step 2	.57**		.24**	
Team orientation		0.80*		-0.21*
Athleticism		-0.03		-0.32'
Shooting		-0.05		-0.07
Step 3	.08**		.09**	
Speed × team orientation		-0.07		-1.55*
Speed × athleticism		-1.05		2.28
Speed \times shooting		2.18*		-1.57
Finesse × team orientation		-0.08		-1.76*
Finesse $ imes$ athleticism		-1.13*		1.86*
Finesse $ imes$ shooting		2.30*		-0.63

TABLE 2				
Results of Regression	Analysis			

* p < .05

^{**} p < .01

rankings, team skills (shooting, athleticism, and orientation) explained an incremental 24 percent (p < .01), and the interactions explained an incremental 9 percent (p < .01). The significant interactions observed in the analyses for both performance measures demonstrate substantial support for Hypothesis 3.

DISCUSSION

Many writers have postulated a relationship between strategic human resource management and firm performance (e.g., Cappelli & Singh, 1992; Schuler & Jackson, 1987; Wright & McMahan, 1992). However, Lengnick-Hall and Lengnick-Hall stated that "To date, there is little empirical evidence to suggest that strategic human resource management directly influences organizational performance or competitive advantage" (1988: 468). The results of this study strongly demonstrate empirical support for links between strategies, human resources, and performance and thus illustrate the potential role of strategic human resource management in competitive advantage.

First, the study provides evidence that strategies influence the acquisition of specific human resource skills. Although two of three factors were equally valued by coaches preferring each of three focal strategies, significant differences were observed for the third factor, physical skill. Coaches preferring a speed strategy placed significantly higher importance on the physical skill factor than did coaches preferring either of the other two strategies. It is important to note that there is little reason to expect the importance of the two factors for which no significant differences were observed to differ across strategies. The first, basketball skill, describes the fundamental skills that should be important across all strategies. Strength on the second factor, attitude, would similarly be equally desirable across strategies. However, given the special physical requirements of the speed strategy, the results seem to be consistent with coaches' implicit theories. Thus, in line with past conceptual analyses (e.g., Olian & Rynes, 1984), it appears that strategies do influence the types of people sought out.

Second, this study provided indirect evidence that human resource skills also play a role in determining strategy. We did not directly assess the reasons a team may implement a strategy inconsistent with its coach's preferred strategy, but common sense and interviews with coaches suggested that this inconsistency usually occurs because a team does not possess the skills necessary to implement the strategy. Theoretically, coaches are trying to maximize the overlap in that they seek to have an actual strategy that is entirely consistent with their preferred strategy. Empirically, the mean of .78 reflects the fact that 78 percent of the teams were implementing actual strategies that were consistent with the preferred strategies.

However, with regard to Hypothesis 2, the results imply that when a strategy is changed to fit the skills available in the human resource pool, performance decrements may accrue, most likely because, although the new strategy complements the players' skills, it probably does not com-

plement the coaching staff's skills. Although our data did not allow us to determine whether teams changing strategies to fit skills performed better than they would have if they had maintained the preferred strategy, they do point out the need to take a broader perspective on human resource skill pools rather than focus simply on top managers or line workers.

Although we have no data on exactly why coaches diverge from their preferred strategies, those we spoke with stated that coaches are likely to change strategies when they change schools. Thus, if a coach moved around too much, he might never be able to implement his preferred strategy. We do not have any data on the average tenure of a Division I coach, but we do not think frequent moves occur often. Most coaches are offered five-year contracts when hired, a period used specifically because it is believed that it will take four to five years for a coach to fully implement his system as it will take that long to have a full team of players he recruited. If a coach is moving more frequently than every five years, it is because he has been successful in a shorter period.

Finally, the results for Hypothesis 3 indicate the need to match human resources and strategies to maximize organizational performance. In this sample, certain skills were more strongly related to performance for a given strategy than for other strategies. For example, team orientation was strongly related to coach-evaluated performance for teams implementing a finesse strategy. But athleticism was more strongly related to the same measure of performance for the speed strategy than for the other two. These results are quite similar with regard to the power rankings.

However, two differences should be noted. When we used the coaches' evaluation of performance, athleticism was most strongly related to performance for the finesse strategy. However, using the power rankings, performance and athleticism are almost unrelated for that strategy. Second, for the finesse strategy, shooting was most strongly related to the coach's evaluation of performance, but it was less strongly related for the power rankings.

These differences might be observed for two reasons. First, the coaches' measure provides a more comprehensive behavioral assessment of performance than the rankings. Because measures of performance based on results are often both contaminated and deficient (cf. Latham & Wexley, 1981), it could be that athleticism and shooting are more strongly related to coach-rated performance because the measure is actually more contentvalid.

A second interpretation might acknowledge the likely occurrence of common method variance in findings based on coach's performance measure. Because all the data were obtained from the same respondents and with the same method, the observed relationships might reflect coaches' implicit theories regarding how certain characteristics relate to performance and strategy. Such implicit theories should dictate decision making regarding (1) the types of skills to develop among team members and (2) the type of strategy a coach should pursue, given a set of team skills. However, the extent to which these interactions do not quite match those of the more objective measure of performance could indicate that the coaches hold somewhat inaccurate implicit theories. If that were true, coaches' implicit theories might lead them to attempt to develop skills that were ineffective in increasing performance, given their strategies. Thus, coaches pursuing a finesse strategy might seek to increase the athleticism and shooting of their team members through recruiting and training because they view those skills and performance as strongly related. However, this quest might be ineffective if in fact, athleticism and shooting are almost completely unrelated to performance when a finesse strategy is used. This supposition casts some doubt on the accuracy of coaches' implicit theories of the determinants of performance and points to the important role that coaches' decision making plays in team performance. Certainly, future research might address this issue.

However, although the interactions demonstrated added value in matching human resource skills to strategy, the amount of variance explained by the skills alone shows their greater importance overall. It appears that a coach who is deciding whether to choose between a recruit whose skills match his own strategy and a phenomenally talented recruit whose skills do not match his strategy might be better served by choosing the latter. In fact, this was the case faced by the Portland Trailblazers quite a few years ago. They had the first pick in the National Basketball Association draft and were choosing between Sam Bowie, a center who filled their strategic need for a big man, and Michael Jordan, an extremely talented player who was not ideally suited to either the guard or forward position, neither of which was a great need for Portland. The Trailblazers chose Bowie, allowing Jordan to be drafted by the Chicago Bulls. Jordan subsequently led the Bulls to three straight world championships and will go down in basketball history as one of the greatest players of all time.

Interestingly, our results indicate that there is no one best strategy. The first step of each regression equation revealed no significant amounts of variance in performance explained by strategies (Table 2). It is also interesting to note that the observation that no strategy can be regarded as best is consistent with empirical research on the relative effectiveness of general business-level strategies (Miller & Friesen, 1986; Smith et al., 1989; White, 1986). Furthermore, these results support the resource-based view of organizations, in that if one best strategy did exist, one would expect all competitors to imitate that strategy. Instead, our results demonstrate the importance and complexity of matching organizational resources to an organization's strategy.

For example, Southwest Airlines, the most consistently profitable U.S. airline, has the lowest labor costs in its industry. However, the airline is better known by customers for its strategy of being the "fun" airline. This strategy is maintained by an extensive hiring process that seeks out individuals who are friendly, outgoing, and have a good sense of hu-

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mor. Recently, other airlines, such as United and Continental, have sought to imitate Southwest's low labor costs. However, Southwest's competitive advantage may not come from low costs, but from the match between its human resources and its differentiation on the dimension of fun. Herb Kelleher, president and CEO of Southwest, stated the resource-based view of competitive advantage when he said "Maybe someone could equal the cost . . . possibly they could. And maybe someone could equal the quality of service that goes along with that and constitutes great value; possibly they could. But the one thing they would find it impossible to equal very easily is the spirit of our people and the attitude they manifest toward our customers" (Harvard Business School, 1993).

Furthermore, our results also illustrate the importance of top decision makers in influencing organizational performance. From a resource-based perspective, one role of a coach is to develop a team's human capital pool and to create socially complex phenomena that provide competitive advantage. For example, Bobby Knight, the coach of Indiana University's men's basketball team, claims he is hard on players to develop their mental toughness so that, when they are under pressure, they will be used to it. As previously discussed, another coaching role is matching human skills to the strategy pursued. Coaches can accomplish this through recruiting, selecting, and developing team members to gain the skills necessary to implement a preferred strategy or by choosing a strategy to match the skills of current team members.

Four limitations of this study should be recognized. First, given the cross-sectional nature of our data, it is necessary to address the possibility that reverse causation occurred—winning teams were better able to create fit. This effect is entirely possible because consistently winning programs achieve a reputation that allows them an edge in recruiting. Thus, the most successful programs would be best able to match their human resource skills to their desired strategies. This advantage might create a cycle of success and make it difficult for teams performing less well to move up. Similarly, successful organizations have an edge over unsuccessful organizations in recruiting employees. For example, it is quite likely that Southwest Airlines receives more applications and is more likely to have applicants accept offers for employment than Continental Airlines. Clearly, the likely existence of dual causality must be recognized as a limitation to the study, and future research using longitudinal data to assess the extent to which dual causality is affecting the results observed in this study is called for. Given this potential effect, caution should be exercised in interpreting the present results.

A second limitation relates to our assessment of team skills (Hypothesis 3). By assessing team skills after the season, we may have only measured performance on these factors, rather than true capabilities. Furthermore, the timing of our assessment may have resulted in an upward bias in the relationship between these ratings and our measures of performance. In fact, the large amounts of variance in performance explained by these variables (24 and 57 percent, using the rankings and coaches' measures, respectively) might support this assertion. However, it is also important to note that this relationship would not have affected how the interactions between these ratings and strategy determined performance, and it was the interactions that served as the basis for our tests of and conclusions regarding Hypothesis 3.

Third, the validity of our trichotomization of strategies could be questioned. In support of this procedure, we note first that it is quite consistent with strategy research (Porter, 1980, 1985; White, 1986). Classifying a firm as following a differentiation strategy does not imply that it ignores costs, but only that its focus is on differentiation rather than costs. Second, in order to ensure that the procedure did not affect our results, we conducted the analyses using actual percentages rather than the dummycoded strategy scheme. These results revealed few differences. Percentages explained slightly less variance for the coaches' evaluation, and slightly more variance for the power rankings.

Finally, we recognize the limitations of our sample as a basis for generalizing to the study of strategy in business organizations. Given the organizational peculiarities of basketball teams as to size (they only have 12–15 players), number of different jobs (three basic positions), task (playing basketball versus producing a product or service), skills (physical versus cognitive), and turnover (high from year to year), the observed results should be applied to large multifaceted organizations only with caution.

However, this study is useful for the purpose of theory testing. It confirms some theoretical propositions concerning strategic human resource management. There is no reason to expect that the propositions gleaned from the contingency and resource-based theories are only applicable to profit-seeking enterprises engaging in business strategies. In fact, one of the leading proponents of resource-based theory, Barney, has stated that athletic teams provide clear examples of the resource-based view of firms (1994 personal communication).

It is clearly an easier and less complex task for a basketball coach than for the manager of a large organization to define human resource skill needs and find individuals who meet those needs. However, testing theory in large organizations is extremely difficult because of the complexity entailed in matching skills for thousands of employees in hundreds of jobs. This complexity may explain why much of the research relating human skills to business strategies has focused on top managers (e.g., Bantel & Jackson, 1989; Guthrie & Olian, 1991; Hitt & Tyler, 1992). Thus, despite the generalizability problems, our sample provides an internally valid test of theoretical propositions regarding the skill-strategy fit among lower-level employees.

In conclusion, this study demonstrated significant empirical support for the existence and efficacy of the link between strategy and human resources, thereby providing additional support for the potential of strategic human resource management to influence organizational performance

(Wright & McMahan, 1992). Consistent with Wright and colleagues (1994) analysis of treating human resources as the total human capital pool of an organization, our research expands the link between human resources and strategy beyond top management. The results indicate that strategies may determine the types of human resources sought and that the types of human skills available might influence the strategy chosen. In addition, consistent with a congruence approach to organizational effectiveness (Nadler & Tushman, 1979), it appears that skills interact with strategy to determine performance. Thus, future research on strategic human resource management in general, and specifically on the relationship between human resources and strategy, might need to examine more than top managers to gain a better understanding of the role of human resources in competitive advantage.

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APPENDIX

We assessed these human resource skills and characteristics: physical strength, athletic ability, speed-quickness, playmaking ability, endurance, free-throw shooting, field-goal shooting, three-point field-goal shooting, rebounding skills, defensive skills, ball-handling skills, work ethic, intelligence, competitive orientation, freedom from disciplinary problems, team concept.

These items formed the measure of coach-assessed performance (1 = strongly disagree, 7 = strongly agree):

- 1. Our team had an outstanding season.
- 2. Our players were very quick learners.
- 3. Our players got along well with each other.
- 4. Our players had outstanding attitudes.
- 5. Our players had no conflicts with coaches.
- 6. Our players never needed to be disciplined.
- 7. Our players had problems in their studies. (reverse-coded)

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