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ON THE INTEGRATION OF STRATEGY AND
HUMAN RESOURCES: AN INVESTIGATION
OF THE MATCH BETWEEN HUMAN
RESOURCES AND STRATEGY AMONG
NCAA BASKETBALL TEAMS

CEO PUBLICATION
T 94-17 (260)

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On the Integration of Strategy and Human Resources:

An Investigation of the Match between Human Resources and Strategy

Among NCAA Basketball Teams

Abstract

This study examined the relationships among strategy, human resources, and performance among NCAA basketball teams. The results indicated that coaches' preferred strategy influences the characteristics that they look for in recruits. Also, teams implementing a strategy different from the coach's preferred strategy performed less well than those implementing the preferred strategy. Finally, human resource capacities interacted with strategy in determining team performance across the different measures of performance. Results and implications are discussed.

On the Integration of Strategy and Human Resources:

An Investigation of the Match between Human Resources and Strategy

Among NCAA Basketball Teams

Recently, the strategic management research has been extended through discussions of the resource-based approach (Barney, 1991; Prahalad & Hamel, 1990; Mahoney, 1992; Rumelt, 1984; Wernerfelt, 1984). In contrast to the more traditional Industrial-Organization (e.g., Porter, 1980, 1985) perspective that assumes firms competing in the same industries are homogeneous, the resource-based approach presumes that individual firms are unique and are composed of distinct bundles of resources (e.g., Barney, 1991). Within the context of the resource-based perspective, firms attempt to develop and exploit distinctive competencies based on the resources under their control. Ultimately, these distinctive competencies may lead to sustainable competitive advantages and superior performance. A firm's resources are characterized in terms of the physical, organizational, and human capital resources (Barney, 1991). The emphasis on human capital resources leads to understanding the role of Strategic Human Resource Management (SHRM) in gaining competitive advantage.

Herein, the resource based view of the firm is employed to explore how SHRM influences the relationships between firm performance and the congruence or fit of various organizational (work) processes (Burns & Stalker, 1961; Lawrence & Lorsch, 1967; Woodward, 1965). Congruence approaches to understanding firm success focus on the fit among various components of the firm (Chandler, 1962; Galbraith, 1977; Lawrence & Lorsch, 1967). In summarizing the congruence hypothesis, Nadler and Tushman (1977) stated that "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," (p. 93).

Venkatraman (1989) noted that a number of different perspectives of congruence, or "fit" exist in strategy research. However, in spite of the fact that differences exist in defining the concept of fit in this research, there seems to be consensus regarding the component parts that

must achieve fit, including such variables as a firm's resources, strategy, structure, etc. The congruence approach taken in this research focuses on the relationship between a firm's strategy, its resource capabilities and performance. Because much of the firm's resource capabilities are directly linked to the capabilities of the individuals who make up the firm's human capital pool (Wright, McMahan, & McWilliams, in press), our research highlights the potential importance of human resources in determining both firm strategy and firm performance.

Thus, the purpose of this study is to examine the extent to which the congruence between an organization's strategy and its human resources affects performance. The underlying assumption is 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 (i.e., that no strategy is universally superior, and that the effectiveness of a given strategy is contingent upon some other variables). In the context of a resource-based perspective, relevant components affecting the contingency relationships must be examined.

Strategy and Human Resources

Wright and McMahan (1992) defined Strategic Human Resource Management as "the pattern of planned human resource deployments and activities intended to enable an organization to achieve its goals," (p. 298). This field has traditionally focused on how firms develop and align human resource management (HRM) practices in a way that supports the firm's chosen strategy (Schuler & Jackson, 1987; Snell, 1992; Wright & Snell, 1991). However, SHRM 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, McMahan, & McWilliams, in press).

For example, Wright et al. (in press) applied the resource-based approach of strategic management to examine the role of human resources in creating sustainable competitive advantage. These authors examined how a firm's human capital pool may lead to a sustainable competitive advantage. That is, the authors evaluated the human resource in terms of those characteristics associated with sustained competitive advantages (Barney, 1986). Specifically, they determined that human resources may indeed be rare, that they can add value, that there are often no readily available substitutes and that they are not easily imitated.

However, just because human resources can provide a source of competitive advantage, it does not necessarily follow that they do. The rents a firm achieves may not be due to it having better resources, but rather that it makes better use of those resources (Penrose, 1959). The firm may maximize the use of its human capital resources by correctly assigning workers to where they have higher productivity in the organization (Tomer, 1987). Similarly, a competitive advantage may be more readily obtained when a firm's human resources are effectively matched with its strategy (Mahoney and Pandian, 1992).

According to the model offered by Wright et al. (in press), competitive advantage emanating from human resources stems most directly from a human resource capital pool that possesses the necessary skills and displays the necessary behaviors. Human resource practices such as recruitment and selection are aimed at identifying individuals who possess the skills

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necessary to gain competitive advantage. This often entails ensuring that the firm has employees that have the skills required 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 an elite set of positions or individuals including Chief Executive Officers and General Managers (e.g., Gerstein & Reisman, 1983; Gupta, 1984; Kerr, 1982). As Lengnick-Hall and Lengnick-Hall (1988) noted, most studies look no deeper in the 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 (1984) stated as one of their assumptions that "...different strategies require different types of people (especially at managerial and executive levels) for effective performance..." (p. 171).

In addition to the bias toward exploring the match between strategy and human resources at the executive level among conceptual analyses of the relationship, empirical studies have also focused on top managers. For example, Guthrie and Olian (1991) examined the relationship between business strategy and staffing for GM selection, and found that strategy was related to GM's tenure level and age. Additionally, Gupta and Govindarajan (1984) found that certain characteristics of managers such as willingness to take risk 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 & Hambick, 1992; Wiersema & Bantel, 1992) have empirically demonstrated the association between managerial characteristics and corporate level strategies including diversification and restructuring.

While recognizing the importance of the link between an organization's strategy (e.g., the result of a decision process) and top decision makers, an organization's strategy must also be

congruent with the larger human capital resource pool (e.g., those involved in the actual production of the 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 resource pool is an important determinant of the success of those strategies (Wright et al., in press). The best-laid plans of top decision makers may be for naught if the people of the organization are either unwilling or unable (due to skill and ability deficiencies) to carry it out (Wright & McMahan, 1992).

This may be especially true within 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 customer 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 the customer and have immmediate 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 resource 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.

Organizational Strategies, Human Resources, and Performance

Many typologies of organizational strategies or types have been proposed with regard to profit seeking firms (c.f., Porter, 1980; Miles and Snow, 1978). Empirical research has suggested that no pure generic business level strategy leads to superior performance when compared to other pure generic business strategies (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 that shows there is no one best strategy, suggests that the strategy-performance relationships are moderated by various firm and environmental contextual factors. Within this study, we note that one important moderator might be the fit between the human resources of the firm and the chosen strategy.

In the analysis of a firm's strategic choice, top managers examine the environmental opportunities and threats as well as the firm's internal strengths and weaknesses (Hofer & Schendel, 1978; Learned, Christensen, Andrews, & Guth, 1969). The focus of this analysis is to choose 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 the strategy, structure, and managerial systems (Hammermesh, 1982).

Traditional treatments of the role of SHRM in strategy formulation and implementation have focused primarily on the implementation of chosen strategies (Capelli & Singh, 1991; Galbraith & Nathanson, 1987; Lengnick-Hall and Lengnick-Hall, 1988; Miles & Snow, 1984; Schuler and Jackson, 1987; Wright & Snell, 1991). Specifically, armed with information regarding the chosen strategy, the firm (usually via the HR department) seeks to ensure that it possesses employees with the necessary skills to implement that strategy. Thus, an organization that seeks to pursue a given strategy will seek out individuals who possess the requisite skills for implementing that strategy. This leads to Proposition 1:

Proposition 1: Organizations with (different) identifiable generic strategies will

seek (through recruiting) human resources possessing skills consistent with that strategy.

However, often this decision process is driven more by the market opportunities, under the assumption that firm weaknesses that might be required to capitalize on the opportunity can be easily developed. For example, Cappelli and Singh (1992) noted that situations might exist where a firm does not possess the resources necessary to implement a preferred strategy. They questioned whether it is easier to rearrange or acquire resources given the choice of strategy, or to rearrange the strategy, given the set of resources. These authors felt that the traditional view of

strategy is that the former is easier, even though substantial research exists which notes the difficulties of organizational change. Similarly, Lengnick-Hall and Lengnick-Hall (1988) noted that traditional models of strategy assume that it is easier to adapt people to strategy than vice versa.

The resource based view of the firm recognizes that a rich connection exists among the firm's resources, distinctive competencies, and the mental models of the top management team such that the firm's current resources influence managerial perceptions and strategic decisions (Mahoney & Pandian, 1992). In fact, Wernerfelt (1989) argued that the resources of the firm limit the choice of markets it may enter, and the levels of profits it may expect. Thus, an organization may be unable to implement a desired strategic choice because its human resources are incompatible with the firm's strategy (Barney, 1991; Wright et al., 1993).

This points out an important aspect of more recent views of SHRM (Cappelli & Singh, 1991; Snow & Snell, 1992, Wright & McMahan, 1992; Wright et al, in press). In some situations it may not be possible to simply acquire human resources with the skills required for a given strategy. Thus, in these situations, managers may be forced to change the strategy, at least temporarily, to fit the skills of the human resources pool.

Proposition 2: In situations where it is recognized that a firm cannot obtain or develop employees with the skills necessary to implement a strategy, the firm will seek out an alternative strategy that better matches their employee skill base.

However, this presents another dilemma. Usually a firm's chosen strategy reflects in part the skills and/or mental models of the management team (Prahalad & Bettis, 1986). A number of authors have noted the need to align managerial characteristics with strategic demands. Managers' differential ability to work within a given strategy often stems from their education, training or experience (Gerstein & Reisman, 1983; Kerr & Slocum, 1989; Leontiades, 1982; Olian & Rynes, 1984). Thus, there appears that matching a top manager's skills (or those of the top management team) to a strategy can result in significant benefits in a competitive situation (Gupta & Govindarajan, 1984; Guthrie, Grimm, & Smith, 1991; in press). This implies that when

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a given strategic management team adjusts its strategy to fit the skills of the larger human capital pool (i.e., employees), a performance decrement would be observed because it creates a less than perfect match between the new strategy and the skills of the management team.

Proposition 3: Firms implementing a strategy consistent with the manager's skills will exhibit higher performance than teams implementing a strategy inconsistent with the manager's skills.

Finally, Propositions 1 and 2 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 these assumptions are correct, one would expect to find that the relationship between various aspects of the human capital pool depends upon the strategy (c.f. Schuler & Jackson, 1987; Snell, 1992; Snell & Dean, 1992; Wright & Snell, 1991). For example, creativity skills of human resources might be necessary for a firm pursuing a differentiation strategy but not for a firm pursuing a cost strategy. If this were true, then one would expect to find a strong relationship between the level of creativity and performance among firms following a differentiaton strategy, but no relationship among those pursuing a cost strategy. This leads to the following proposition:

Proposition 4: The relationship between HR capabilities and performance will be moderated by strategy, such that skills will be differentially related to organization performance across strategies.

Sample and Methodological Considerations

The empirical examination of these hypotheses requires a sample that meets three criteria. First, the industry must be one in which human resources have the potential to affect organizational performance. Thus, an ideal industry is one that is relatively labor intensive. For example, Terpstra and Rozell (1993) examined how staffing practices were related to organizational profitability across a number of industries. These authors found that the correlations between selection practices and firm performance were highest in labor intensive

service industries relative to capital intensive industries such as manufacturing.

Second, the industry should be characterized by a consensus regarding the types of strategies available to the competitors. If no consensus exists, then it is virtually impossible to find any systematic relationships. Third, these strategies must have important implications for the types or characteristics of the human resource capital pool (Olian & Rynes, 1984). In other words, each strategy should call for different human resource skills relative to the other strategies.

For these reasons, we chose to examine the match between human resources and strategies among the NCAA Men's basketball teams. NCAA men's basketball teams represent an extreme in terms of labor intensity. A team's success relies almost entirely upon its people (both coaches and players) rather than technology or equipment. While differences exist in terms of physical capital resources (e.g. quality of facilities), substantial regulation by the NCAA attempts to equalize these resources, probably to a greater degree than physical capital resources are equalized in industry. Second, among NCAA teams, there is consensus regarding a typology of strategies that a team might pursue. These strategies will be discussed later. Finally, each of these strategies requires different human resource needs, or at least differentially values certain characteristics of human resources. The following discussion guides the reader through the analogies between the resource-based perspective taken herein and NCAA basketball.

In our study, we examined a sample of organizations in which one of three distinct strategic types were employed. Interviews of industry experts (i.e., Division I NCAA Men's basketball coaches) indicated that consensus exists regarding potential generic strategies available to teams. We identifed three strategies. First, a "Speed" strategy relies on an uptempo, fast-breaking offense, and is often accompanied by a full-court pressing defense. This strategy seeks to compete by a constant application of pressure on the other team. Second, a "Power" strategy relies on emphasizing an offense and defense that works inside the key. This offensive strategy often seeks to work the basketball inside to take shorter, higher percentage shots. Finally, a "Finesse" strategy focuses on a structured, patterned offense. The offensive strategy consists of executing well designed plays, and can often rely on outside the key shooting.

Although all of these strategies are used to some extent by every team, each team tends to favor one over the others. Furthermore, the fact that all three strategies are employed throughout NCAA basketball suggests that no one strategy has been determined to be the single best strategy.

Propositions 1 and 2 are based on the fact that managers may have preferred strategies and that they have (implicit) theories regarding the importance of skills for their preferred strategy. 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 the team's "system." This system usually stems from the coach's own education, training and experience. Examining coaches across time reveals that most coaches will consistently maintain a system that emphasized one strategy over the other two. We refer to this as the coach's "preferred strategy."

If, in fact, different strategies require different skills from players, then it should follow that coaches seek out players in the recruiting process that possess the skills that are necessary to successfully implement the preferred strategy. Thus, the first research question we address in this study is whether a coach's preferred strategy is related to the skills that he[1] looks for in recruits. Thus, we propose Hypothesis 1:

Hypothesis 1: Differences will exist across coaches' preferred strategies in the importance placed on the various skills by which they evaluate recruits.

In spite of the effort to acquire team members who possess the skills required by a coach's preferred strategy, mismatches between preferred strategy and existing teams skills is a problem that is often evident among NCAA teams. In any given season, the human capital resource pool might not possess the capabilities necessary for implementing a coach's preferred strategy. Coaches are not always successful in attracting and retaining the recruits they most highly value. In addition, coaches may inherit a team that does not possess the skills required for implementing the coach's preferred strategy. For example, a coach may have a system that emphasizes a speed strategy, but is hired by a school whose team does not immediately possess the speed and quickness to successfully implement this strategy. This leads to two strategic choices. First, he could 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 that type of team. If, in fact, his implicit theory is correct, then to attempt to implement a strategy without the team resources necessary for that strategy will result in guaranteed failure.

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

The potential weakness with this strategic decision, however, is that the present system, including the skills of the coaching staff, is not necessarily congruent with the new strategy. Due to this incongruence between the coaching staff's skills and chosen strategy, then one would expect that a team playing a strategy that is inconsistent with the coach's preferred strategy would be less successful than teams playing a strategy consistent with the coach's preferred strategy. This leads to Hypothesis 2:

Hypothesis 2: Teams implementing a strategy consistent with the coach's preferred strategy will exhibit higher performance than teams implementing a strategy inconsistent with the coach's preferred strategy.

Finally, Hypothesis 1 is based on the fact that coaches have some implicit theories regarding the importance of skills for a given strategy. Additionally, different sets of skills are most valuable to different types of strategies. Obviously, the speed strategy requires individual players who possess speed, quickness and endurance. The power strategy entails playing the game at a slower pace, thus, speed, quickness, and endurance are less important. This strategy has a greater requirement for physical strength, jumping ability, and rebounding skills. Finally, the finesse strategy requires speed, endurance, and physical strength to a lesser extent than the other two strategies. This strategy might have a greater requirement for playmaking ability, ball

handling skills, and to some extent, intelligence.

If, in fact, certain skills are more important to certain strategies, then one would expect a stronger relationship between those skills and performance for a chosen strategy relative to another. For example, if speed and quickness are most important to a speed strategy, then one should observe that the correlations between assessments of these skills and performance would be higher for the speed, relative to the power or finesse strategies. Thus, the final research question we address in this study is whether certain human resource capabilities are more strongly related to performance for one strategy relative to the others. This leads to Hypothesis 3:

> **Hypothesis 3**: The relationship between HR capabilities and performance will be moderated by strategy, such that skills will be differentially related to team performance across strategies.

In summary, this study examined the relationships among strategies, human resource skills and performance. The tight links among these variables among NCAA Men's basketball teams provide a unique sample in which to investigate these relationships.

Method

Sample

The sample consisted of NCAA Division 1 men's basketball teams. Surveys were sent to coaches of all 300 teams. Of these, 143 were returned, resulting in a response rate of 48%. In addition to the variables reported here, the survey also elicited information regarding the SAT scores of the top eight players. These results are reported in another paper (c.f. Wright, McMahan, & Smart, 1993).

Measures

Preferred Strategy. As noted previously, coaches primarily utilize one of three types of strategies: Speed, power, and finesse. Although all teams may employ components of each of these strategies to some extent, each team seeks to emphasize one strategy relative to the others.

Therefore, the survey attempted to assess the extent to which the coach preferred to use each of the three strategies. Thus, respondents were asked to indicate the percentage of time that the head coach used each of the strategies over the past 5 to 10 seasons. The preferred strategy was determined as the strategy that was emphasized the most. Thus, if a coach preferred to use a speed strategy 50% of the time, and finesse and power strategies 25% of the time each, the preferred strategy was classified as a speed strategy. By asking respondents to indicate the coach's strategy for the past 5 to 10 seasons, the survey assesses the presents coach's preferred strategy, rather than the strategy that team had used over the same time frame. Thus, a coach who was in his first season at a particular school would have responded with his strategy at the previous, not the present school.

Actual Strategy. Actual strategy was assessed by asking respondents to indicate the percentage of their team's emphasis on each of the three strategy options during the 1991-92 season. Similar to the preferred strategy, the actual strategy was determined as the strategy which was emphasized the most.

Recruit Skill Importance. Interviews with coaches revealed 16 characteristics that are sought in players. These characteristics include speed, quickness, defensive skills, field goal shooting, free-throw shooting, 3-point shooting, rebounding, etc. (A complete list of these skills are identified in Appendix A). Coaches were asked to indicate the relative importance of each of the skills for evaluating recruits to play in the coach's preferred strategy using a 7-point scale (1=One of the Least Important, 4=Average Importance, 7=One of the Most Important).

However, due to the large number of variables assessed, a factor analysis was conducted to simplify the data. These ratings were submitted to a principle components factor analysis using the varimax rotation to gain an understanding of the structure of the data. The factor analysis revealed three interpretable factors. These factors served as the three recruit skills, and the items forming each factor were summed to create a scale for that variable.

The first factor was titled "basketball skill" because it contained six items (playmaking ability, free throw shooting, rebounding skills, defensive skills, ball handling skills, and physical

strength) that describe generic basketball skills. The scale exhibited an alpha of .69. The second factor was called "attitude" because it contained three attitudinal items (work ethic, competitive orientation, and team concept). This item exhibited an alpha of .83. The third factor consisted of two items (athletic ability and speed/quickness) and was called "physical ability." This scale had an alpha of .58.

Team Skills. The same 16 skills as listed for recruit skill importance were used to measure team skills. Subjects were asked to rate the team on each of the characteristics using a 7-point scale (1=Poor, 4=Average, 7=Oustanding). These ratings were also submitted to a principle components factor analysis using the varimax rotation to gain an understanding of the structure of these skills. The factor analysis revealed three interpretable factors. These factors served as the three basic team skills, thus, the items forming each factor were summed to create a scale for that variable.[2]

The first factor was called "team orientation" because of its heavy emphasis on skills that were directly related to less glamorous, yet highly important basketball skills. These items were things such as playmaking ability, defensive skills, work ethic, intelligence, competitive orientation, and team concept. This scale exhibited an alpha of .91. The second factor was called "athleticism" because contained the items athletic ability, speed/quickness, and depth, all of which tended to refer to the more generic athletic skills. This scale exhibited an alpha of .78. Finally, factor 3 was called "shooting" because it contained the three shooting (free throw, field goal, and 3-point) items. The alpha for this scale was .76.

Team Performance. Team performance was assessed in two ways. First, Sagarin's Power Ratings provided an objective assessment of the team's performance over the course of the season. Won-Lost records tend to ignore the quality of a team's competition and the average margin of victory. The power ratings provide a means of controlling for quality of competition (as measured by won-lost records of opponents) as well as a number of other variables which confound the won-lost outcome variable. These ratings form the basis for ranking the 300 NCAA Men's teams. Thus, Sagarin's final rankings for the 1991-92 season were used as an objective

measure of team performance.

While the rankings provide an external measure of team success, they ignore the dayto-day performance of the team. For example, teams can exhibit conflict among players, between players and coaches, disciplinary problems, or problems in learning the system. Thus, a subjective assessment of the team's performance was assessed by asking the respondents to indicate their agreement with seven statements regarding the day-to-day workings of the team (see Appendix B). These items were summed, and exhibited a coefficient alpha internal consistency reliability estimate of .91.

In summary, Sagarin's rankings could be considered a "results" or "bottom line" performance measure, whereas the coach's evaluation could be considered a "behavioral" performance measure.

Procedure

Surveys were mailed to all 300 NCAA Division 1 Men's Basketball teams during the summer of 1992. The surveys were mailed with enclosed self-addressed postage paid return envelopes. 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 6 weeks after the initial survey was sent out, a follow up letter and set of surveys was sent to those schools that had not yet responded.

Results

Useable data was available for 134 of the teams. The means, standard deviations, and intercorrelations among the variables are presented in Table 1. Team strategy was dummy coded as two variables with the speed, finesse, and power strategies coded 1,0; 0,1; and 0,0, respectively.

Table 1.

Means, Standard Deviations, and Intercorrelations Among the Variables Studied.

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Actual Speed	.42	.50	-							
2. Actual Finesse	.34	.47	-.66	-						
3. Preferred Speed	.43	.50	.74	-.47	-					
4. Preferred Finesse	.30	.46	-.58	.65	-.62	-				
5. Consistency	.78	.41	.17	-.03	.14	.09	-			
6. B-ball Skill	5.07	.76	.09	-.00	.06	-.11	.13	-		
7. Attitude	6.16	.83	.01	.13	.16	-.08	.10	.49	-	
8. Physical Abil.	5.98	.88	.34	-.25	.35	-.31	.01	.31	.37	-
9. Team Orientation	4.90	.99	.11	-.05	.08	-.01	.21	.25	.21	.03
10. Athleticism	4.46	1.12	.28	-.23	.35	-.23	.10	.11	.14	.23
11. Shooting	4.34	1.07	-.09	.05	-.06	-.01	.05	.25	.13	.07
12. Coach Perf.	4.43	1.10	.09	.01	.05	.03	.18	.10	.12	-.01
13. Power Ranking	137.2	84.42	-.13	.19	-.15	.20	-.20	-.06	-.15	-.17

$r > .20$, $p < .05$; $r > .23$, $p < .01$

Table 1 (cont'd).

Means, Standard Deviations, and Intercorrelations Among the Variables Studied (cont'd).

Variable	9	10	11	12	13
1. Actual Speed					
2. Actual Finesse					
3. Preferred Speed					
4. Preferred Finesse					
5. Consistency					
6. B-ball Skill					
7. Attitude					
8. Physical Abil.					
9. Team Orientation	-				
10. Athleticism	.47	-			
11. Shooting	.59	.32	-		
12. Coach Perf.	.76	.33	.41	-	
13. Power Ranking	-.41	-.46	-.30	-.35	-

$r > .20, p < .05; \ r > .23, p < .01$

Hypothesis 1 stated that differences in the importance of various skills of recruits would be observed across coaches' preferred strategies. In order to test this hypothesis, three regression equations were computed, each regressing one of the recruit skill factors on the dummy coded preferred strategy variable. In the first equation, the dummy coded strategy variables explained 1.2% (n.s.) of the variance in basketball skills. In the second equation, the dummy coded strategy variables explained 2.5% (n.s.) of the variance in attitude. Finally, in the third equation the dummy coded strategy variables explained 13.7% (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 either the power and finesse strategies. However there were no significant differences in the rated importance of physical ability between the latter two strategies. The differences observed across preferred strategies for one of the three recruit skill variables provide limited support for Hypothesis 1.

Hypothesis 2 stated that teams implementing a strategy inconsistent with the coach's preferred strategy would exhibit lower performance relative to teams implementing a strategy consistent with the preferred strategy. To test this, first we computed a new dummy coded variable called "consistency." This variable was computed such that if a team's strategy was consistent with the coach's preferred strategy, that team was coded as 1. If the team's strategy was different from the preferred strategy, that team was coded 0. The actual test consisted of regressing the performance measure on the dummy coded consistency variable. First, we regressed the power ranking measure on the dummy coded consistency variable. This regression indicated that consistency explained 4.1% (p<.05) of the variance in performance. The negative regression weight indicated that teams implementing a strategy consistent with the preferred strategy outperformed (were ranked higher, i.e., closer to #1) than those whose strategy was inconsistent with the coach's preferred strategy.

Second, we regressed the coach's evaluation of performance on the dummy coded consistency variable. This equation indicated that consistency explained 3.2% (p=.07) of the variance in performance. Although only marginally significant, the positive regression weight indicated that performance was higher for teams implementing a strategy consistent with the coach's preferred strategy. Together, these results imply that teams playing outside of their preferred strategy are less effective, demonstrating support for Hypothesis 2.

Hypothesis 3 stated the relationship between team skills and performance would be moderated by strategy. In order to test this hypothesis, a hierarchical regression was computed, regressing performance on strategies in the first step, team skills in the second step, and the

interactions in the third step. A significant amount of variance explained in the first two steps indicates 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 can be seen in Table 2, the first equation using the coach's assessment of team performance indicated that strategy explained 2% (n.s.) of the variance, team skills explained 57% ($p<.01$), and the interactions explained an incremental 8% ($p<.01$). The nature of the interaction between strategy and team orientation, strategy and athleticism, and strategy and shooting are depicted in Figures 1, 2, and 3, respectively (see appendix C).

Table 2

Regression Results from Regressing Performance Measures on Actual Strategy, Skills, and the Interactions.

Variable	R^2 Change	Beta	R^2 Change	Beta
	Coach's Performance		Power Rankings	
Step 1	.02		.04	
Speed		.18		.19
Finesse		.11		-.01
Step 2	.57**		.24**	
Team Orientation		.80*		-.21*
Athleticism		-.03		-.32*
Shooting		-.05		-.07
Step 3	.08**		.09**	
Speed X Team		-.07		-1.55*
Speed X Ath.		-1.05		2.28*
Speed X Shoot.		2.18*		-1.57

Finesse X Team	-.08	-1.76*
Finesse X Ath.	-1.13*	1.86*
Finesse X Shoot.	2.30*	-.63

* $p < .05$; ** $p < .01$

The second equation regressed the objective power rankings on the focal variables. Strategy explained 4% (n.s.) of the variance in power rankings, team skills (shooting, athleticism, and skill) explained an incremental 24% ($p < .01$), and the interactions explained an incremental 9% ($p < .05$). The nature of the interactions between strategy and team orientation, strategy and athleticism, and strategy and shooting in determining performance are depicted in Figures 4, 5, and 6, respectively (see Appendix D). The significant interactions observed across both sets of analysis demonstrate substantial support for Hypothesis 3 (see Figures 4, 5, and 6 on pages 37, 38, and 39).

Discussion

Many writers have postulated a relationship between SHRM and firm performance (c.f., Cappelli & Singh, 1992; Schuler & Jackson, 1987; Wright and McMahan, 1992). However, Lengnick-Hall and Lengnick-Hall (1988) have stated that "To date, there is little empirical evidence to suggest that strategic human resource management directly influences organizational performance or competitive advantage," (p. 468). The results of this study strongly demonstrate empirical support for the links between strategies, human resources and performance and thus, illustrates the potential role of SHRM in competitive advantage. These results are discussed with regard to each of the three hypotheses, respectively.

First, the study provides evidence that strategies influence the recruitment of specific human resource skills. While two of the three factors were equally valued by all three 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 on the two factors where no significant differences were observed, there is little reason to expect that the importance of those factors should differ across strategies. The first factor, the basketball skill factor, describes the basic fundamental basketball skills that should be important across all strategies. The second factor, attitude, similarly would be equally desirable across strategies. However, given the different physical skill requirements for the speed strategy, the results seem to be consistent with coaches' implicit theories. Thus, consistent 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 HR skills also play a role in determining strategy. While there was no direct assessment of the reasons a team may implement a strategy inconsistent with its preferred strategy, common sense and interviews with coaches suggest that this inconsistency usually occurs because a team does not possess the skills necessary to implement the strategy. However, with regard to Hypothesis 2, the results imply that when the strategy is changed to fit the skills of the human resource pool, performance decrements may accrue. This is most likely attributable to the fact that while the new strategy complements the players' skills, it probably does not complement the coaching staff's skills. Although our data does not allow us to determine whether teams changing strategies to fit the team's skills are performing better than they would have if they had maintained the preferred strategy, it does point our the need to take a broader perspective of the human resource skill pool rather than focusing simply on top managers, or simply on line workers.

Finally, the results with regard to Hypothesis 3 indicate the need to match human resources and strategies in order to maximize organizational performance. In this sample, the results indicated that certain skills are more strongly related to performance for a given strategy relative to other strategies. For example, with regard to the coach's evaluation of performance, as can be seen in Figure 1, team orientation was strongly related to performance for teams implementing a finesse strategy. On the other hand, Figure 5 demonstrates that athleticism was the most strongly

related to the same measure of performance for the speed strategy relative to the other two. These results are quite similar with regard to the power rankings.

However, one difference must be noted. When using the coach's evaluation of performance, athleticism was most strongly related to performance for the finesse strategy. However, it is almost unrelated to the power ranking measure of performance. Two potential explanations for this exist. First, one difference between the coach's performance measure and the power ranking measure is that the coach's measure provides a more comprehensive behavioral assessment of performance. Because objective results measures of performance are often both contaminated and deficient (c.f., Latham & Wexley, 1981), it could be that athleticism is more strongly related to this measure because it is actually a more content valid performance measure.

A second interpretation might acknowledge the common method variance when using the coach's performance measure. Because all of these variables are coming from the same person with the same method, one could view the observed relationships as a reflection of coaches' implicit theories regarding how certain characteristics relate to performance given his strategy. It is this implicit theory that should dictate decision making regarding (a) the types of skills to develop among team members and (b) the type of strategy he should pursue given a set of team skills.

However, to the extent that these interactions do not quite match those of the more objective measure of performance (i.e., the power rankings), it could indicate that the coaches hold somewhat inaccurate implicit theories. If true, this would suggest that coaches' implicit theories might lead them to attempt to develop skills that were ineffective in increasing performance given their strategy. Thus, coaches pursuing a finesse strategy might seek to increase the athleticism of their team through recruiting and training based on their perceptions of a strong relationship between athleticism and performance. However, this might be ineffective, if, in fact, athleticism is almost completely unrelated to performance within that strategy. This might cast some doubt on the accuracy of coaches' implicit theories of the determinants of performance. Certainly, this is an issue for future research to address.

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One potential criticism of the study might be that in assessing team skills (Hypothesis 3) after the season we were really only measuring performance on these factors, rather than true capabilities. There might be some truth to this, resulting 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% using the rankings and coach's measures, respectively) might provide support for this assertion. However, it is extremely important to note that this would not have affected the interactions between these ratings and strategy in determining performance, and it was these interactions that served as the basis for our tests of and conclusions regarding Hypothesis 3.

In conclusion, this study demonstrated significant empirical support for the existence and efficacy of the link between strategy and human resources providing additional support for the potential for SHRM to influence organizational performance (Wright & McMahan, 1992). Consistent with Wright et al.'s (in press) 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 simply examining top management, by focusing on the larger human resource pool. The results indicate that strategies can determine the types of human resources sought, and that the types of human resource skills available might influence the strategy chosen. In addition, consistent with a congruence approach to organizational effectiveness (Nadler and Tushman, 1979), it appears that HR skills interact with strategy to determine performance. Thus, future research on SHRM in general, and specifically the relationship between human resources and strategy, might need to examine more than simply top managers in order to gain a better understanding of the role of human resources in competitive advantage.

Footnotes

[3]While we recognize the need to use non-sexist language, the fact is that the population of NCAA Men's Division I coaches from which we drew our sample is entirely male. Therefore, for the sake of accuracy we refer to a coach as "he."

[3]It is not unusual for the 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 which should exhibit greater variability on these variables. The second rating was made regarding the existing team as a whole, which through selection and training should be more restricted than the recruit sample.

References

Bantel, K., & Jackson, S. (1989). Top management and innovations in banking: Does the composition of the top team make a difference? *Strategic Management Journal,* 10, (Special Issue): 107-124.

Barney, J., 1991. Firm resources and sustained competitive advantage. *Journal of Management,* 17: 99-120.

Bowen, D., & Lawler, E. (1992). Facing the customer: Empowerment or production line. *Sloan Management Review,* 33.

Burns, T., & Stalker, G. (1961). *The management of innovation.* London: Tavistock.

Cappelli, P., & Singh, H. 1992. Integrating strategic human resources and strategic management. In D. Lewin, O.S. Mitchell & P. Sherer (Eds) *Research Frontiers in IR and HR,* 165-192. Madison, WI: IRRA.

Chandler, A. 1962. *Strategy and Structure.* Cambridge, MA: Harvard University Press.

Cohen, & Cohen, , 1983. *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences.* Hillsdale, NJ: Lawrence Erlbaum and Associates.

Galbraith, J. 1977. *Organization Design.* Reading, MA: Addison-Wesley.

Gerstein, M. & Reisman, H. 1983. Strategic selection: Matching executives to business conditions. *Sloan Management Review,* 24: 1-18.

Gupta, A., 1984. Contingency linkages between strategy and general manager characteristics: A conceptual examination. *Academy of Management Review.* 9: 399-412.

Gupta, A., & Govindarajan, , 1986. Business unit strategy managerial characteristics, and business unit effectiveness at strategy implementation. *Academy of Management Journal.* 27: 25-41.

Guthrie, J., & Olian, J., 1991. Does context affect staffing decisions? The case of general managers. *Personnel Psychology,* 44: 263-292.

Guthrie, J., Grimm, C., & Smith, 1991. Environmental change and the top management teams. *Journal of Management,* 17: 735-748.

Guthrie, J., Grimm, C., & Smith, (in press). Environmental change and management staffing: A reply. *Journal of Management.*

Hambrick, D., & Mason, P. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9: 193-206.

Hammermesh, R. 1982. A note on implementing strategy. Case No. 9-383-015, Harvard Business School.

Hitt, M., & Tyler, B. (1991). Strategic decision models: Integrating different perspectives. *Strategic Management Journal*, 12: 327-351.

Hofer, C. & Schendel, D. 1978. *Strategy Formulation: Analytical concepts*. St. Paul, MN: West.

Jackson, S., Schuler, R., & Rivero, J. 1989. Organizational characteristics as predictors of personnel practices. *Personnel Psychology*. 42: 727-786.

Kamoche, K. 1993. A critique and a proposed reformulation of strategic human resource management. Working paper, Birmingham Business School, University of Birmingham.

Kerr, J., 1982. Assigning managers on the basis of the life cycle. *Journal of Business Strategy*. 2: 58-65.

Kerr, J., & Slocum, J. 1989. Aligning mangers with strategies: Management development versus selection. *Strategic Management Journal*, 10: 157-170.

Lawrence, P., & Lorsch, J. 1967. *Organization and Environment*. Cambridge, MA: Harvard University Press.

Latham G., & Wexley, K., 1981. *Increasing Productivity Through Performance Appraisal*. Lexington, MA: Addison-Wesley.

Learned, E., Christensen, C. Andrews, K., & Guth, 1969. *Business Policy*. Homewood, IL: Irwin.

Leontiades, M. 1982. Choosing the right manager to fit the strategy. *Journal of Business Strategy*, 3:58-69.

Lengnick-Hall, C., & Lengnick-Hall, M. 1988. Strategic human resources management: A review of the literature and a proposed typology. *Academy of Management Review*, 13: 454-470.

Mahoney, J., & Pandian, J. (1992). Resource-based view within the conversation of strategic management. *Strategic Management Journal*, 13: 363-380.

McWilliams, A., & Smart, D., 1993. Efficiency V. structure-conduct-performance: Implications for strategy research and practice. *Journal of Management*, 19: 63-78.

Michel, J., & Hambrick, D. (1992). Diversifications posture and the characteristics of the top management team. *Academy of Management Journal*, 35: 9-37.

Miles, R., & Snow, C., 1978. *Organizational strategy, structure, and process*. New York: McGraw-Hill.

Miles, R., & Snow, C., 1984. Designing strategic human resource management systems. *Organizational Dynamics*, Summer: 36-52.

Miller, D. 1986. Configurations of strategy and structure: Toward a synthesis. *Strategic Management Journal*, 7: 233-249.

Miller, D., & Friesen, P. (1986). Porter's (1980) generic strategies and performance: An empirical examination with American data. *Organization Studies* 7: 37-55.

Milliman, J., Von Glinow, M., & Nathan, M. 1991. Organizational life cycles and strategic international human resource management in multinational companies: Implications for congruence theory. *Academy of Management Review*, 16: 318-339.

Nadler, D. & Tushman, M., 1977. A diagnostic model for organizational behavior. Pp. 83100 in *Perspectives on Behavior in Organizations*, edited by J. R. Hackman, E. E., Lawler, and L. W. Porter. New York: McGraw-Hill.

Olian, J., & Rynes, S., 1984. Organizational staffing: Integrating practice with strategy. *Industrial Relations*. 23: 170-183.

Penrose, E. 1959. *The Theory of the Growth of the Firm*. New York: John Wiley

Porter, M., 1980. *Competitive Strategy*. New York: Free Press.

Porter, M., 1985. *Competitive Advantage*. New York: Free Press.

Porter, M., 1987. From competitive advantage to corporate strategy. *Harvard Business Review*, 65: 43-59.

Prahalad, C. & Bettis, R. 1986. The dominant logic: a new linkage between diversity and performance. *Strategic Management Journal*, 7: 79-91.

Prahalad, C. & Hamel, G., 1990. The core competence of the corporation. Harvard Business Review, May-June, 79-91.

Rumelt, R. 1984. Towards a strategic theory of the firms. In R. Lamb (Ed.) *Competitive Strategic Management*. Englewood Cliffs, NJ: Prentice-Hall.

Schuler, R., & Jackson, S., 1987. Linking competitive strategies with human resource management practices. *Academy of Management Executive*. 1: 207-219.

Singh, H. & Montgomery, C., 1987. Corporate acquisition strategies and economic performance. *Strategic Management Journal*, 8: 377-386.

Smith, K., Guthrie, J., & Chen, M., 1989. Strategy, size, and performance. *Organization Studies*, 10: 63-81.

Snell, S., 1992. A test of control theory in strategic human resource management: the mediating effect of administrative information. *Academy of Management Journal*. 35: 292-327.

Snell, S., & Dean, J. 1992. Integrated manufacturing and human resource management: A human capital perspective. *Academy of Management Journal*, 35: 467-504.

Terpstra, D., & Rozelle, E. 1993. The relationship of staffing practices to organizational level measures of performance. *Personnel Psychology*, 46: 27-48.

Venkatraman, N. 1989. The concept of fit in strategy research: Toward a verbal and statistical correspondence. *Academy of Management Review*, 14: 423-444.

Wernerfelt, B. 1984. A resource-based view of the firm. *Strategic Management Journal*, 5: 171-180.

Wernerfelt, B. 1989. From critcal resources to corporate strategy. *Journal of General Management*, 14: 4-12.

Wiersema, M., & Bantel, K. (1992). Top management team demongraphy and corporate strategic change. *Academy of Management Journal*, 35: 91-121.

White, R. (1986). Generic business strategies, organizational context and performance: An empirical analysis. *Strategic Management Journal*. 7: 217-231.

Woodard, J. (1965). *Industrial Organization: Theory and Practice*. Oxford: University Press.

Wright, P. & McMahan, G., 1992. Theoretical perspectives for strategic human resource management. *Journal of Management*. 18: 295-320.

Wright, P., McMahan, G., & McWilliams, A. (in press). Human resources and sustained competitive advantage: A resource-based perspective. *International Journal of Human Resource Management*.

Wright, P., McMahan, G., & Smart, D. (1993). Team cognitive ability as a predictor of performance: An examination of the role of SAT scores in determining NCAA basketball team performance. Working paper, Department of Management, Texas A&M University.

Wright, P. & Snell, S., 1991. Toward an integrative view of strategic human resource management. *Human Resource Management Review.* 1: 203-225.

Appendix A

Skills Listed for Importance in Recruits, and Team Ratings

1. Physical Strength

2. Athletic Ability

3. Speed/Quickness

4. Playmaking Ability

5. Endurance

6. Free Throw Shooting

7. Field Goal Shooting

8. 3-Point Field Goal Shooting

9. Rebounding Skills

10. Defensive Skills

11. Ball Handling Skills

12. Work Ethic

13. Intelligence

14. Competitive Orientation

15. Freedom from Disciplinary Problems

16. Team Concept

Appendix B

Items used in Coach's Performance Measure

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. (R)

Figure 1. The Interaction Between Team Strategy and
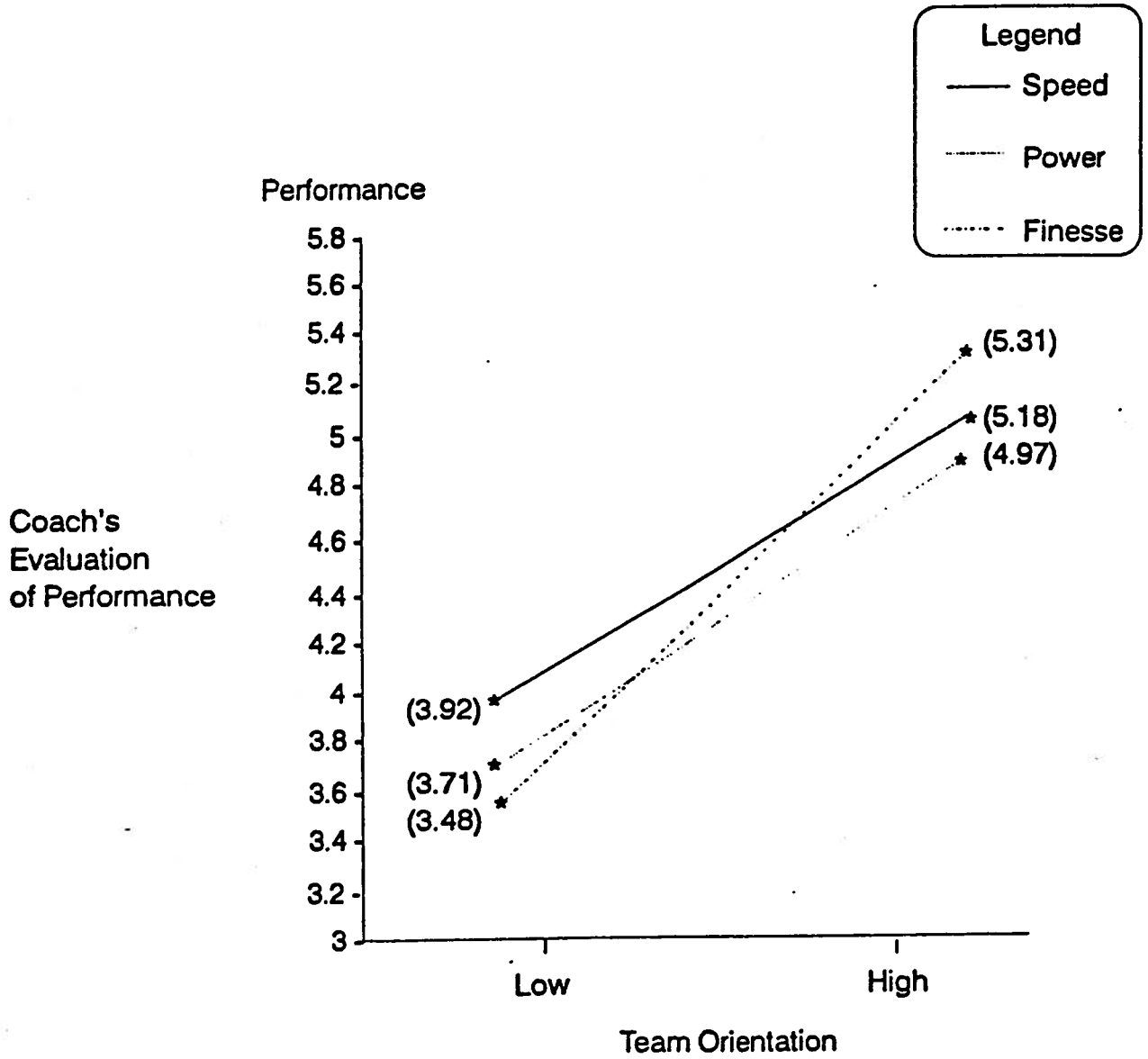Team Orientation in Determining Performance

Figure 2. The Interaction Between Team Strategy and Athleticism in Determining Performance.
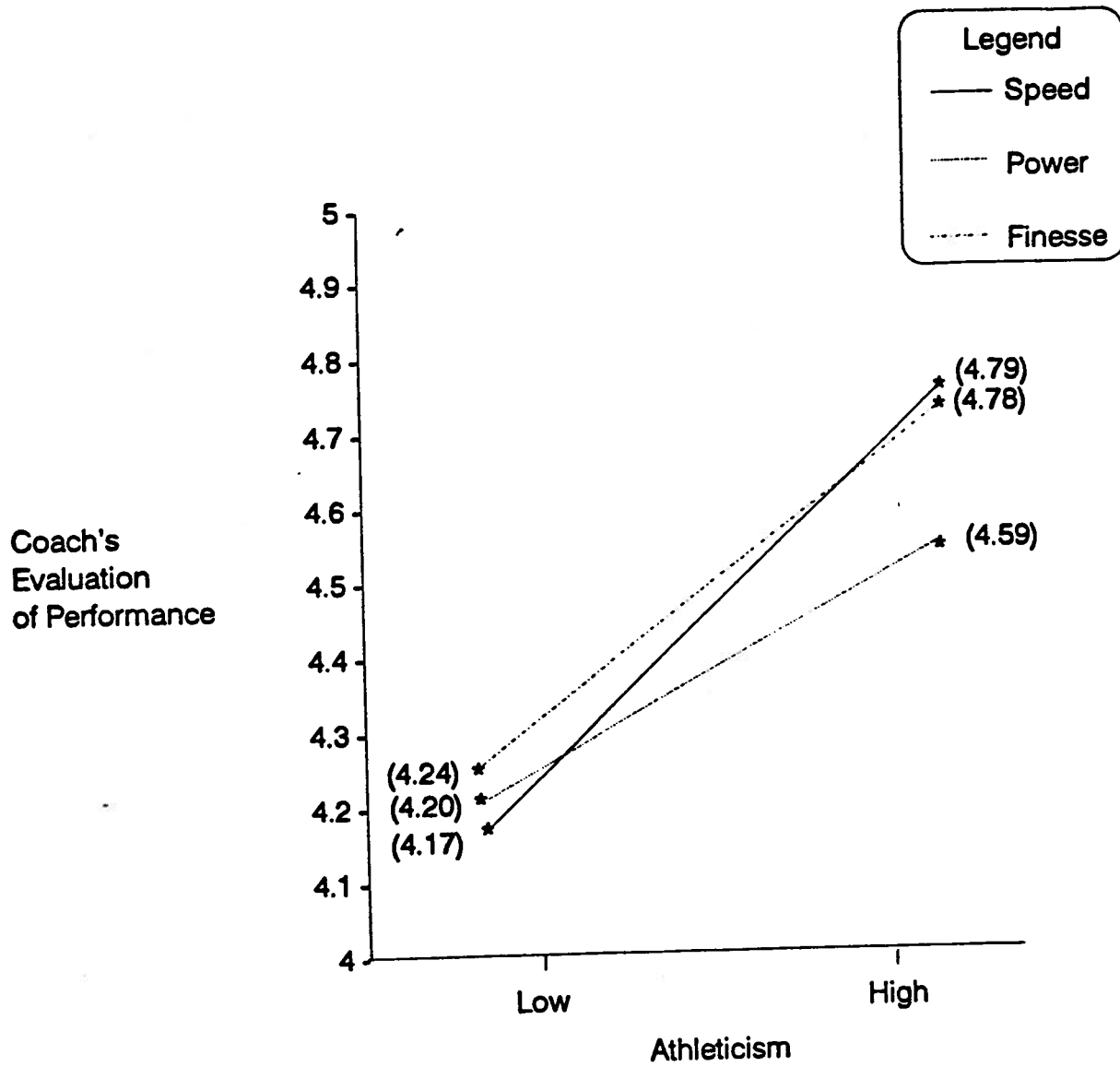
Figure 3. The Interaction Between Team Strategy and
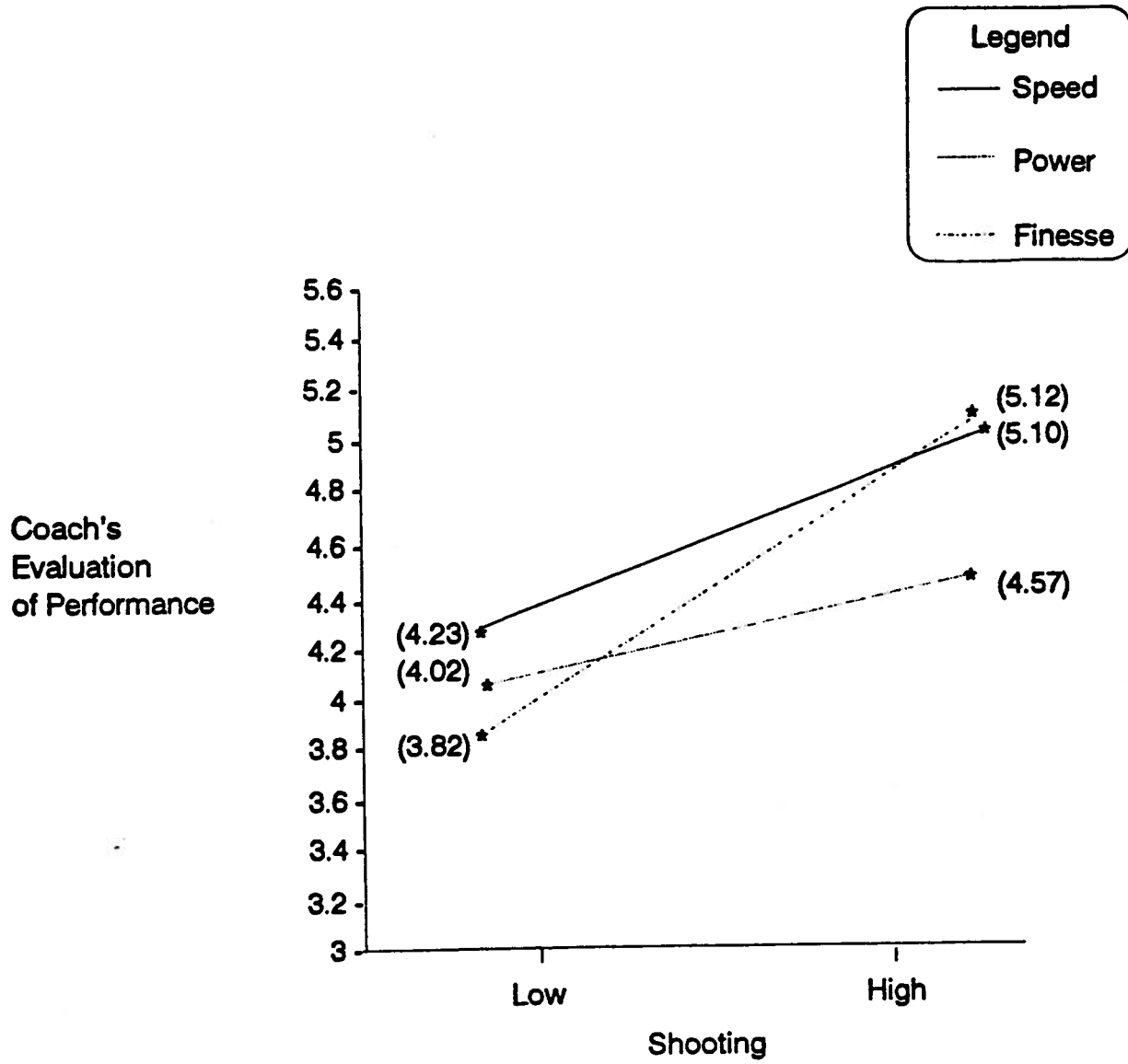Shooting in Determining Performance.

Figure 4. The Interaction Between Team Strategy and
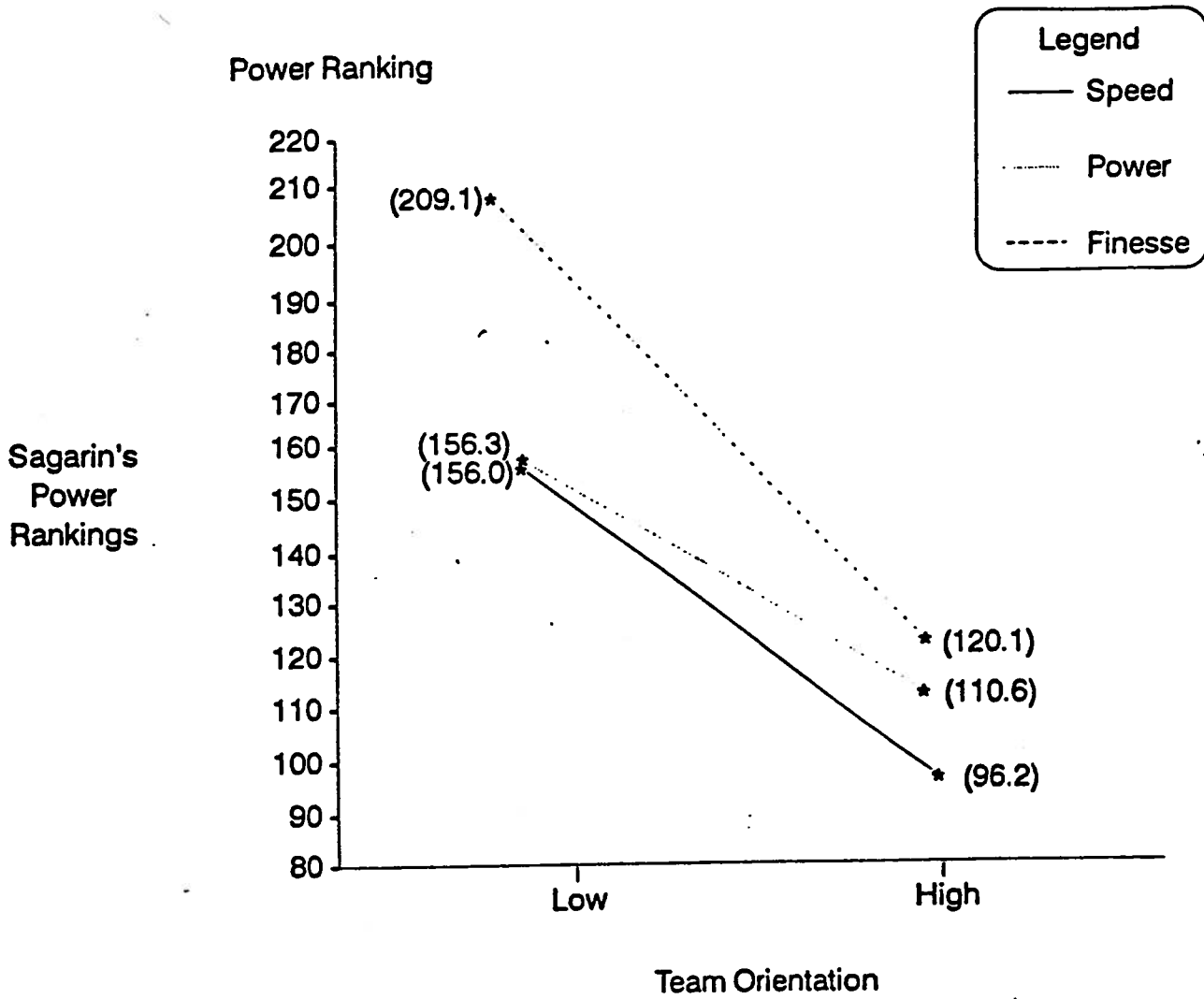Team Orientation in Determining Power Ranking.

Figure 5. The Interaction Between Team Strategy and
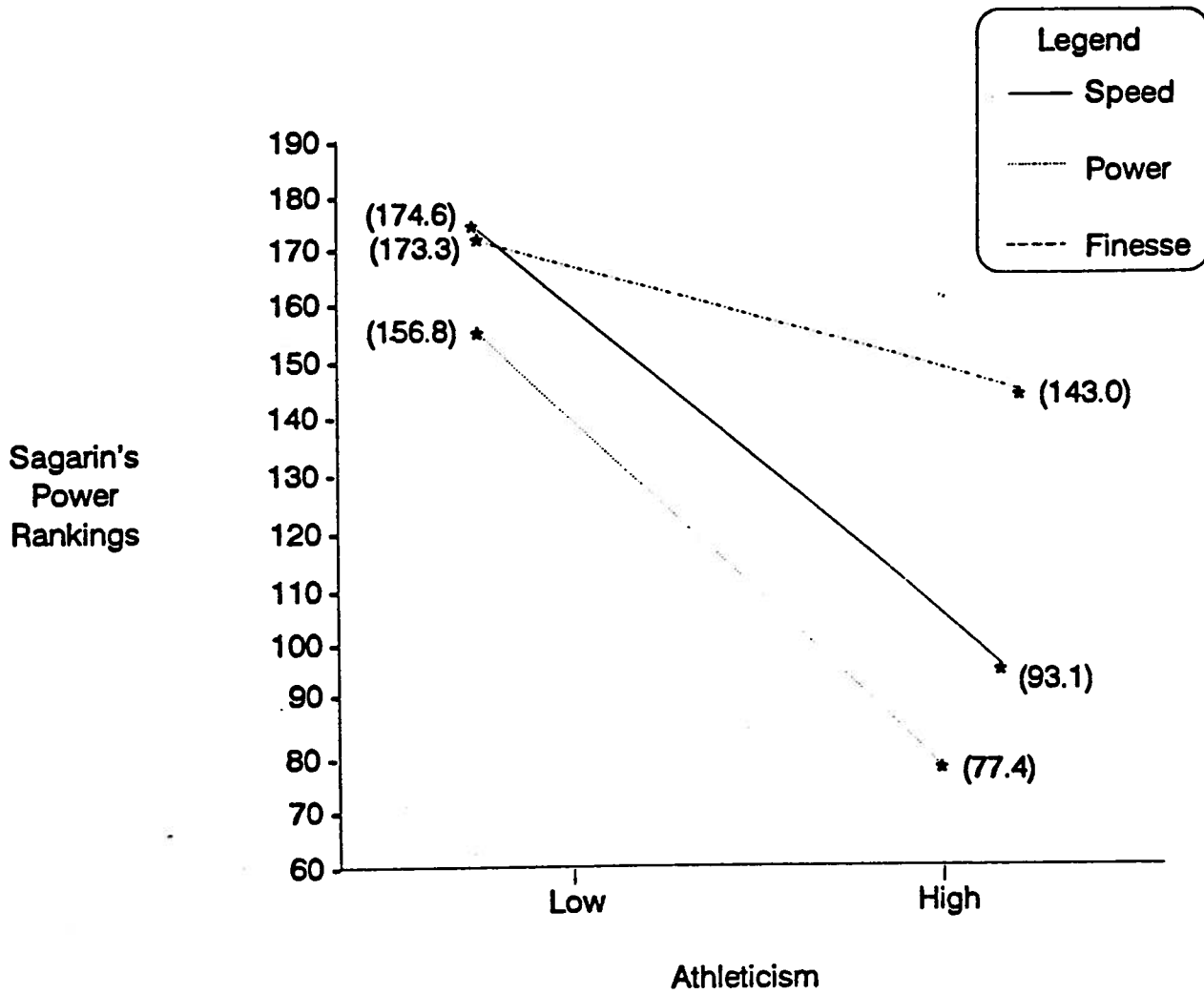Athleticism in Determining Power Ranking.

Figure 6. The Interaction Between Team Strategy and
Shooting in Determining Power Ranking