

Applying Activity-Based Costing to Intercollegiate Athletics

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Current accounting methods in intercollegiate athletics make it difficult for leaders to assess and understand the true cost of each sport team operations. Institutional and athletics leaders often make decisions concerning sport sponsorship/offerings, budget allocations, overall program operations, and review Title IX compliance based on information that may not truly capture the cost of each sport. Additionally, intercollegiate athletics reform groups and the federal government are calling for athletic departments to report more consistent, accurate, and transparent financial data. The purpose of this paper is to respond to the call for accounting reform in intercollegiate athletics via an innovative application of activity-based costing (ABC) to one NCAA Football Bowl Subdivision (FBS) athletics department. ABC was applied to the athletic department budget report with results showing how previously established ABC cost drivers for intercollegiate athletics (Lawrence, Gabriel, & Tuttle, 2010) and reallocation of expenses back to specific sports allow for a greater understanding of the cost of each sport.

Keywords: activity-based accounting, sport finance, intercollegiate athletics, NCAA

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The Problem and the Innovation

The intercollegiate athletic financial system needs a reporting overhaul. If major changes in college athletics finance are not initiated from inside college athletics, the U.S. government could step in and force change (H.R. 275, 2015; “NCAA, schools,” 2014; H.R. 5100, 2014). This paper innovates intercollegiate athletic finance; it is the first to apply activity-based costing (ABC) to the reported expenses of one NCAA Division I Football Bowl Subdivision (FBS) school to explore how implementation of ABC would impact the understanding of sport-specific expenses.

Intercollegiate athletics’ budgets have experienced unprecedented growth in recent years. The NCAA has published aggregate financial data since 2004 with results highlighting some of the most pressing financial challenges. The recent Fulks report (2017) offers key findings related to NCAA Division I FBS institutions, with only 24 of 130 FBS athletics programs reporting positive net generated revenues (non-subsidized revenue), and median total expenses have increased by over 147% since the 2004 fiscal year. In 2016, NCAA FBS institutions reported median total operating expenses (\$71,689,000) largely outpaced median revenues (\$52,845,000; Fulks, 2017). In an effort to address expenses outpacing revenue, university athletic departments explore cost-cutting initiatives without an accurate understanding of the costs attributable to each sport due to ineffective and potentially “misleading accounting methods and university budgetary practices” (Goff, 2000, p. 86). This has become an even more prominent issue in an era of NCAA modernization. Intense competition for premier athletic talent that encourages institutions to invest in student-athlete support such as cost of attendance, multi-year athletics aid, additional meals/snacks, mental health/general wellness support, and name, image, and likeness rule changes all illustrate NCAA evolution (McCullough & Fenno, 2020). This is all within the context of the currently unknown full economic impact of COVID-19 (Jensen, 2020).

Adding pressure to an already stressed fiscal environment in higher education are unprecedented financial challenges resulting from the 2020 COVID-19 pandemic (Friga, 2020). Current and future institutional budget shortfalls far exceed what most schools can accommodate without drastic financial cuts (Anderson, 2020). Athletics will not go untouched by the impact of the pandemic, with 86% of NCAA Division I athletics directors expecting their institutions will require them to make financial sacrifices due to COVID-19 (LEADI Association & Teamworks, 2020). Additionally, a group of conference commissioners penned a letter to the NCAA that included the statement, “... the COVID-19 pandemic and resultant economic turmoil has resulted in the direst financial crisis for higher education since at least the Great Depression” (Dinich & Schlabach, 2020, para. 15).

The trickle down to athletics has resulted in discontinuation of sport programs, lay-offs, furloughs, salary reductions, hiring freezes, reduction to future team travel and competition schedules, and facility construction stoppages (Anderson, 2020; Jensen, 2020). Athletics leaders are facing difficult decisions about their ability to support programs and services while also monitoring their Title IX compliance. Even in better financial times, sports teams are sometimes eliminated to ensure others are funded (Anderson, 2020; Graves, 2013; Marsh, Petersen, & Osborne, 2016). For context, the number of eliminated college sport teams in March, April, and May 2020 was reported at 97 (Olson, 2020). Of those eliminated, 19 were in NCAA Division I, 78 from NCAA Division II and III, and 44 from NAIA institutions (Olson, 2020). This crisis and associated elimination of sport participation opportunities underscores the value of alternative accounting methods, such as ABC, that provide accurate information about the true cost of various aspects of athletics operations.

Current accounting methods that fail to accurately attribute costs to each sport increase the difficulty for leaders to make informed decisions. The University of Alabama at Birmingham (UAB) leadership experienced this when exploring a 2015 decision on sport sponsorship that eventually included three different consulting groups. UAB leadership eliminated football, bowling, and rifle based on financial data from the first outside consultant (Clements, 2015). Then, football boosters hired a second outside consultant that did not have full access to university financial information (Talty, 2015). The third, and final, outside consultant was hired to review the previous reports with access to university financial information (Talty, 2015). The decision to eliminate football based on the report from the first consultant was later reversed based on the report from the third consultant (Clements, 2015; Scarborough, 2015; Talty, 2015). Situations such as the one faced by UAB underscore why applying a standard and widely accepted accounting method such as ABC should be explored in intercollegiate athletics.

Research Purpose

This overarching purpose of this study was to apply ABC to one athletic department budget report. Specifically, the research questions addressed include:

- 1) Is there a difference in per sport operating cost between current accounting methods and when ABC is applied?
- 2) When examining overall operating costs of men's sports and women's sports, is there a difference between current accounting methods, Equity in Athletics Disclosure Act (EADA) reported costs, and when ABC is applied?

Results show how previously established ABC cost drivers for intercollegiate athletics (Lawrence et al., 2010; Tuttle, 2009) and reallocation of expenses back to specific sports allow for a greater understanding of the cost of each sport. The outcome is a working model for consideration by athletic leaders that seek to understand the full cost of each sport in their program offerings.

Literature Review

Intercollegiate Athletics Financial Challenges

An abundance of literature exists on the financial difficulties plaguing intercollegiate athletics; however, the development of a new working accounting model remains a gap. The discussion surrounding athletic program deficits is confounded with reports that identify specific cases where “the accounting (between related-party transactions and cross-subsidies of athletic programs and universities) is more likely to understate revenues or overstate expenses (for athletic programs) than vice versa” (Rascher & Schwarz, 2015, p. i). In their report supporting the reinstatement of football, bowling, and rifle to the UAB athletic department, Rascher and Schwartz (2015) summarized both published and unpublished cases in which athletic expenses were overestimated. Specifically, they highlighted the University of San Francisco (expenses inflated by \$2.4million; Howell & Rascher, 2011) and the University of Nebraska-Omaha (\$1.5 million loss should have been classified as break-even; Schwartz, 2011) as evidence of the disparities found in college athletics’ financial data.

In addition, many institutions are paying millions of dollars for athletic department expenses that are inaccurately attributed to other areas on campus (Alesia, 2006; Kirk, 2014; Sperber, 2000). According to Lawrence et al. (2010), it is common to cover debt service obligations from the institution’s general operating fund and/or other financial resources. It could be argued that student scholarships, loans, academic facilities, faculty salaries, and many other educational purposes suffer due to fiscal management that funnels general operating fund money to athletics. Still other perspectives highlight the instrumental role of direct and indirect benefits to the university as a result of athletic success achievement and limelight (Goff, 2000). This is also true related to revenue attribution inconsistencies such as capital project donations, privately funded coaching bonuses, and other external contributions that may not accurately appear associated with the sport they benefit (Tatos, 2019). Inconsistent accounting methods throughout college athletics, however, make fully identifying and exposing misattributions difficult.

One of the most notable sources of literature on the difficulties plaguing intercollegiate athletics has been the Knight Commission. The Knight Commission was founded in 1989 in response to the highly visible poor state of college athletics (Knight Commission, 1991). Its original mission was to create a reform agenda to address concerns that intercollegiate athletics abuses (e.g., over-commercialization, athlete exploitation) threatened academic values and institution integrity (Knight Commission, 2001). Many quality reports from the Knight Commission (1991, 1992, 1993, 2001, 2010) were the impetus for change in policy and legislation (i.e., stronger academic standards, presidential control, increased campus engagement with intercollegiate athletics, etc.).

Financial Reporting Requirements

In addition to various university requirements associated with accounting, intercollegiate athletics departments are required to submit financial information to the U.S. Department of Education (via the EADA) as well as to the NCAA. In 2014, the Knight Commission suggested the NCAA make public each institution's data from the annual NCAA financial report on revenues and expenses to increase transparency and accountability. To date, this has not been acted upon. The EADA requires all coeducational postsecondary institutions that receive Title IV funding and that have an intercollegiate athletics program to annually report financial data to the U.S. Department of Education (U.S. Department of Education, 2005). It is commonly accepted that athletic departments are inconsistent in their accounting practices (Hodge & Tanlu, 2009; Matheson, O'Connor, & Herberger, 2012; Sperber, 2000; Tatos, 2019). Tatos (2019) has provided the most comprehensive analysis of advantages and disadvantages of financial reports that rely on EADA and NCAA data. There is even a cautionary note on the front page of the EADA website informing readers that because of accounting discrepancies, "valid comparisons of athletics data are possible only with study and analysis of the conditions affecting each institution" (U.S. Department of Education, n.d., para. 2). Areas of variation are most likely found in how institutions report non-gender and non-sport specific allocations in addition to the previously mentioned misattribution of private revenue sources and expense categories absorbed by the institution. Rich Franchak, senior associate athletic director/chief financial officer for the Department of Athletics at Ohio University, explains:

The not-allocated-by-gender/sport category used in NCAA and the Equity in Athletics Disclosure Act (EADA) college athletics financial reporting is how colleges account for indirect expenses they do not assign to specific sports. Many expenses incurred by college athletic programs are not directly attributable to a specific team or gender.

Support services such as academic advising, athletic training, and NCAA compliance are often centrally managed and designed to serve all teams and student-athletes. Distributing these indirect expenses to specific teams is not as straightforward as direct costs, and there is no clear definition as to what indirect costs should be allocated nor is there a standard method for how to allocate them. While distributing more indirect expenses to specific sports won't affect the bottom line for athletic department financial reporting, a thoughtful allocation of these expenses can provide a more accurate accounting of the total resources expended for each team. (personal communication, January 31, 2019)

The NCAA also requires financial reporting that is more standardized than EADA data, including data on expenses and revenues, salary and benefits, capital expenditures, value of endowments, value of pledges, and fiscal year-end fund balance (NCAA, 2014). The NCAA data is more consistent in its reporting requirements compared to EADA, based upon NCAA-published agreed-upon procedures for reporting (NCAA, 2018). However, only aggregate data are publicly available, making the reports of no value in individual institutional analysis. Along with academics (e.g., McEvoy, Morse, & Shapiro, 2013; Tatos, 2019), NCAA president Mark Emmert has acknowledged the lack of fiscal transparency and barriers to greater transparency, saying, "The differences in reporting obligations between public and private institutions were a principal roadblock to greater transparency" ("NCAA, schools," 2014, para. 8).

In addition to the lack of financial transparency, consistency in reporting between institutions is also an issue (McEvoy et al., 2013; Tatos, 2019). In response to the question about why each school tracks financial data in so many different ways, Kirk (2014) wrote,

Athletic departments are trying to walk a rhetorical tightrope. They want to hide their profits to make it easier to keep them away from other would-be claimants. They also want to avoid looking so poor that other stakeholders within academia use sports' apparent poverty to strip them of power. Rhetoric that turns a price into a cost, and a transfer of profit into a loss of money, helps play a role in confusing things enough that the moment in the magic trick where the profit is moved from one pocket to the other gets obscured. (para. 12)

Additional authors echo the overestimation of expenses in the athletic department accounting process (Goff, 2000; Rascher & Schwartz, 2015). For example, the cost of staff positions such as academic advisors may be distributed to all sports programs, allocated at a higher percentage to the sports that benefit and use the resource more, or not allocated at all (Thelin, 2000). Other examples of varying accounting by institution range from the treatment of purchases such as

athletic tape used by multiple teams to larger items such as utility costs and facility depreciation. Similar inconsistencies, even within the same conference, can also be found in the recording of scholarships and coaches' salaries (Zimbalist, 2003). In order to understand, analyze, and assess the financial state of intercollegiate athletics, a consistent set of accounting practices needs to be established.

Government Intervention

In response to issues such as those previously mentioned, the federal government is considering two proposals related to intercollegiate athletics. The first, H.R. 5100, Standardization of Collegiate Oversight of Revenue and Expenditures Act (SCORE), seeks to revamp NCAA financial reporting to create a better understanding of intercollegiate athletics funding ("NCAA, schools," 2014; H.R. 5100, 2014). Specifically, David Price (D-NC), the sponsor of H.R. 5100, suggests, "[c]ollege sports are one of America's proudest traditions, but the current system isn't working equally well for all participants ... Constructive, realistic reforms depend on a clear understanding of the financial pressures and benefits of intercollegiate athletics" ("NCAA, schools," 2014, para. 3).

The second proposal, H.R. 275, also known as the National Collegiate Athletics Accountability Act, or NCAA Act, seeks to establish the Congressional Commission on Intercollegiate Athletics, which will examine a variety of issues (e.g., interaction of athletics and academics, athletics financing, recruitment and retention of student-athletes, oversight and governance, health and safety, and due process) in intercollegiate athletics (H.R. 275, 2015). B. David Ridpath, co-author of H.R. 275, notes the financial elements of the bill include, "the Commission having a role in review and consideration of sources of revenue including institutional subsidies, expenditures including compliance with Title IX and coaching salaries, the ability of institutions to finance their programs, and overall fiscal transparency" (personal communication, September 1, 2019).

Activity-Based Costing

There is extensive theoretical and applied literature relating to activity-based costing (e.g., Amhed et al., 2011; Balakrishnan et al., 2012; Cardinaels, Roodhooft, & Warlop, 2004; Cooper & Kaplan, 1988; Dimitropoulos, 2007; Jorgensen & Edwards, 1998; Mansor et al., 2012; Smith, Burt, & Gentile, 2019; Stratton, Desroches, Lawson, & Hatch, 2009). Although ABC was created to improve cost-allocation processes for large manufacturing firms, it has been applied to many different industries, including airlines (Banker & Johnston, 1993), universities (Granof, Platt, & Vaysman, 2000), and e-retailing (Zeller,

2000). However, the method has not yet been applied to intercollegiate athletics.¹

Granof et al. (2000) conducted a case study on the accounting department of the college of business administration of a large public research university. The purpose was not to develop a complete working model of ABC, but rather to show the feasibility and benefits of applying ABC in an academic environment. They found that many institutions of higher education previously had either no, or inadequate, costing systems. For these organizations, ABC was the first real measurement system employed, and the primary benefit of ABC was providing the structure needed for proper accounting. The findings most relevant to this study were that ABC provides useful cost information and that support services do not benefit programs uniformly (Granof et al., 2000).

In 2007, Dimitropoulos explored ABC within a sport context identifying 10 steps potentially needed to apply ABC in the sport industry. Then, Lawrence et al. (2010) developed the case and logistics for application of ABC in the intercollegiate athletics segment of the sport industry. Similar to the Granof et al. (2000) study, the purpose was to demonstrate the feasibility and benefits of applying ABC, but neither study developed a complete working model. They identified key support activities as administration, academic advising, athletic training, compliance, development, equipment management, facilities and operations, marketing and promotions, media relations, sponsorship procurement, strength and conditioning, purchasing, and ticketing. It should be noted that not all of these activities may be in every athletic department and there may be other activities not included on this list. Also, it is becoming common for some activities such as ticketing, sponsorship, concessions, and parking to be outsourced to third-party service providers. Cost drivers identified by Lawrence et al. (2010) include personnel hours, number of tickets sold, number of events, or number of student-athletes.

Refuting the potential reality of ABC being adopted into intercollegiate athletics accounting practices is a study by Smith et al. (2019) that employed a survey method to collect data on intercollegiate athletics administrators' current use of ABC and their perspectives on accounting practices. Results indicated that the vast majority of athletic departments do not allocate indirect costs to sport teams. Reasons provided for not allocating costs included that indirect costs are allocated to a non-sport specific unit (i.e., athletic academic support, athletic training, etc.) or as part of the overall budget. Additionally, administrators noted a lack of value in allocating costs to each sport, not having a method to allocate costs, and/or that they are not required to do so (Smith et al., 2019). This study

¹ Reisch and Seese (2005) presented a case study in which students are instructed to use an ethical decision-making model to allocate indirect costs to men's and women's sports at a hypothetical university. The focus of the case was the ethics of allocating cost to achieve a certain objective: compliance with Title IX. Activity-based costing is not considered in the case.

adds context by which researchers, including the authors of the current application, should be aware when considering the possibility of implementing ABC in intercollegiate athletics.

Methods and Results

For this study, a test NCAA Division I FBS university was selected and its detailed, audited financial statements were downloaded from the available information on the university's website. Working ABC models applied to single cases reflects accounting literature from various industries (Arnaboldi & Lapsley, 2004; Bamber & Hughes, 2001; Brown et al., 1999; Carducci et al., 2007; Major & Hopper, 2005). To answer the first research question focused on differences in operating costs by sport between accounting methods, previously established cost drivers (Lawrence et al., 2010) were used to apply ABC to the test institution. Then, the second research question examined reported spending on women's sport programs as compared to overall spending on men's sport programs by current accounting method, EADA reported costs, and after applying ABC.

Application of ABC

For the application of ABC, the focus was on operating expenses, as those are the costs associated with the financial stability of the program. Table 1 provides the sport-specific reported expenses for the institution. The costs were included in this analysis to match the financial statements. Depreciation and amortization were excluded from analysis, as the institution's facilities are used for activities outside of athletics and there was no publicly available information to reasonably allocate the costs.² Expenses related to camps and the sport shops/merchandise were excluded, as they are self-contained, separate reporting entities and were not team-specific for this university.³ Also excluded were development expenses, as there was no publicly available information to reasonably allocate the costs. Additionally, the inclusion of development staff is complicated, as the organizational structures for athletic fundraising staff can involve a dual-report structure such as is the case for the institution used in this study.⁴ Scholarships were excluded, as NCAA policy mandates scholarship limits and distribution by

² Costs associated with institutional elective participation in cost-of-attendance support, on-campus versus off-campus housing expenses, and future permissive expenses as the NCAA evolves should be considered in future financial analyses.

³ It should be noted that camps/clinic operations can vary greatly by institution and can range from a coach/team-specific run camp, to third-party involvement, to a broader university initiative.

⁴ Often, development professionals' efforts are split between fundraising for non-athletic university causes and fundraising for athletics, so nuances such as this are critical to have a clear understanding of the situation.

sport, and Title IX addresses how to measure scholarship ratios for compliance. Table 2 provides a complete breakdown of the total expenses.

The main expense categories to be allocated to the sports were general

Table 1. Sport-Specific Reported Expenses of Sample Division I FBS University (US\$)

	Men's Expenses	Women's Expenses	Total
Salaries, benefits, and bonuses	12,868,456	4,519,819	17,388,274
Travel	3,745,963	2,417,603	6,163,565
Contract guarantees	2,964,750	101,640	3,066,390
Event operations	5,021,715	533,446	5,555,160
Officials	479,238	251,278	730,516
Recruiting	1,061,163	504,449	1,565,611
Equipment	1,337,445	799,270	2,136,714
Band	771,074	80,000	851,074
Other	2,559,824	375,257	2,935,080
Total expenses	30,809,625	9,582,759	40,392,384

Table 2. Reported Expenses of Athletic Department of Sample University (US\$)

Expense Category	Amount
Operating costs included in the analysis	
General and administrative	25,957,609
Support services	11,691,442
Total allocated costs	37,649,051
Sport-specific categories other than scholarships	40,392,384
Total operating costs	78,041,435
Other expenses not included in analysis	
Scholarships	10,824,910
Development	2,610,004
Depreciation	8,496,719
Sports shop	1,302,294
Camps	2,164,161
Total expenses reported by the university	103,439,523

and administrative, and support services. General and administrative expenses included administration, compliance, facility and operations, and ticketing. Support services included academic advising, athletic training, equipment management, marketing and promotions, media relations, and strength and conditioning. Detailed information on these expenses was found in the notes and supplemental information to the financial statements. All information was manually entered on a Microsoft Excel spreadsheet. Table 3 provides a complete breakdown of the operating expenses to be allocated to the sports using ABC.

Cost drivers were identified for each expense category. Cost drivers were assigned based on the particular department and linking a measurable unit to the activity. Cost drivers used were established by Lawrence et al. (2010), including number of student-athletes, number of employees related to the sports program, and ticketed attendance divided by the number of games.⁵ The number of student-athletes, organizational chart, and ticketed attendance were obtained from the athletics website. The cost drivers used to allocate each expense category is found in Table 4. Table 5 presents the number and percentage of the cost drivers attributable to each sport.

The final step was to allocate the expense associated with each activity to the sports as presented in Table 6.⁶ In the process of applying ABC by sport, it was found that football has the most student-athletes (125, or 19%), the largest attendance per game (87,597, or 75%), and the most employees directly related to the sport (18, or 12%). Consequently, 29% of the general and administrative, and support services were allocated to football. Women represent 56% of non-football student-athletes and 60% of the non-football employees were related to women's sports. Accordingly, women's sports as a whole were allocated 41% of the general and administrative, and support services, while the remaining men's sports were allocated 30% of those expenses. The total ABC expense by sport is presented in Table 7.

⁵ Some may question the characterization of our proposed system as an ABC system. Due to limited available information, our cost drivers may not be as closely linked to activities as one would usually find in an ABC system. Internal information is likely needed to implement a true ABC system. For example, the number of hours of academic advising and athletic training provided to specific student-athletes could be aggregated by sport to provide a more accurate cost of those activities. However, we believe our proposed system improves the cost information provided to administrators.

⁶ Women's administration expenses were allocated to the women's sports based on the employees attributable to a given women's sport as a percentage of all employees of women's sports. For example, women's basketball was allocated 14% of the women's administration expenses.

Table 3. Expenses of Athletic Department of Sample University Allocated to ABC (US\$)

Category	Amount
General and administrative	
Administration	
Administrative	6,350,977
Human resources	864,993
Employee benefits	2,244,672
Utilities, insurance, and services	5,137,508
Information technology	1,610,707
Women's administration	494,035
Purchasing	599,107
Licensing	289,301
Golf course	1,430,955
Outside events	23,248
Total administration	19,045,503
Facility and operations	
Operations	508,210
Maintenance	3,046,394
Aviation	838,959
Total facility and operations	4,393,563
Compliance	442,944
Ticketing	2,075,599
Total general and administrative	25,957,609
Support services	
Academic advising	2,188,952
Athletic training	3,544,228
Equipment management	518,365
Marketing & promotions	2,182,613
Media relations	1,467,761
Strength and conditioning	
Football video expenses	515,441
Other sports video expenses	240,684
Strength & conditioning	1,033,398
Total strength & conditioning	1,789,523
Total support services	11,691,442
Total ABC categories	37,649,051

Table 4. Cost Drivers Allocated by Expense Category

Category	Cost Drivers
Administration	Number of employees
Academic advising	Number of student-athletes
Athletic training	Number of student-athletes
Compliance	Number of student-athletes
Equipment	Number of student-athletes
Facility and operations	Total attendance / number of games
Marketing and promotions	Total attendance / number of games
Media relations	Total attendance / number of games Sport-identifiable costs
Strength and conditioning	Number of student-athletes
Ticketing	Total attendance / number of games

Table 5. Cost Drivers Attributable to Men's and Women's Sports by Number and Percentage

	Student-Athletes		Games		Employment		
	Number in sport	Percentage of all student-athletes	Average attendance per game	Percentage of all tickets sold	Salaries attributable to sport	Employees attributable to sport	Percentage of athletics employees
Men's sports							
Football	125	19.00%	87,597	74.71%	\$ 3,714,135	18	12.00%
Basketball	14	2.00%	8,914	7.83%	\$ 897,114	10	7.00%
Baseball	34	5.00%	3,935	3.46%	\$ 507,946	10	7.00%
Golf	12	2.00%	n/a	0.25%	\$ 178,889	9	6.00%
Tennis	13	2.00%	n/a	0.25%	\$ 176,637	3	2.00%
Track & field/cross country	112	17.00%	n/a	0.25%	\$ 292,159	11	7.00%
Swimming & diving	44	7.00%	n/a	0.25%	\$ 256,641	9	6.00%
Total	354	54.38%	100,446	87.00%	\$ 6,023,521	70	47.62%
Women's sports							
Basketball	14	2.00%	1,433	1.26%	\$ 668,581	11	7.00%
Golf	8	1.00%	n/a	0.25%	\$ 133,390	2	1.00%
Gymnastics	20	3.00%	6,127	5.38%	\$ 353,936	4	3.00%
Soccer	32	5.00%	1,999	1.76%	\$ 274,698	8	5.00%
Softball	21	3.00%	1,161	1.02%	\$ 310,463	10	7.00%
Swimming & diving	33	5.00%	n/a	0.25%	\$ 256,641	9	6.00%
Tennis	8	1.00%	n/a	0.25%	\$ 270,972	4	3.00%
Track & field/cross country	120	18.00%	n/a	0.25%	\$ 292,159	11	7.00%
Volleyball	16	2.00%	2,660	2.34%	\$ 371,897	8	5.00%
Lacrosse	25	4.00%	n/a	0.25%	\$ 250,297	10	7.00%
Total	297	45.62%	13,380	13.00%	\$ 3,183,034	77	52.38%
Combined totals	651	100.00%	113,826	100.00%	\$ 9,206,555	147	100.00%

Table 6. Expenses Allocated by Sport (US\$)

	Administration	Academic advising	Athletic training	Compliance	Equipment	Facility & operations	Marketing & promotions	Media relations	Strength & conditioning	Ticketing	Total	Percentage of total
Men's sports												
Football	2,332,102	420,306	680,535	85,051	302,518	3,282,303	1,073,795	963,159	343,610	1,550,620	11,033,999	29%
Basketball	1,295,612	47,074	76,220	9,526	5,745	344,072	271,589	137,472	38,484	162,546	2,388,340	6%
Baseball	1,295,612	114,323	185,106	23,134	13,952	151,887	150,212	69,047	93,462	71,754	2,168,489	6%
Golf	1,166,051	40,349	65,331	8,165	4,924	10,984	5,202	9,407	32,987	5,189	1,348,590	4%
Tennis	388,684	43,712	70,776	8,845	5,335	10,984	13,847	8,154	35,735	5,189	591,261	2%
Track and field/ cross country	1,425,174	376,594	609,760	76,205	45,960	10,984	15,171	7,878	307,875	5,189	2,880,789	8%
Swimming & diving	1,166,051	147,948	239,548	29,938	18,056	10,984	7,618	5,214	120,951	5,189	1,751,497	5%
Total	9,069,287	1,190,306	1,927,276	240,864	396,489	3,822,197	1,537,434	1,200,332	973,105	1,805,675	22,162,966	59%
Women's sports												
Basketball	1,425,174	47,074	76,220	9,526	5,745	55,304	182,405	41,346	38,484	26,126	1,907,404	5%
Golf	259,122	26,900	43,554	5,443	3,283	10,984	5,202	9,257	21,991	5,189	390,926	1%
Gymnastics	518,245	67,249	108,886	13,608	8,207	236,496	129,148	79,857	54,978	111,725	1,328,399	4%
Soccer	1,036,490	107,598	174,217	21,773	13,131	77,159	86,870	34,386	87,964	36,452	1,676,041	4%
Softball	1,295,612	70,611	114,330	14,289	8,617	44,813	66,642	21,825	57,727	21,171	1,715,637	5%
Swimming & diving	1,166,051	110,961	179,661	22,453	13,542	10,984	7,618	5,214	90,713	5,189	1,612,387	4%
Tennis	518,245	26,900	43,554	5,443	3,283	10,984	15,178	9,468	21,991	5,189	660,235	2%
Track and field	1,425,174	403,493	653,314	81,649	49,243	10,984	8,651	7,435	329,866	5,189	2,974,997	8%
Volleyball	1,036,490	53,799	87,109	10,886	6,566	102,673	101,901	42,592	43,982	48,505	1,534,504	4%
Lacrosse	1,295,612	84,061	136,107	17,010	10,259	10,984	41,563	16,047	68,722	5,189	1,685,555	4%
Total	9,976,216	998,646	1,616,952	202,080	121,876	571,366	645,179	267,429	816,418	269,924	15,486,085	41%
Combined totals	19,045,503	2,188,952	3,544,228	442,944	518,365	4,393,563	2,182,613	1,467,761	1,789,523	2,075,599	\$37,649,051	100%

Table 7. Total ABC Expense by Sport (US\$)

	Sport-Specific Categories	ABC Additional Cost as Developed in Table 6	Total ABC Cost
Men's teams			
Football	18,542,214	11,033,999	29,576,213
Basketball	7,487,970	2,388,340	9,876,310
Baseball	1,997,081	2,168,489	4,165,570
Golf	394,560	1,348,590	1,743,150
Tennis	537,504	591,261	1,128,765
Track and field/ Cross country	1,135,211	2,880,789	4,016,000
Swimming & diving	715,085	1,751,497	2,466,582
Total men's teams	30,809,625	22,162,966	52,972,591
Women's teams			
Basketball	2,167,810	1,907,404	4,075,214
Golf	325,379	390,926	716,305
Gymnastics	966,721	1,328,399	2,295,120
Soccer	800,005	1,676,041	2,476,046
Softball	817,141	1,715,637	2,532,778
Swimming & diving	715,086	1,612,387	2,327,472
Tennis	627,151	660,235	1,287,386
Track and field/ cross country	1,135,211	2,974,997	4,110,208
Volleyball	1,216,744	1,534,504	2,751,248
Lacrosse	811,511	1,685,555	2,497,066
Total women's teams	9,582,759	15,486,085	25,068,844
Total as presented in Table 2	40,392,384	37,649,051	78,041,435

Gender Equity and Title IX

To respond to the second research question, “When examining overall operating costs of men’s sports and women’s sports, is there a difference between current accounting methods, Equity in Athletics Disclosure Act (EADA) reported costs, and when ABC is applied?”, EADA financial data for the test institution was downloaded. Table 8 provides a comparison of costs as established by ABC, reported under the EADA guidelines, and costs reported by the institution. Unallocated costs were \$55.08 million and \$37.65 million under the EADA and institution reports, respectively. The unallocated costs represent 49.6% of the EADA reported costs and 48.2% of institutional reported costs. ABC eliminates unallocated costs and provides a more accurate picture of the cost of each sport.

Table 8. Comparison Costs by Report Type (US\$)

	Total ABC cost	EADA cost	Institution-reported cost
Men’s teams			
Football	29,576,213	23,045,846	18,542,214
Basketball	9,876,310	8,474,783	7,487,970
Baseball	4,165,570	2,775,898	1,997,081
Golf	1,743,150	601,938	394,560
Tennis	1,128,765	1,131,230	537,504
Track and field/cross country	4,016,000	1,725,668	1,135,211
Swimming & diving	2,466,582	1,428,349	715,085
Women’s teams			
Basketball	4,075,214	3,102,132	2,167,810
Golf	716,305	509,516	325,379
Gymnastics	2,295,120	1,749,841	966,721
Soccer	2,476,046	1,637,821	800,005
Softball	2,532,778	1,575,352	817,141
Swimming & diving	2,327,472	1,434,439	715,085
Tennis	1,287,386	1,092,579	627,151
Track and field/cross country	4,110,208	1,920,770	1,135,211
Volleyball	2,751,248	2,241,480	1,216,744
Lacrosse	2,497,066	1,484,287	811,511
Unallocated expense	-	55,075,382	37,649,051
Total	78,041,435	111,007,311	78,041,435

Note. EADA costs may include expenses excluded for purposes of this study. However, due to the lack of detail, specific amounts for these costs cannot be identified and excluded.

From a total, macro perspective, spending on women's sports as measured by direct costs represent only 24% of total expenditures, while spending on women's sports as measured by ABC represents 32% of total expenditures. In this case, the data provide evidence that women's sports are proportionally more expensive when using ABC as compared to current accounting methods. Therefore, from a gender equity perspective, ABC for this institution shows more equity by gender and a more favorable position for the institution related to Title IX compliance even without a statistical difference. The results indicate EADA and institutional reports do not address requests from the Knight Commission or the federal government for more data, better data, and more transparent data.

Discussion

This paper is the first to apply activity-based costing to the reported expenses of one NCAA Division I FBS school to provide a clearer picture of sport expenses in comparison with current financial reporting requirements and, as a result, to provide insight for Title IX compliance. The results of the ABC working model for one institution innovate the practice of intercollegiate athletics accounting reform by:

- demonstrating how ABC application attributes cost to each sport through using established cost drivers, allocating cost drivers to expense categories, and attributing the expense to the corresponding sport;
- illustrating the extent of the deficiencies in current accounting methods (EADA guidelines and institutional reporting) by reassigning unallocated costs;
- establishing increased transparency in financial reporting after accurately transferring unallocated costs appropriately to each sport;
- showing how accurately attributing cost provides insight for gender equity considerations and Title IX compliance;
- providing a template for a more accurate financial reporting system that better informs institution leaders as difficult financial decisions are made; and
- producing a model for a more accurate cost reporting system—the groundwork for additional and necessary NCAA member institution athletics program financial reforms.

If all institutions adopted a uniform accounting method, such as ABC, the result would be a set of more accurate, consistent, and transparent financial reporting data. This adoption could come about via requirements in EADA reporting structure, additional federal interventions, or by conference or NCAA mandates.

If such a consistent financial reporting practice were to begin, academics and athletics leaders alike would be better able to assess the status of intercollegiate athletics finance across all NCAA divisions and all institutions. As evidenced by the work of Smith et al. (2019), indirect cost allocation is not part of current practices in intercollegiate athletics accounting and athletic leaders are not aware of the benefits of methods such as ABC, so the shift to ABC would be substantial in practice. However, if a governing body such as the NCAA established standard cost drivers and methods, in addition to requiring ABC in external reporting, all institutions would be examined under the same guidelines.

Figure 1 presents a comparison of the percentage of cost attributable to each sport as reported by the institution and using ABC. Data for this comparison can be found throughout the paper, but notably in Table 1, Table 7, and Table 8. For institution reported costs, the sport cost (Table 8) is divided by the institution’s total reported sport costs of \$40,392,384 (Table 1). For ABC, the sport cost after applying ABC (Table 8 derived from Table 7) is divided by the total of the sport specific costs of \$78,041,435 (Table 8 derived from Table 7). Although football and men’s basketball incur the most expenses, under ABC, the percentage allocated to football falls from 46% of costs to 38%. Similarly, the percentage for men’s basketball falls from 19% to 13%. Most other sports show an increase in the percentage of cost as is typical of many ABC implementations.

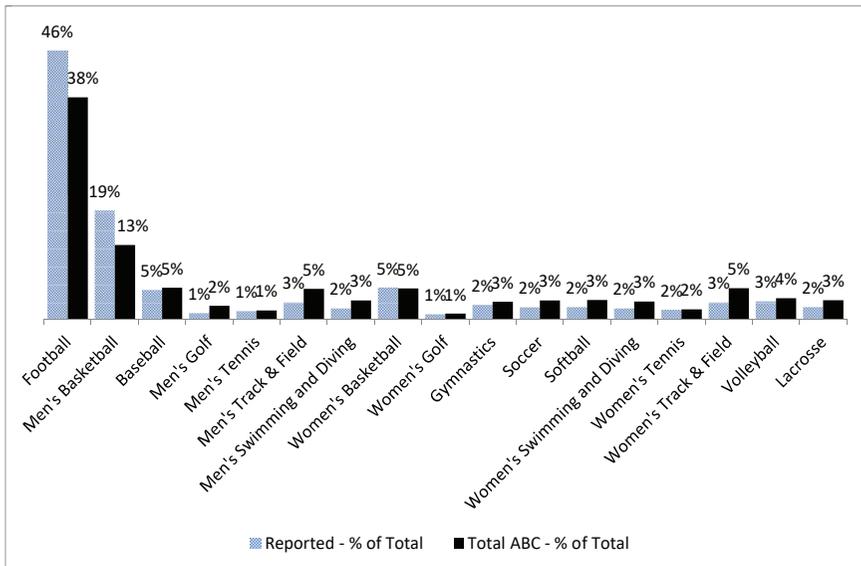


Figure 1. Comparison of institution reported cost and ABC cost as the percentage of total cost.

Within the framework of Title IX compliance, the results allow for a critical analysis of a more accurate operational cost of each sport and overall by gender. Between the 1988–89 and 2017–18 academic years, there has been a net loss of 323 NCAA Division I men’s sport teams (NCAA, n.d.). The loss of men’s sport teams has frequently been associated with an institution’s effort to become compliant with Title IX. Other than athletic scholarships, Title IX does not specify financial thresholds for equitable spending on men’s and women’s sports. The remaining requirement includes sport equitable treatment and benefits for male and female student-athletes. According to the NCAA, “This takes into consideration the variables of equipment costs and other things that may be unique to a particular sport, but the quality of equipment and other benefits provided both genders overall should be equitable (NCAA, n.d. p. 6).

Applying ABC to currently unallocated costs can be beneficial to an institution’s understanding of its resource allocation to the 11 areas of support that are identified as part of Title IX treatment and benefits (i.e., equipment and supplies; scheduling of games and practice times; travel and daily allowance/per diem; access to tutoring; coaching; locker rooms, practice and competitive facilities; medical and training facilities and services; publicity and promotions; support services; and recruitment; NCAA, n.d.).

Using ABC as sole or primary evidence of Title IX compliance is not the intent. This is merely one more piece of data from which a case of compliance can be built. For example, when individual sports fielding both men’s and women’s teams are considered, expenditure percentages should be similar. As can be seen in Table 8 and Figure 1, the percentages of costs for swimming and diving and track and field are the same for men’s and women’s teams. Men’s golf incurs 2% of costs while women’s golf incurs 1% of costs. However, the reverse occurs in men’s and women’s tennis, with women incurring 2% of the costs and men 1%. There is greater disparity between men’s baseball (5%) and women’s softball (3%). Of note in Table 8 is the comparison of men’s and women’s basketball that shows greater budget equity between men’s and women’s basketball using ABC in comparison with other accounting methods. This suggests that this university should investigate what is driving the differences given similarities of roster size and coaching staffs.⁷ Therefore, depending on the results of the application of ABC by an institution, the data could enhance or detract from an institution’s argument about gender equity and Title IX compliance.

⁷ This result could be driven by the use of attendance as the cost driver for media and facilities expenses. This is an example of how internal data may lead to better cost drivers for these expenses. It could also suggest a need to take steps to increase attendance at women’s basketball games.

Limitations and Future Directions

Applying ABC to one organization, such as the institution under study in this research, is a common method in the ABC literature (i.e., Arnaboldi & Lapsley, 2004; Bamber & Hughes, 2001; Brown et al., 1999; Carducci et al., 2007; Major & Hopper, 2005). However, it is also a recognized limitation in understanding ABC within any business segment. The organization, or business type, has to design an ABC system that best fits its needs and circumstances. This application of ABC was limited to publicly available information at one institution. Should intercollegiate athletics overall or individual athletics departments implement ABC, the NCAA could lead the effort to develop more precise cost drivers to be used and tested. For example, academic advising could be allocated by hours of tutoring, strength and conditioning or training could be allocated by the hours working with a student-athlete, and athletic fundraising professionals that split time between university and athletic program initiatives could be allocated by hours spent supporting the athletic program. Ideally, the cost drivers should be uniform across all adopters of ABC to realize the full benefits of comparability.

Academics and practitioners have ample opportunity to build upon this line of research in the future. Replicating this study with a larger sample would provide more robust results. Additionally, comparisons by NCAA Division I type (FBS, FCS, and non-football) as well as NCAA Division II, III, and by athletic conference all remain unexplored. Including permissible expenses such as cost-of-attendance, difference in meal and housing stipends based on on- or off-campus living, and ever-evolving allowable expenses should also be analyzed.

Finally, it is likely that intercollegiate athletics as a subset of the sport business industry will experience a major transformation in the near future. In 2020, there continue to be indications of federal government intervention with respect to college athletics name, image, and likeness (McCullough & Fenno, 2020) in addition to the still unknown (as of June 2020) economic impact of COVID-19 on college sport (Anderson, 2020; Jensen, 2020). These environmental forces will provide academics new contextual elements critical to any examination of accounting methods or finances in intercollegiate athletics.

Conclusion

Intercollegiate athletic reform groups have expressed concern, and government entities are poised to intervene, in intercollegiate athletic finances (e.g., H.R. 275, 2015; H.R. 5100, 2014; Knight Commission, 2011, 2014; The Drake Group, 2015; U.S. Department of Education Office for Civil Rights, 2005). Enter ABC as an intercollegiate athletic finance innovation to answer the call for more consistent, accurate, and transparent financial data. By applying ABC to athletics financial

analysis, university leaders become armed with more accurate data about the cost of operating each sport program. ABC also provides an enhanced understanding of some aspects of gender equity and Title IX compliance. For athletic directors, university presidents, scholars, and the public to better understand the financial state of intercollegiate athletics, a consistent set of accounting practices needs to be established allowing for comparability between institutions. The COVID-19 global pandemic and resultant economic contraction will demand higher education and intercollegiate athletics innovate like never before in history. In the midst of such a period of innovation, ABC emerges as an accounting method worthy of consideration.

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