Examining Sustainable Competitive Advantage in Intercollegiate Athletics:
A Resource-Based View

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This paper addresses the determinants of intercollegiate athletic program success. We built our arguments on a recent development in the strategic management literature, the Resource-Based View (RBV) of the firm. Our purpose was to investigate the source of sustainable intercollegiate athletic program success. In making our arguments, we briefly reviewed the RBV literature and addressed appropriate success criteria for intercollegiate athletics programs. An exploratory investigation of Pennsylvania State University’s football program led to the conclusion that the resources responsible for its enduring competitive advantage are the history, relationships, trust, and organizational culture that have developed within the program’s coaching staff. An organization that possesses such organizational resources may sustain a competitive advantage by exploiting its human and physical resources more completely than other organizations. The paper concludes with discussions of the potential generalizability of our findings, their implications for theory and practice, and suggested future research directions.

University athletics is currently enjoying unprecedented popularity and appeal as indicated by attendance and media coverage (Thelin, 1996). As the popularity of intercollegiate athletics has grown, arguments regarding their university-wide benefits have been proposed. It is argued by some that athletics can have a positive influence on the general welfare of a university (Gerdy, 1997). Athletic success can contribute to institutional unity and loyalty (Beyer and Hannah, 1997), to an institution’s reputation, and, in turn, to student applications, enrollment, and fundraising (Adler & Adler, 1991; Shanley & Langfred, 1997).

Intercollegiate athletics, however, is not without controversy. Recent work by Funk (1991), Gerdy (1997), Sack and Staurowsky (1998), Sperber (1990), and

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Thelin (1996) has addressed the general issue of athletic-academic (im)balance. The purpose of this paper, however, was not to review or enter these debates, as they are addressed quite comprehensively in the literature noted above. Accepting the argument that athletic program success has the potential to contribute some benefit to universities, the purpose of this paper was to add to our knowledge of the source of competitive advantages within intercollegiate athletic programs.

We built our arguments on a recent development in the strategic management literature—the Resource-Based View (RBV) of the firm. This perspective of understanding strategic advantage has attracted the attention of a growing number of scholars from various theoretical schools of thought (Mahoney & Pandian, 1992). The RBV might, therefore, have something to offer those who study sport management. Our specific objective was to investigate the source of sustainable intercollegiate athletic program success. In order to do so, we addressed the following issues. First, the RBV and the notion of competitive advantage were linked, inexorably, to performance. In the corporate sector, evidence of a competitive advantage is associated with above normal economic performance (Barney, 1991). Since above normal economic performance and intercollegiate athletic program successes are not equivalent, we needed to establish the appropriate criteria for determining success within the context of intercollegiate athletics. Second, having determined appropriate criteria, we addressed what resources appear to contribute to sustainable competitive advantage within the context of intercollegiate athletics.

The remainder of this paper is structured as follows. In the next section we briefly review the RBV explication of competitive advantage. We then assess the extent to which the RBV contributes to explaining success in intercollegiate athletics. In doing so, we address success criteria within the context of intercollegiate athletics. We then present an exploratory investigation of Pennsylvania State University’s football program to determine what resources contribute to its competitive advantage. After comparing the resources of Pennsylvania State University’s football program to those of other programs, the paper concludes with discussions of the potential generalizability of our findings, the implications of our ideas for theory and practice, and future research directions.

**The Resource-Based View: A Brief Overview**

The RBV is a conceptually logical and appealing perspective that has gained considerable credibility and currency among strategy scholars. We make no attempt to provide a comprehensive overview of the RBV literature here as many excellent reviews exist (e.g., Barney, 1986a, 1991; Conner, 1991; Grant, 1991; Mahoney & Pandian, 1992; Peteraf, 1993; Amit & Schoemaker, 1993; Wernerfelt, 1984), including one that addresses the perspective within a sport management context (Amis, Pant & Slack, 1997). Our discussion is, therefore, brief; readers desiring more extensive background on the RBV should refer to the above referenced articles.

The RBV is often employed to provide explanation for competitive advantage and, in turn, superior performance among for-profit firms (Barney, 1991; Black & Boal, 1994; Collis & Montgomery, 1995). The RBV overcomes an important
limitation of previous models devoted to explaining and predicting the occurrence of competitive advantage (Conner, 1991). Rather than focusing predominantly on external opportunities and threats, the RBV broadened our focus by directing our attention internally to the role of organizational resources, including tangible and intangible resources and their attributes (Duncan, Ginter & Swayne, 1998; Hall, 1992).

Underlying the RBV approach is the assumption that a resource with the appropriate attributes may ensure, or at least contribute to, an enduring competitive advantage. The RBV stipulates that firms are endowed with heterogeneous bundles of resources and that competitive advantage accrues if, and only if, a resource or combination of resources is (a) valuable, (b) rare, and (c) imperfectly imitable (through duplication, substitution, or acquisition). Implicit in the third criterion (inimitability) is the notion of imperfect mobility (Hall, 1992; Peteraf, 1993). That is, the resource must be firm, specific, and not tradable. As suggested by Hall (1992), “even when one firm acquires another for the purpose of duplicating a competitive advantage generating resource, the acquiring firm cannot be certain that (it) will retain the intangible resources of know-how, culture, or networks” (p. 136).

Although authors have generated several lists of organizational resources that may contribute to organizational heterogeneity and, in turn, competitive advantage (e.g. Oliver, 1997; Hofer & Schendel, 1978), the elements of these lists can be classified into three broad categories: physical capital resources, human capital resources, and organizational capital resources (Barney, 1991; Mahoney & Pandian, 1992). To have the potential, however, of contributing to sustained competitive advantage a resource must have the following attributes (Barney, 1991, 1995):

1. It must be valuable in the sense of enabling an organization to exploit opportunities and/or neutralize threats. Resources that are valuable enable an organization to conceive of and/or implement strategies that improve its effectiveness.
2. It must be rare among current and potential competitors. A resource that is possessed by a large number of organizations will not be a source of competitive advantage.
3. It must be imperfectly imitable in the sense that competing organizations face cost and/or quality disadvantages in developing a duplicate of the resource or in developing an appropriate substitute for it.

**The Resource-Based View and University Athletics**

Although the focus of this research was on a RBV explanation of success in intercollegiate athletics, we briefly discuss the value of athletic programs to a university. If intercollegiate athletics can contribute to a university’s competitive advantage, applying the RBV to the athletic program gains in importance. As discussed in the following sections, our logic suggests that high performing individual athletic...
programs lead to higher performing athletic departments which, in turn, may enhance overall university performance both directly and indirectly.

**The Resource-Based View, Athletics, and the University**

Colleges and universities are finding themselves competing more aggressively for students and faculty and for the increasingly scarce monetary resources needed to provide a superior educational experience. In a competitive market place, organizations must constantly innovate to create new, and revitalize old, products and services, particularly when barriers to imitation and mobility are low. The RBV perspective suggests that many universities are competing for and with similar resources. For example, the high concentration of popular textbooks across disciplines, the increasing use of widely dispersed multimedia teaching material, and the rapid transfer of teaching methodologies mitigate against universities achieving competitive advantages.

Similarly, other academic resources are poor sources of competitive advantage. For example, suppose that an alumnus donates or bequeaths $20 million to a “lesser institution” and that the donation is used to hire faculty from other, “higher level” institutions. A distinctive capability has just migrated from one college to another. What may have been a source of competitive advantage or a distinctive competence is immediately lost. That is, faculty members are not imperfectly mobile sources of competitive advantage (Hall, 1992; Peteraf, 1993). The Appointments & Resignations section of the *Chronicle of Higher Education* provides ample evidence of the considerable movement of faculty across institutions. Given their mobility, competitive advantage, which is based on particular faculty, has the potential of being short-lived.

The RBV implies that sources of more enduring competitive advantages are often related to intangible resources such as organizational reputation, employee know-how, culture, and customer loyalty, since such resources are difficult to imitate and are likely imperfectly mobile (Barney, 1991, 1995; Hall, 1992; Mahoney, 1995; Peteraf, 1993). In turn, intangible resources (e.g., reputation, customer loyalty) may facilitate the acquisition of the more tangible resources (e.g., finances, personnel, equipment) that enable an institution to more effectively compete in a given environment. This argument is similar to Hall’s (1992) perspective in which he identifies intangible resources as the “feedstock” of capability differentials that ultimately may yield a competitive advantage. Gladden, Milne and Sutton (1998) develop a conceptual framework that articulates the antecedents and consequences of an intangible resource, brand equity, in the college sport environment. Gladden et. al (1998) argue that university athletics can contribute to brand equity, which in turn can contribute to positive intangible (university climate) and tangible (e.g., revenue due to merchandise sales and donations) outcomes for an institution.

Consistent with the above arguments, we suggest that intercollegiate athletics can contribute to the competitive advantage of a university. That is, athletics can positively influence a university’s climate, culture, and reputation and can
contribute to the loyalty of important constituencies (e.g., students, alumni, and legislators). Such resources (culture, reputation, loyalty) are intangible and, therefore, are difficult to imitate and not easily traded among institutions. Again, building on the arguments presented above, these intangible resources can facilitate the acquisition of more tangible resources (e.g., finances, faculty and other personnel, soft- and hardware, plant and equipment) that are necessary for a university to differentiate itself. That is, intercollegiate athletics can contribute to the feedstock of capability differentials that can ultimately yield a competitive advantage for universities.

Therefore, in contrast to the argument that university athletics is a drain on scarce resources, we posit that successful athletic programs can contribute to the competitive advantage of a university and can enhance the attainment of its mission in the areas of teaching, research, and service. University athletics programs, moreover, are consciously manageable assets that can help build intangible resources such as reputation, loyalty, pride, and commitment from salient stakeholders. Thus, the development of a more robust explanation of the source of competitive advantages within athletic programs may, indeed, facilitate improved university performance.

**The Resource-Based View and the Athletic Program**

Although the RBV can be applied at a number of levels of analysis within a university system (i.e., the university, the athletic department, specific athletic programs, etc.), we chose to address a specific athletic program. Levels of analysis issues should include consideration of the related issues of unit of analysis and assumptions concerning which aspects of a theory’s elements are treated “as an undifferentiated collectivity” and which are considered “smaller . . . substructures” (Pfeffer, 1982, p. 12). Each level of analysis, thus, can be viewed in terms of two units of analysis, either as a whole unit or in terms of the parts that make up that unit (Dansereau, Alutto, Yammarnino, 1984).

The RBV can be considered robust in the sense that its concepts are applicable to virtually any organizational unit. Furthermore, given that the application of the RBV to intercollegiate athletics is in its infancy, we believe that it was prudent to focus on “smaller substructures.” Our unit of analysis, therefore, was “the athletic program,” which refers to specific programs (e.g., the football program, the softball program, the gymnastics program) within an athletic department. We acknowledge that a successful intercollegiate athletic program, so defined, does not equate to a successful athletic department. We suggest, however, that a successful intercollegiate athletic program is a necessary (though not sufficient) ingredient of a successful athletic department. We address the implications of our choice of unit of analysis to practice and to future research in the discussion section below.

**Program Success**

Our purpose was to determine whether the RBV contributes to our understanding of intercollegiate athletic program success. As indicated above, in order to achieve
our purpose, we needed to first determine intercollegiate athletics’ parallel for the corporate sector’s above normal economic performance. While “intercollegiate athletic program success” has been addressed in the literature from a number of perspectives (e.g., Barber & Eckrich, 1998; Gladden, Milne & Sutton, 1998; Padilla & Baumer, 1994), there exists no definitive discussion of the meaning or elements of this concept. In recent work, Putler and Wolfe (1999) found that four program outcomes were significant determinants of stakeholder perceptions of intercollegiate athletics program success: (a) success on the “field” (operationalized as win-loss records); (b) student athlete education (graduation rates); (c) athletic program ethics (absence of NCAA violations); and (d) financial performance (financial surplus or deficit).

Other discussions of intercollegiate athletic program performance in the literature have also included these four attributes. In a study of the management and economics of intercollegiate athletic programs, Padilla and Baumer (1994) analyze relationships between program profitability and success on the playing field, graduation rates, and violations of NCAA rules. Baxter, Margario and Lambert (1996) propose that there are competing conceptions of what constitutes legitimate conduct in the realm of intercollegiate athletics: “one oriented primarily toward winning and profit, the other oriented more toward education and . . . competing in harmony with NCAA rules” (p. 52-53). In addressing the brand equity of intercollegiate athletics programs, Gladden, Milne and Sutton (1998) suggest that its determinants include success on the field, perception of academic rigor, program integrity, and fan support. Our framing of intercollegiate athletic program success is also consistent with the Knight Commission’s “one plus-three” recommendation. Concerned that “big-time college athletics . . . with increasing frequency . . . threaten . . . to undermine the integrity of . . . higher education (Knight Foundation Commission, 1991, p. vii), the Commission made the “one plus-three” recommendation which was designed to see that the difficulties in college sport be addressed. While the “one” refers to control of athletics by university presidents, the “three” in the model are: academic integrity, financial integrity, and certification related to admissions and academic progress (Knight Foundation Commission, 1991, p. vii-ix). The “three,” then, are consistent with the success attributes of program ethics, financial performance, and student athlete education, respectively.

Given Putler and Wolfe's (1999) findings, and the face and content validity support for their four attributes, it appears reasonable to describe the concept of intercollegiate athletic program success as being occupied by success on the field, student athlete education, athletic program ethics, and financial performance. Although this “composite of success” is not directly analogous to economic profits in the corporate sector, it does provide a context for exploring linkages between resources and performance in intercollegiate athletics. It should be noted that the relative weighting of the four criteria can vary from university to university. Moreover, such weighting will depend on the priorities of salient stakeholders (Putler & Wolfe, 1999). This issue is addressed further below where we discuss theoretical and practical implications of applying the RBV to intercollegiate athletics.
Having briefly reviewed the RBV and having discussed success criteria within the context of intercollegiate athletics, we now turn to our primary purpose—assessing the extent to which the RBV contributes to explaining success in intercollegiate athletics. To do so, we conducted an exploratory investigation of Pennsylvania State University’s football program.

**The RBV and Pennsylvania State University’s Football Program**

Prior to examining the resource attributes that might contribute to competitive advantage in athletic programs, we briefly describe Pennsylvania State University’s (PSU) football program during 1990s. Arguably, PSU’s success has been sufficiently strong so as to indicate an enduring competitive advantage. PSU’s football team wins within a context of ethical integrity and a concern for the education of the student athlete and does so in a financially sound manner. The following considers each attribute of athletic program success:

1. Wins. PSU has won 96 of its 122 games (79%) in the 1990s; this represents the 6th highest winning percentage among the 112 Division I-A football programs during 1990s.
2. Student athlete education. The average Division I football player graduation rate since 1991 is 50.8%; PSU’s is 73.6% (NCAA, 1998).
3. Athletic program ethics (absence of NCAA violations). During the past two decades, 50% of Division I-A institutions have been sanctioned at least once by the NCAA. Moreover, there has been a trend of increased violations; the average number of Division I-A institutions under NCAA penalty each year has grown from 9 in the 1970s to 16 in the 1980s (Frey, 1994). As of July 1997, 23 of the 112 Division I-A institutions were on NCAA probation. Pennsylvania State University’s football program has never been sanctioned by the NCAA.
4. Financial performance. We used attendance as a proxy here; PSU’s average home attendance of 96,500 was third highest among Division 1-A football programs in 1998.

In an effort to illuminate the attributes of resources that contribute to the competitive advantage of an intercollegiate athletics program, we addressed each (value added, rarity, imitability) within the context of PSU’s football program. As in Barney (1995), each attribute was addressed as a question. We begin our discussion with physical resources and then move on to human (players and coaches) and organizational resources.

**Physical Resources**

Do PSU’s physical resources add value by enabling the organization to exploit opportunities and/or neutralize threats and by contributing to the formulation and implementation of strategies that improve the football team’s effectiveness? PSU’s
physical resources (e.g., its stadium, training facilities and equipment, dormitories, information management systems for recruiting and game analysis) are leading edge as exemplified by the 90,000-square-foot Lasch Football Building, which opened in July, 1999 (Layden, 1999). This all-inclusive facility includes state-of-the-art equipment and technology in its 10,000 square-foot weight training room; video production room; auditorium; team meeting rooms; medical testing, treatment, and rehabilitation areas; and academic support areas. Such physical resources contribute to recruiting excellent athletes, to improving athletes’ skills while at PSU, and to analyzing PSU and opponents play-calling tendencies. These resources, therefore, add value by enabling the team to exploit opportunities, neutralize threats, improve effectiveness, and, thus, contribute to the performance of the team.

Are PSU’s physical resources rare? How many competing organizations possess equivalent or similar physical resources? If numerous competing teams have equivalent or similar resources, then those resources will not be a source of competitive advantage. In general, physical assets, be they computers, other types of equipment, or facilities, are not sources of sustained competitive advantage because they usually can be purchased (Barney, 1991, 1995). If one university can purchase and/or build certain facilities and systems (e.g., stadiums, training facilities and equipment, dormitories, information management systems for recruiting and game analysis), so can much of their competition. This is particularly true given the budgets of many Division I-A athletic programs. The annual budget of a typical “big-time” athletics program, the 75 or so universities with the largest intercollegiate athletic budgets and the greatest media visibility, is between $15 and $20 million; these budgets have been increasing by nearly 20% per year since the 1970s (Padilla & Baumer, 1994).

While competitive advantage only accrues to teams that have valuable and rare resources, we do not mean to dismiss common though valuable resources as unimportant. Instead, valuable but common resources (physical resources in the case of PSU) can help create competitive parity. Moreover, while not the source of sustainable competitive advantage, appropriately exploited, valuable but common resources can contribute to an organization’s competitive advantage (Barney, 1991); this, as discussed below, has been the case at PSU.

Though PSU’s physical resources are valuable, they are not rare. These resources, therefore, are not the source of PSU’s sustained competitive advantage. There is no need, therefore, to analyze imitability, the third attribute that must be considered in assessing a resource’s potential to contribute to competitive advantage. We therefore move on to assessing the potential of PSU’s human resources contributing to its sustained competitive advantage in football.

**Human Resources**

Do PSU’s human resources add value? Do PSU’s players or coaches provide a strategic advantage? Are the players that PSU recruits faster, quicker, stronger, and more athletic than those recruited by opposing schools? Compared to coaches at opposing universities, do PSU’s coaches conduct better drills and practices;
formulate better plans, strategies, and tactics; and make better game day adjustments?

What does the data say about players and value added? When one reviews the recruiting classes of PSU between 1989 and 1998, one finds that they are rank very well among the 112 Division I-A schools. Over the last five years, PSU’s recruiting classes have been ranked in the top 10 three times and have had an average rank of 6.6 in The Sporting News’ ranking of recruiting classes. Moreover, when one considers All-American choices (11 first team, 4 second and third team) and National Football League (NFL) draft choices (54) during the 1990s, one sees that PSU’s players over the years have been excellent and have been valuable in the sense that they contribute to the implementation of strategies that improve the team’s effectiveness on the field.

It is more difficult to make an assessment of the value added of coaches. We can, however, address the likelihood of coaching drills, plans, strategies, and approaches to communication and motivation contributing to value added. Joe Paterno has been a coach at PSU for 49 years, the last 33 as the head coach. The average collegiate football coaching experience among PSU’s nine full-time assistants is 19.7 years, ranging from 3 to 33. Pennsylvania State University coaches have spent more time on PSU’s staff than have coaches on any other of the 112 Division I-A schools. We see then that PSU’s coaches have a great deal of experience. Moreover, they have been the recipients of a number of major awards from external bodies that indicates external recognition of coaching expertise. For example, Head Coach, Joe Paterno, has been voted Coach of the Year by the American Football Foundation four times, and Offensive Coordinator, Fran Ganter, and Defensive Coordinator, Jerry Sandusky, have both won National Assistant Coach of the Year honors. Given the coaches’ years of experience and their external recognition, it is reasonable to assume that PSU’s coaches do add considerable value to the team.

Are PSU’s human resources rare? How many competing organizations possess equivalent or similar human resources? Rareness can be addressed from both empirical and theoretical perspectives. With 112 Division I-A football programs, each with 100 scholarships, there are 11,200 Division I-A football players at any one time with sufficient talent to have been offered, and to maintain, an athletic scholarship. Of course, there exist many very talented players at the Division I-AA level as well. It is evident, therefore, that players with the ability to play intercollegiate football are not rare. The most talented university football players are drafted by the NFL. As indicated above, 54 PSU players have been drafted in the 1990s. This is 2.4% of the 2,270 plus players drafted during this time period. The very best football players play in the NFL. Of the 1,780 players on NFL rosters at the mid-way point of the 1999 season, 34, or 1.9%, are PSU graduates. Based on these numbers, we see that while PSU’s coaching staff has been effective in recruiting excellent football players, such players are not rare.

What does theory say about players and rareness? In an effort to explain sustainable competitive advantage with a synthesis of institutional and resource-based perspectives, Oliver (1997) argues that institutional pressures can work against
organizational heterogeneity and, in turn, competitive advantage. Regulatory environments constrain heterogeneity by prescribing uniform resource standards. The NCAA, of course, does impose a regulatory environment with similar resource standards for all teams at the same level of competition. A university has a maximum number of players it can have on scholarship. Players must have the same (minimum) high school academic preparation, maintain the same academic standards while in university, cannot move freely from one university to another, and can only play for a given number of years. We see then that due to the number of quality players available, and to the regulatory environment in which college football teams operate, there are clear limits on the extent to which a university can use players as the resource to gain a sustainable competitive advantage.

We considered coaches first from an empirical perspective. With 112 Division I-A football programs, there are 112 Division I-A head football coaches and 1,100 assistant football coaches at any one time. As is the case with players, there are, in all likelihood, many excellent coaches at other levels of competition.

From a theoretical perspective, there are institutional pressures that work against a team's key coaching competencies (e.g., drills, strategies, game day adjustments) being rare and contributing to organizational heterogeneity and, in turn, to a competitive advantage. Oliver (1997) argues that inter-organizational linkages and relations facilitate information exchange. The vast majority of intercollegiate teams have strong inter-organizational linkages and relations via conference memberships and coaching associations. Oliver argues further that key competencies residing with a particular individual become "tradable" through human capital transfers between organizations, or in the case of intercollegiate athletics, via the recruitment of coaches from the competition. Such movement tends to occur with great frequency among coaches. Consequently, individual coaches' skills and "strategies" are not imperfectly mobile. This reduces the rareness of competencies that reside within individuals and their asymmetrical distribution across teams and, thus, reduces team heterogeneity and opportunities for competitive advantage.

Social and professional relations among coaches, sharing game films, and scouting opponents also contribute to the "porous" nature of proprietary coaching competencies. Resource differences leading to team heterogeneity and sustainable competitive advantage are most likely when there are few inter-team relations and linkages and when personnel mobility across teams is low (Oliver, 1997); these conditions do not hold in the case of coaches.

While PSU's human resources are not rare, we do not mean to dismiss them as unimportant. Instead, valuable human resources (players and coaches) can help create competitive parity. And, as in the case with physical resources, appropriately exploited valuable though common human resources can contribute to an enduring competitive advantage as has been the case at PSU. Since PSU's human resources are valuable but common, they are not the source of PSU's sustained competitive advantage. We thus did not analyze the imitability of this resource but assessed the potential of organizational resources to contribute to PSU's sustained competitive advantage.
Organizational Resources

"Organizational resources include the history, relationships, trust, and organizational culture that are attributes of groups of individuals associated with a firm" (Barney, 1995, p. 50). This "group of individuals" is PSU’s coaching staff. There are bases in the literature for focusing on the coaching staff in addressing organizational resources. Top management teams, coaching staffs in our context, can be central determinants of sustained competitive advantage. They can provide a key ingredient of organizational capability—the ability to achieve cooperation and coordination within teams and to infuse values and norms throughout the organization (Mahoney, 1995). Hall (1992, p. 142), in his reference to Aaker (1989), describes “the route to a sustained competitive advantage as being a process of managing assets (intangible and tangible), and skills.” As argued by Mahoney and Pandian (1992, p. 365), “top management . . . can be a significant and distinctive resource. . . . A firm may achieve (superior performance) not because it has better (physical or human) resources, but rather the firm’s distinctive competence involves making better use of its resources.”

Do organizational resources, i.e., “history, relationships, trust, and organizational culture” (Barney, 1991, p. 50), as they relate to PSU’s coaching staff, add value? As noted above, PSU’s coaches have a great deal of experience and have been the recipients of a number of awards from external bodies indicating external, objective recognition of their coaching expertise. It is thus reasonable to assume that its coaches add value to PSU’s football program. As argued earlier, however, coaches cannot be the basis of sustainable competitive advantage since they are not rare. The question is whether the collective coaching staff as an organizational resource, as opposed to the individuality of each coach’s skill and experience, can be viewed as the basis of an enduring competitive advantage.

Joe Paterno has been the head coach at PSU for 33 years; prior to that he was an assistant coach at PSU for 16 years. Coach Paterno’s “beyond wins and losses” philosophy is consistent with the definition of intercollegiate athletics success presented earlier and is echoed in the mission statement of PSU’s Athletic Department. Among PSU’s nine full-time assistant coaches, six are graduates of PSU, four have been on the staff for at least 20 years, and two others, for more than 10 years. As argued by Schein (1984), the strength and degree of consistency of a culture are a function of the stability of a group, the clarity and strength of values held by its leaders, as well as the intensity of its shared experiences. Given the considerable time the core of the staff has spent together, Paterno’s strong values, and the difficult competition and challenges coaching staffs endure together, a very strong culture has emerged within the staff.

The coaching staff’s long tenure contributes other, more direct strategic advantages. Turnover necessitates training new coaches and paying attention to their integration. These activities occupy the time and attention of existing coaches; at PSU this time and attention can be devoted to strategic analyses, formulation, and implementation (Mahoney, 1995). What does RBV theory imply about PSU’s coaching staff and value added? As argued by Barney (1991), a closely knit, highly
experienced management team and a strong, appropriate, organizational culture can be sources of sustained competitive advantage because they are socially complex and, thus, are likely imperfectly imitable.

Are PSU’s organizational resources rare? How many competing organizations possess equivalent or similar resources? As one can see from the description of PSU’s coaching staff presented above, average tenure among PSU staff members is very high. Such coaching staff stability is extremely rare. Joe Paterno has been the head coach at PSU longer (33 years) than any other coach has ever been the head coach at a Division I-A school. During the time Joe Paterno has been head coach at PSU, there have been an average of 5.9 head coaching changes at other Division I-A schools. Considering PSU’s entire coaching staff, its tenure and turnover are quite atypical among Division I-A staffs; PSU’s staff ranks number one among the 112 Division I-A schools in terms of total years coaches have spent on its staff (189 years). This is 14% more than Brigham Young University, which ranks number two and 29% more than West Virginia University, which ranks number three. Given the unparalleled time members of PSU’s football staff has spent together, Joe Paterno’s strong sense of values, the challenging times football coaching staffs face together, and Schein’s arguments concerning organizational culture, it is reasonable to assume that the relationships, trust, and culture of PSU’s staff are very strong and, indeed, rare.

Are PSU’s organizational resources imitable? Do competing teams face a disadvantage in imitating, via duplication and/or substitution, PSU’s valuable and rare organizational resources? If so, PSU can obtain a competitive advantage. While it is low, turnover among PSU’s coaching staff does occur. Is this a threat to the nonimitability of this resource? Personnel transfers are limited as a means of obtaining competencies when skills and competencies are not vested in single individuals, but reside instead within a collective set of individuals or within special routines embedded broadly in an organization (Oliver, 1997). The attributes of PSU’s football coaching staff mentioned above (e.g., history, relationships, trust, and organizational culture) are socially complex resources that are not vested in any one coach. Personnel transfers, then, would not lead to duplication of this source of competitive advantage. Organizational resources are determined by managers’ past decisions and tacit understandings derived from their experiences. The development of these resources, therefore, is dependent upon an organization’s history. A further reason for organizational resources being imperfectly imitable, then, is their unique history (Barney, 1991, 1995; Mahoney, 1995).

In summary, we suggest that the resources that led to PSU’s competitive advantage are what Barney (1991) categorizes as organizational capital resources. Several organizations may possess equivalent human and physical resources, but it can be that only one possesses the organizational capital resources to fully exploit its physical and human resources. In the case of PSU, relevant organizational capital resources are the history, relationships, trust, and culture that have developed within the program’s coaching staff over many years. Such complex and interdependent organizational resources tend not to be subject to imitation. An
organization may obtain a sustained competitive advantage by applying its organizational resources in a manner that exploits its human and physical resources more completely than other organizations (Barney, 1991). We suggest that this dynamic among resources explains PSU’s enduring competitive advantage.

**Resources That Determine Success—Comparing Football Programs**

Having deduced that the competitive advantage associated with Pennsylvania State University’s football program is a function of the organizational resources manifested within its coaching staff, it may be instructive to compare PSU with other, less successful programs. Consistent with Rouse and Daellenbach’s (1999) suggestions for RBV studies, we chose a small number of performance differentiated programs that are comparable in the sense that they share important attributes. In an effort to control for extraneous influences, and thus increase the comparability of the programs, we compared three football programs which, while differing on our success criteria, operate within similar contexts. Each university is the largest public university in its state, is of similar size (number of students: 35,000–40,500), and competes in the same conference (the Big Ten). The two football programs we compared to PSU’s were those of the University of Illinois (UI) and the University of Minnesota (UM). A comparison of the performance of the three programs in each success criteria is presented in Table 1. Reviewing these outcomes indicates that PSU has had a more successful program than the other institutions. PSU’s football team dominates one of the programs, UM, in three areas (success on the field, financial performance, and student athlete education) and is equal in one (program ethics). Pennsylvania State University’s football team dominates UI’s program in two areas (success on the field, financial performance), is slightly better in one (student athlete education), and is equal in one (program ethics).

Reviewing the recent past of UI’s football program, we find that there have been three head coaches within the past decade. This means that the Illinois had, essentially, three different coaching stiffs during this time period because when

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<td>Win%</td>
<td>79%</td>
<td>32%</td>
<td>42%</td>
</tr>
<tr>
<td>Finances**</td>
<td>96,500</td>
<td>41,800</td>
<td>53,500</td>
</tr>
<tr>
<td>Graduation</td>
<td>74%</td>
<td>45%</td>
<td>73%</td>
</tr>
<tr>
<td>Ethics***</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Average for the 1990s; **attendance as proxy; ***major violations of NCAA rules.
there is a change of a head coach, there tends to be a relatively complete change of the staff. For example, UI's 1999 coaching staff of 10 includes just one coach who had been on the previous staff. The coaching staff situation for UM is almost identical as there have been three head coaches within the decade. UM's 1999 coaching staff has only one holdover from the previous staff.

These clear differences between the coaching staffs of PSU and the other two universities strongly suggest that the levels of trust and teamwork and the strength of culture and commitment to values which have developed within PSU's coaching staff could not have developed in the other two coaching staffs. While further empirical research is certainly necessary, the comparisons between PSU and other programs are supportive of the notion that PSU's competitive advantage is tied to the organizational resources of its coaching staff.

In addition to our preliminary findings being supported by these comparisons across programs, they are also consistent with arguments in the recent RBV literature. They are supported by Oliver's (1997) argument that sustained, competitive advantage is determined by both resource and institutional capital. Oliver proposes that resource capital is composed of the value enhancing assets and competencies of an organization (physical and human resources in PSU's case), while institutional capital (organizational resources in PSU's case) refers to an organization's capability to effectively exploit its resource capital. Rouse and Daellenbach (1999, p. 489) argue "that sustainable advantages are organizational in origin, tacit, highly inimitable, socially complex, probably synergistic . . . and often driven by culture." More directly related to the source of sustainable competitive advantage being the organizational resources of a management team, or coaching staff, Mahoney (1995, p. 92) argues, "the catalyst for the resource-based theory is the resource of management . . . the experience of management will affect the productive services that all its resources are capable of rendering. . . . A firm may achieve (superior performance) not because it has better resources, but rather the firm's core competencies involve making better use of its resources."

**Implications for Theory and Practice**

A number of RBV intercollegiate athletics research directions are worthy of pursuing. Given that studying intercollegiate athletics from a RBV is in its infancy, we believe that it is more appropriate to suggest general research directions than to offer specific research propositions. The research directions we suggest have theoretical and related practical implications; much of the latter, however, must remain tentative until further empirical study is completed.

There are a number of ways that the findings of this preliminary study—i.e., organizational capital resources lead to the sustainable competitive advantage of intercollegiate football programs—can be further evaluated. For example, the explanatory power of the organizational resources (of coaching staffs) contributing to sustainable competitive advantage can be compared to that of human resources (players). This could be accomplished by relating (a) proxies for coaching staff
organizational resources (e.g., years of coaching at a focal university, consistency of coaching philosophy with criteria for intercollegiate athletic success) and (b) proxies for human (player) resources (e.g., recruiting class ratings, All-Conference selections, All-American selections, NFL draft choices) to (c) team success and assessing which explains more of the variance.

Another extension of the research reported here would be to study other intercollegiate sports. Our findings may be sport specific. That is, our conclusion may be supported in the sports of football and basketball that tend to generate revenue, but less so in other sports. There are substantially greater financial resources in the revenue generating sports, often referred to as the “major” sports (i.e., NCAA Division I football and basketball). Financial resources are necessary for physical resource imitation. In addition, there exist stronger institutional pressures against human resource asymmetry in the major sports. If we are correct in proposing that physical and human resources will tend toward homogeneity in the revenue sports, competitive advantage will arise as a result of organizational resources that are socially complex and, therefore, very difficult to imitate.

Conversely, less visible sports (e.g., soccer, fencing) and newer intercollegiate sports (e.g., bowling) will have substantially fewer financial resources and will have weaker institutional pressures than the revenue sports. Fewer financial resources and weaker institutional pressures can result in greater physical and human resource heterogeneity in non-revenue generating sports. We address the potential influence of financial resources and institutional pressures in turn. As argued earlier, physical assets tend not to be sources of sustained competitive advantage because they usually can be purchased. This is particularly so in the case of major sports where if one university can purchase and/or build certain facilities and systems so can much of their competition. We believe, therefore, that our argument concerning the effects of financial resources on physical resources (i.e., sufficient financial resources can “even the playing field”) is intuitively obvious. We do expand, however, on our thoughts concerning the effects of institutional pressures.

Contrary to our thinking, one might argue that the greater rewards available for players, coaches, and universities would result in the likelihood of violations and, in turn, the potential for human resource heterogeneity, being greater in the revenue generation sports. Countering this perspective, however, is the argument we adopt, one based on the RBV of strategic advantage. While virtually all sports operate within a regulatory environment (NCAA or NAIA), differing visibility can lead to differing societal pressures and expectations that proscribe the acceptability of athletes and coaches who, while they might be exceptional talents, have questionable backgrounds. We do not suggest that athletes and coaches of this type are not found in major sports. However, we do suggest that, all else being equal, the visibility of the major sports will lead to greater consideration of whether or not to accept student athletes and coaches with problematic personal histories. Being less affected by such societal pressures results in greater potential for human resource heterogeneity in non-revenue sports. Further, information asymme-
try concerning human resources (i.e., potential recruits) is considerably less in the major sports. This is due to the various organizations and media that provide sophisticated high-school player scouting and assessment services in the major sports.

For these reasons (i.e., differing financial resources, societal pressures, information concerning potential recruits) we believe that the distribution of physical and human resources across teams will be more asymmetrical in non-revenue sports. Thus, physical and human resources will contribute more to team heterogeneity and to potential competitive advantages in non-revenue sports. This proposition, of course, remains to be tested in future research.

A logical extension to studying other intercollegiate sports would involve an expansion of the unit of analysis adopted in this paper. That is, rather than studying a specific athletic program (e.g., a football program), one could study the athletic department (AD). In doing so, the researcher would have to consider the definition of success for ADs, determine which performance differentiated ADs to study, and then conduct an analysis of their resources to assess which, if any, resources appear to explain the performance differences.

A further direction for future research and theoretical development has to do with a concept on which we based much of our analyses—the meaning of intercollegiate athletic program success. We defined such success as success on the field, student athlete education, athletic program ethics, and financial performance. From a RBV perspective, however, it must be recognized that the meaning of success may vary among institutions.

There are some interesting theoretical and pragmatic implications of institutional specificity as it relates to desired program outcomes. As a theoretician/researcher, one must be sensitive to institution-based goal specificity. We cannot assume that one RBV model (e.g., physical and human resources do not tend to determine sustainable athletic program superiority while socially complex, organizational resources do) can be applied when comparing and trying to explain the performance of programs that have different objectives.

Practitioners (coaches, athletic directors) must have a good sense of what their institution's priorities concerning athletic success are to best understand what resources are available to them. Also, a university president limiting athletic program priorities to winning on the field and financial performance must consider the potential implications of such priorities for a very important intangible university resource—its reputation (Shanley and Langford, 1997). Can a program with such priorities be used for competitive advantage and, if so, to what ends?

Another issue related to intercollegiate athletic program success should be addressed in future research. This has to do with the operationalization of its elements, most particularly, financial performance. We feel comfortable that the use of attendance as a proxy for financial performance is appropriate for this paper. Given the criteria scores as presented in Table 1, it is quite clear that PSU dominates the other programs on our success criteria. We are confident, therefore, that the outcome of our exploratory investigation has not been influenced by the use of attendance as a proxy. The extent to which attendance is related to financial
performance remains an empirical question, however. Until that question is answered, future research should be more comprehensive and include program revenues (e.g., from attendance, sponsorship, television rights, gifts from alumni and others) and related costs in assessing financial performance.

Unfortunately, however, information concerning a number of such outcomes (sponsorship, gifts from alumni and others, various costs) is often considered proprietary. Future studies that keep the identity of participating universities confidential could be successful in gathering this data. However, as discussed by Goff (2000), while it might be possible to gather such information, given that there are no related reporting standards, comparing the information across universities will have to be done with care.

A final suggested direction for theoretical consideration and development has to do with our conclusion that PSU’s competitive advantage is a result of socially complex organizational resources. This finding is not atypical as the RBV relies heavily on the notion of causal ambiguity and/or social complexity (Reed and DeFillippi, 1991). While idiosyncratic, socially complex organizational resources can result in sustained superior performance, few such resources have been studied in detail from a resource-based perspective because they are, by definition, very difficult to assess (Rouse and Daellenbach, 1999). As Rouse and Daellenbach (1999) state: “(t)he point is a deceptively simple one: sources of advantage buried in organizational effects can only be uncovered, and an integrated understanding can only be achieved, by doing research actually in organizations” (p. 490). We agree with these authors that in-depth case studies involving semi- or unstructured interviews and unobtrusive observation offer a promising approach to develop in-depth knowledge and understanding of the tacit, socially complex resources that tend to lead to sustained competitive advantage.

The difficulty of uncovering and understanding social complexity is not limited to researchers; it is faced by practitioners as well. The concept of social complexity, while often contributing to competitive advantage, may provide questionable pragmatic value to organizational leaders charged with the responsibility of developing competitive advantages (in sport and other domains). Clearly, social complexity reduces, or even eliminates, the potential for imitation. In addition, however, it is also difficult for incumbents in an organization with such advantageous resources to fully understand the mechanisms of this source of competitive advantage. Thus, the very thing that increases sustainability of a competitive advantage may prevent organizations from maintaining its advantage following significant changes in the organization’s environment or in its leadership. Understanding that an organizational culture with certain attributes or quality relations among managers can improve a firm’s effectiveness does not necessarily imply that organizations can engage in systematic efforts to create these attributes (Barney, 1991). As McWilliams and Smart (1995) argue, causal ambiguity and/or social complexity have the effect of transforming important aspects of an organization into the traditional economic concept of a “black box”; the challenge then becomes one of understanding and managing that black box.
Given this challenge, what contribution might this paper make to the practitioner—the coach, athletic director, or university president? The first step that is necessary for understanding and managing the black box of organizational resources, identifying the contents of the black box—is addressed in this paper. A related issue of pragmatic importance concerns what the practitioner can do with our preliminary finding that sustained competitive advantage in intercollegiate athletics is determined by the organizational resources (culture, history, relationships, trust) of its coaching staff and that these resources result, to a great extent, because of staff longevity.

Must an athletic program wait a number of decades for its coaching staff to develop the type of organizational resources that contribute to PSU’s success? Our answer is no. While a period of time is necessary to enable a coaching staff to develop a philosophy, culture, and relationships that will contribute to sustainable success, decades are not necessary. Just as efforts can be made to manage and develop an appropriate culture in the corporate setting, so too can such efforts be applied in intercollegiate athletics. Schein’s seminal work (e.g., 1990, 1992) is relevant here as is other work addressing such intangible organizational resources as trust (Jones and George, 1998; Wicks, Berman, & Jones, 1999), relationships, commitment, and teamwork (Landen, Bluestone, & Lawler, 1995; Lawler, 1992).

Considered at their simplest, the findings and arguments presented in this paper suggest that organizational resources of coaching staffs determine sustained competitive advantage in intercollegiate athletics. The paper’s findings and arguments, however, are meant to be considered at a more profound level, otherwise one might protest this obvious finding. We suggest, however, that the paper has more profound implications than suggested by this surface interpretation. Our findings and arguments do a lot more than suggest that appropriate values, relationships, and culture within a coaching staff are essential contributors to success. Ignored in such an interpretation is our parallel finding that physical and human resources are not the determinants of sustained competitive advantage in major, revenue generating, intercollegiate sports. In addition, we suggest how recent organizational literature addresses developing appropriate organizational resources without the necessity of waiting decades for them to evolve and how our findings might vary in different intercollegiate athletics contexts.

While intercollegiate athletics has attracted considerable attention in the sport management field, we are aware of no previous research that addresses intercollegiate athletics from a resource-based strategic perspective. As stated earlier, this perspective of understanding strategic advantage has attracted the attention of a growing number of scholars, and it might have the potential to inform our understanding of sport organizations. We believe that our study indicates that the RBV has this potential.

References


Notes

1 As we acknowledged and addressed in some detail in our discussion of future research directions, the extent to which attendance is related to financial performance remains a question to be addressed in future research. As argued, however, the use of attendance as a proxy is appropriate for this paper, given the paper’s purpose and that its use does not influence the outcomes of our analyses.

2 Based on input from a number recruiting experts, *The Sporting News* has published the top-ten ranking of recruiting classes for the past five years. The 6.6 score might be a bit high as for the two years that PSU was not in the top ten, a rank of 11 was assigned in determining the average.

3 Barney (1995) includes “formal reporting structure, explicit management control systems, and compensation policies” (p. 50) as elements of organizational resources. We did not focus on these as formal, and explicit mechanisms tend not to be rare, given that they can be described and documented and therefore are often highly imitable (Barney, 1991). Moreover, there are no indications that these structures, systems, and policies are unique in PSU’s case. We agree with Mahoney’s (1995, p. 91) argument that a “resource may be conveniently classified under a few headings—for example . . . physical, human, organizational, but . . . the subdivision of resources may proceed as far as is useful; for the problem at hand.” Consistent with this argument, we focused on the coaching staff.

4 A review of PSU Athletic Department’s mission statement indicates that its values and goals are consistent with the construct of intercollegiate athletics success adopted in this paper. Espoused values and goals in the mission statement include “attain(ing) national prominence for . . . athletic achievement . . . not compromis(ing) the integrity which has characterized the Penn State program . . . operat(ing) the athletic program in a fiscally-sound fashion (and) . . . no goal exceed(ing) the mandate to educate and graduate the student-athlete” (Penn State University). It is important to consider whether statements in such organizational documents are simply reflections of “espoused” values rather than reflections of values “in use” (Salancik & Meindl, 1984). Considering the outcomes of PSU’s football program (presented earlier), it is reasonable to assume that the values of PSU’s Athletic Department, as presented in its mission statement, are “in use.”