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Indoor Sport Facility Feasibility Study: Assessment, Value and Demand

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ABSTRACT

A sport management organization proposed to build an indoor sport facility in a town close to a major urban area. The potential investors and stakeholders required that a feasibility study be conducted before an investment decision was made. The study examined the proposed facility through a traditional economic feasibility study and a market analysis to understand the market, possible future market demands, and potential growth opportunities. Included in the study are the key components and data analysis which led to a positive investment report.

Keywords: feasibility analysis, soccer, indoor facility, market demand

INTRODUCTION

In general, a market analysis searches for the intersection of demand and supply that will create a market for a product or service at a given price. The feasibility analysis tests whether a certain product will meet certain financial or social goals in the market (Novak, 1996). It is an ongoing process that provides critical information during predevelopment, acquisition, development, marketing, and operation of a property. The goal of a study is to minimize the risks, and maximize the opportunities, for developers, investors, lenders, and potential public sector participants. Good market analysis combines timely and accurate information and insightful interpretation of the data based on real world experience. Although market studies are filled with data, interpreting the data takes experience, and drawing conclusions from the data can be more of an art than a science (Brett & Schmitz, 2009).

Market analysis is the identification and study of supply and demand. On the demand side are the end users — the clients of the sport facility in this case - while on the supply side are competitors — existing sport facilities and, perhaps, facilities which may be in the planning process (Brett & Schmitz, 2009).

Apanaviciene, Daugelience, Baltramonaitis, & Maliene, (2015) and Sangree (2012) state that whether a sport facility developer can repay a mortgage, and generate additional revenue from a facility, is the most important consideration before an investor or a mortgage lender, makes an investment decision. Market analysis assesses whether the value of the project equals, or exceeds, the development and operational costs when completed. The analysis determines the

value of the proposed project by reviewing revenue, operational costs, expenses, principals and interests, and the net income. Specifically, the analysis seeks to ascertain whether the facilities, and commercial concession services, are of investment scale by which a capable private operator, could achieve economic success, as well as offer services and facilities at reasonable prices to the public and, meet financial obligations. Simply stated, the feasibility study will assist the investor, and a potential lender, to make the go/not go decision on the project. Feasibility studies are used to avoid bad investment decisions, prevent businesses from targeting non-existent markets, and identify risks and pitfalls (Clarke & Kelleher, 2016) for, as Rupert (2014) suggests, a competitive project is not always needed and a needed project is not always competitive; a good market study should be able to tell which type of product is both needed and competitive within a given market.

Market and feasibility studies can be quite complex, but, because capital has become more difficult to acquire, particularly post the economic recession of the late 2000's and early 2010's, and regulatory considerations have become more complex, their importance remains. (Novak, 1996). As unbridled development contributed to the economic recession (Goodwin et al., 2009), market and feasibility studies have become even more critical, not only from an investors perspective, but from a broader economic perspective because they have the ability to adjudicate uneconomic and unsustainable developments and projects.

Novak, (1996) suggests that people often consider market and feasibility studies as one and the same, but they are two different undertakings and, typically, occur at different times in the project development process. A market analysis is performed early in the process, while a feasibility analysis is performed after initial project design and during design refinements. This study highlights components, outcomes and methods employed in the feasibility process (Novak, 1996).

A sport management organization in a Midwestern town in the USA proposed to build an indoor sport facility. Investors and stakeholders requested an economic feasibility study from a third-party consultant to assist with their investment decision. Specifically, the potential investors concern was that the indoor sport facility market in that region may be saturated, due to the many indoor sport facilities in the market. Another significant concern was the risk associated with having a peak season (i.e. winter months) and off-peak seasons (i.e. spring, summer, and fall months) suggesting that the business was seasonal and would create revenue for only five months a year. To address the concerns, a traditional economic feasibility study and a market analysis to ascertain the feasibility of constructing the sports complex.

Feasibility Study - Major Components

There are several components in a market feasibility and financial analysis study. The following are the major components of this study:

- Market Overview
- Market Demand Survey
- Analysis of Pro Formas
- Conclusions & Recommendations

Market Overview

It is critical to understand the market in which the proposed sports complex intends to operate. As such, this section profiles important market characteristics including demographic/economic data, area employment, accessibility, and climate.

Segmentation/Demographic Analysis. Assessing the demographic environment entails observing and monitoring population trends. Demographic and economic indicators are pertinent to estimating demand for youth and amateur sports. The proposed location is in a town that is 16.5 miles from a major metropolitan area, which is the third largest city in the state. The town straddles two counties and had a population of 6,892 at the last US national census in 2010 and consists of approximately 2,406 acres (US Census Bureau, 2010).

Approximately 94% of town population are Caucasian with roughly an even split in males and females. Crime rates are far lower than the state and national averages. Median household income is \$35,516, which is lower than US and state averages, and the median value of owner occupied housing is \$149,500. The median family income of the nearby metropolitan area is \$56,826. The unemployment rate in the town is 4.4% (US Census Bureau, 2010).

According to the US Census Bureau, the County where the town is located had a population of 802,099 in 2010, 804,194 in 2015, and 809,099 in 2016. These figures suggest a cumulative population growth of .8% between 2010 and 2016, equivalent to a growth, over the six years, of .14% per annum. Neighboring counties also show population growth, but at higher rates, as the three adjoining counties grew in population by 1.3%, 1.3% and 2.7% respectively between 2010 and 2016. The population in both the town and surrounding counties is growing (US Census Bureau, 2010).

The age profile of the town where it is proposed to construct the facility, the surrounding counties, the nearby metropolitan area, the state and the national profile are shown in Table 1. The largest grouping of residents in the town is those aged from 18-64 – 38%, and the second largest group is those under the age of 18 – 25%. In the adjoining counties, and in the nearby metro area, the age profile of the residents is similar. Not only are the figures regionally similar but they are comparable to national and state data. Both groups are advantageous to a sport facility for they suggest target market potential for sports participants in the town, region and metro area.

Table 1
City, County, State & National Age Profile

	Milford		Hamilton County		Clermont County		Cincinnati city		Ohio		United States	
Total population	6,767	100%	804,194	100%	200,285	100%	297,397	100%	1,575,977	100%	316,515,021	100%
Age												
Under 5 years	612	9%	53,540	6.7%	12,414	6.2%	21,547	7.2%	695,996	6.0%	19,912,018	6.3%
5 to 9 years	320	5%	51,358	6.4%	13,714	6.8%	18,365	6.2%	735,218	6.4%	20,501,982	6.5%
10 to 14 years	276	4%	51,577	6.4%	14,618	7.3%	16,296	5.5%	756,684	6.5%	20,679,786	6.5%
15 to 19 years	440	7%	53,567	6.7%	13,109	6.5%	21,154	7.1%	785,644	6.8%	21,354,481	6.7%
20 to 24 years	293	4%	57,286	7.1%	11,531	5.8%	29,115	9.8%	784,927	6.8%	22,604,232	7.1%
25 to 34 years	742	11%	115,074	14.3%	23,853	11.9%	52,778	17.7%	1,453,253	12.6%	42,881,649	13.5%
35 to 44 years	860	13%	94,604	11.8%	26,249	13.1%	33,594	11.3%	1,422,737	12.3%	40,651,910	12.8%
45 to 54 years	948	14%	111,076	13.8%	30,460	15.2%	35,963	12.1%	1,638,580	14.2%	43,895,858	13.9%
55 to 59 years	518	8%	54,688	6.8%	15,618	7.8%	18,392	6.2%	830,204	7.2%	21,001,947	6.6%
60 to 64 years	341	5%	49,723	6.2%	11,942	6.0%	16,426	5.5%	725,453	6.3%	18,415,681	5.8%
65 to 74 years	429	6%	59,056	7.3%	16,206	8.1%	18,124	6.1%	961,560	8.3%	25,135,167	7.9%
75 to 84 years	625	9%	34,307	4.3%	7,870	3.9%	10,019	3.4%	538,589	4.7%	13,541,558	4.3%
85 years +	363	5%	18,338	2.3%	2,701	1.3%	5,624	1.9%	247,132	2.1%	5,938,752	1.9%

The median household income, as stated above, was \$35,516 which is significantly less than the median state income of \$51,075. The median income of the county is \$49,013, and that of the adjoining three counties is \$57,540, \$60,805 and \$74,379 respectively (US Census Bureau, 2010). This is an issue that will impact the decisions of investors in that the population of the town may be growing, but residents may not have the income to substantially support the facility. However, that the regional income figures are relatively strong offers the possibility that the facility should be marketed as a regional facility, capable of drawing visitors to the town, as distinct from a local facility. This is the strategy adopted by the town of Westfield, Indiana, which when faced with the challenge of increasing its commercial tax base decided to invest in a sports facility which draws regional tournaments rather than a minor league baseball franchise. “Our money maker is regional tournaments, under 16 years, because they bring Mon, Dad, brothers, sisters, grandparents” (Gregory, 2017).

Demographic/Economic Data. Event activity at the proposed sports complex could, potentially, include a broad range of indoor sports and individual activities. These offerings could include, leagues, rentals and tournaments as well as offerings that are designed to cater to individual client needs. Typically, tournament organizers who would be interested in using the facility, place more emphasis on accessibility, quality of facilities and surrounding infrastructure (e.g., restaurants, attractions, etc.) rather than on local population, age, and income characteristics. Market dynamics will impact the amount, type, and success of any future ancillary development near the proposed new sports complex. In order to assess the relative size of the target market, key demographic statistics were analyzed for areas within 10- mile, 25-mile, and 50-mile, radii of the proposed facility. A secondary marketing profile was created highlighting population, average household size, and percentage of youth. Total population within a 10 mile radius was 344,414, with 26.0% representing youth. Total population within a 25 mile radius was 1,783,383 with 26.2% representing youth. The 50 mile radius revealed a population of 3.1 million of which 25.9% were youth. Average household size within the three radii was 2.49, 2.47 and 2.47 respectively (See Figure 1) (US Census Bureau, 2010).

Figure 1
10 mile, 25 mile and 50 mile radii of proposed facility



Sports Participation Trends. The purpose of this section is to provide an overview of sports participation trends in the market and in the broader national market, in this particular case, the US. An analysis of this data helps to understand the trends and market indicators at a national, regional and local level. In addition, it provides a framework from which to assess potential demand for the sports complex.

The data were derived from a variety of US sport industry sources including; The Sports & Fitness Industry Association (SFIA), whose information was based on approximately 40,000 interviews encompassing youth and adult sports participation; The National Sporting Goods Association (NSGA), which publishes an annual report examining trends and patterns in 51 sports and activities; The Physical Activity Council's (PAC) "Sports, Fitness and Leisure Activities Topline Participation Report", which is a report based on data from sport trade associations [The Sports and Fitness Industry Association (SFIA); the International Health, Racquet and Sports Club Association (IHRSA); the Outdoor Foundation (OF); the Snow Sports Industries America (SIA); the National Golf Foundation (NGF); and the Tennis Industry Association (TIA)] and The Sports Business Research Network (SBRNet).

Project stakeholders indicated that, based on discussions, particularly with local sport organizations, sports requiring indoor/outdoor fields (soccer, rugby, lacrosse, softball, baseball, flag and touch football, tennis), sports requiring an indoor court play area (basketball, volleyball, cheerleading, gymnastics, wrestling, cheerleading) and individual sports (aerobics, cross training, running/jogging, martial arts) were the most likely users of the proposed complex and should be targeted as potential users by the developers. In addition ultimate frisbee, drone racing, laser tag were identified as potential activities that could take place in the facility.

In 2016 the SFIA undertook a national survey of 24,134 people. The objective was to understand levels of activity and identify trends in sports fitness and recreation participation in the US. A weighting technique was used to reflect the total US population aged six and above. The following variables were used: gender, age, income, household income, size, region, population density. The total population figure used was 296, 251, 344 people (SFIA, 2017).

The SFIA (2017) report indicates that basketball (22.3 million) and volleyball (6.2 million) have the highest national participation levels of sports requiring a court. Soccer (11.9 million), baseball (14.7 million) and softball (7.1 million) have the highest national participation levels among sports requiring fields. The SFIA differentiates between core participants and casual participants. Core participants are defined as regular and frequent participants and have a higher rate of participation than casual participants. What constitutes core and casual varies with each particular sport e.g. core basketball participation is defined as > 13 times per annum, while core soccer is defined as > 26 times per annum. In contrast casual participation in baseball is defined as between 1 & 12 times, whereas casual participation in cross training is defined as between 1 & 49 times. Basketball has the highest number of CORE participants (14.8 million), followed by baseball (9.0 million), soccer (5.5 million), softball (4.3 million), volleyball (3.3 million), and tackle football (3.2 million) (SFIA, 2017).

Cheerleading experienced an approximate 12.5 % growth in casual users from 2013 to 2016 the largest among the court sports identified as target sports by the project developers. Other court sports experiencing growth in total participation from 2013 to 2016 include gymnastics (3.1%) and wrestling (1.7%). Among field sports rugby has experienced the largest growth in the past three years with a 9.5% increase. Other increases in field sports from 2013-2016 include lacrosse (5.0%), field hockey (.9%), baseball (3.6%), softball (3.9%) and flag football (3.3%). Sports

which had the largest one year increase between 2015 and 2016 were swimming on a team (16.5%), gymnastics (15%), rugby (14.9%) and beach/sand volleyball (14.7%) each of which is an Olympic sport. Casual team sport participation with the highest annual increase over the same time period was swimming (26.9%), while cheerleading had a 20.1% increase followed by beach/sand volleyball with 19.2% and rugby with 18.7%. CORE participation rates for touch football (11.0%) and ultimate Frisbee (10.7%) experienced the largest decline for targeted field sports between 2013 and 2016 (SFIA, 2017).

Targeted individual sports have remained consistent over the past five years. Cross training which has only been researched since 2014 has experienced a 10.3% growth in total participation from 2014 to 2016. Casual participation increased 6.5% and core participation (>50) increased 14.3%. Weight training has experienced an increase of casual users from 2010 to 2015 by 1.7%. Total participation in running/jogging continued to experience a decline that began in 2014. Total decline between 2014 and 2016 is 4.4%, with core decline at 4.9%, and casual participation declining 3.7% (SFIA, 2017).

In addition to sports participation levels, it is also important to review historical participation trends in order to understand where opportunities may exist, or where trends may have peaked and be in decline. The SFIA Topline Participation Report, reports that 27.5% of the US population, age six and older, are inactive, indicating that 72.5% are active. SFIA reports the number of active people based on low to high calorie activities, and that 212.6 million people (72.3%), age six and older, are active to a healthy level (SFIA, 2017). This may create opportunities for the management of the proposed facility to develop and emphasize programs targeted to the inactive members of the population. State and Federal grant funding can often be available to programs which are not necessarily targeted at sport, but rather at enticing non-inactive individuals to engage in health improving activities.

Sports participation is often very much tied to age. The proposed facility will be utilized by a variety of age groups, and it is important to understand which sports appeal to each age group in order to develop appropriate programming. The NSGA – National Sporting Goods Association - reports that the 7 - 11 and 12 - 17 year-old age groups represent the largest percentage of national sports participants, with 51% participating in the targeted court sports, and approximately 47% participating in the targeted field sports. Gymnastics had the highest levels of participation (41.3%) among 7 to 11 year-olds, followed by soccer (33.7%), cheerleading (27.7%), baseball (24.6%), tackle football (24%), flag football (23.3%) and lacrosse (22.9%). Tackle football had the largest percentage of 12 to 17 year-olds (40.8%), followed by cheerleading (39.3%), wrestling (31%), volleyball (26.4%), flag football (25.4%) and lacrosse (25%).

Among the sports with the highest national participation levels, soccer reported the highest combined participation level among 7 to 17 year-olds (54%). Baseball (45%), basketball (40%), volleyball (36%) and softball (32%) each had relatively high participation rates among in the same age group. Sports that reported high participation levels among seven to 17 year-olds, but do not report high overall participation levels, included tackle football (65%), gymnastics (61%), wrestling (51%), flag football (49%), and lacrosse (48%) (NSGA, 2016).

Trends in Sport Spending. There appears to be an inherent resiliency in the youth athletics industry based on the desire of parents to see their children play sports. Gregory (2017) reports that the U.S. youth-sports economy, which is broadly defined as including travel, equipment, team membership, facility construction and rental, private coaching and apps that organize leagues and livestream games is worth \$15.3 billion, and that the sector has grown by 55% since

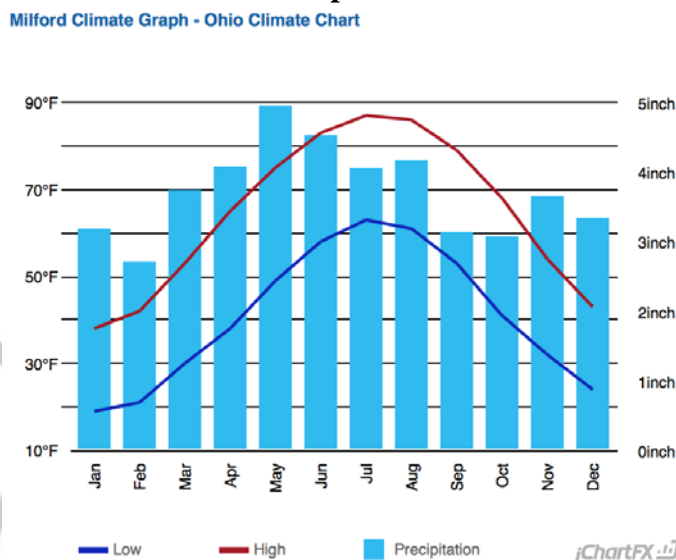
2010 (Wintergreen Research). Youth sports participation has been continuously increasing (Kim, Zhang, & Connaughton, 2010), and youth team sports marketers have witnessed that, in good times and bad, parents continue to provide the required equipment, apparel, shoes, accessories and pay for travel to competitions and tournaments (Mitchell, 2012). CNBC reports that travel expenses alone for youth sports reach \$7 billion a year (Hageman, 2015). Aside from travel and equipment expenses, there is an extensive list of expenditures, including club memberships, clinics, camps, registrations and, potentially, individual coaching, for elite level children, particularly those who are seeking NCAA scholarships. According to SFIA Grassroots Sports Participation in American Study, average youth category spending is highest for registering for events/leagues – with an average annual spend of \$125 for active youth participants, and \$115 for general population participants. Softball and baseball, closely followed by lacrosse, lead total annual spending with both active and general population participants spending nearly \$800 to take part in these activities.

Recreational expenditures within a 10 mile radius of the location averaged \$118.65 per household on participation fees, \$161.39 on lessons, and \$247.44 on memberships of social and recreational clubs, while expenditure on equipment averaged \$201.70. Within a 25 mile radius average household expenditure on participation fees was \$88.69, lessons was \$117.55, memberships \$185.19, and equipment expenditure was \$155.18. Within the 50 mile radius \$81.70 on average was expended on participation, \$107.81 on lessons, \$171.95 on membership and \$148.21 on equipment (ESRI, 2017).

Core participants are more likely to spend on their activity of choice. Parents can be considered core participants as they invest significantly in their children's sport participation particularly during adolescence. As specialization in one sport has become the norm, and more children become deeply engaged in one, rather than multiple sports, increased levels of commitment emerge, and this includes a greater level of investment by parents in their child's activity. Such commitment includes travel to events and tournaments, not only by the athlete but often times by a parent and sibling as well. Such investment bodes well for a regional sport facility.

Seasonality: Seasons in the mid-west states are often unpredictable and can vary considerably, however, at the proposed location the average annual temperature is 52.6 Fahrenheit, and average annual precipitation is 44.6 inches. June through September are the warmest months in the area, with 112 days having temperatures higher than 80 degrees Fahrenheit. On average 22 days of the year have temperatures higher than 90 degrees. December, January and February are the coldest months with when the average low is 24 degrees, 19 degrees, and 21 degrees respectively. August, September and October are the months which have the lowest number of days with precipitation (9), but August is among the months with the highest average precipitation (3.98 inches) behind May (4.72 inches) and June (4.17 inches) See Figure 2. One hundred and thirty two days have precipitation, in the form of rainfall, in the area) (NCDC, 2017). These ranges may suggest a limited summer season and normal climate trends, such as high levels of precipitation in August, may adversely impact the consistency of use of outdoor space, supporting the need for indoor multipurpose indoor facilities in the region.

Figure 2
Climate Graph of Location



Market Demand Survey

Data Collection: To supplement the secondary analysis of the market, primary data were collected from soccer and lacrosse club managers located in the market area where it is proposed to construct the facility. Fifty five individuals were invited to complete an online questionnaire and relevant data was compiled from 18 respondents which constituted the data set.

Survey: The questionnaire was developed, and validated, by a research team, consisting of two faculty members and four graduate students in the Sport Administration Program at a state university, to measure the current demand of indoor fields among lacrosse clubs. The current market demands, needs, and potential revenue generation opportunities from indoor facility utilization during summer were examined using nine items measured on a 7-point Likert scale (1 = strongly agree, 7 = strongly disagree). Data were analyzed using IBM SPAA Statistics v.24.

Results and Analysis: Of the 18 respondents, 2 responded “strongly agree” to the question “Currently does your club have enough access to indoor field space”, 4 responded “agree” and 3 responded “somewhat agree”. These 9 respondents were identified as the *Enough Access* group. One respondent replied they neither agree nor disagree, while 3 answered “somewhat disagree”, 4 responded “disagree” and 1 answered strongly disagree. The 8 who indicated a level of disagreement were classified as the *Not Enough Access* group. This indicates that 44% of the sample do not have enough access to indoor facilities suggesting that there is a not enough facilities available and that there will be a demand for the proposed facility. All 18 respondents agreed with a broader statement regarding the need for further facilities in the region. The statement suggested that there was a need for another indoor facility in the region and 100% of respondents agreed with the statement, 8 strongly agreed, 8 agreed, and 2 somewhat agreed.

This suggests that there is a need for a new indoor lacrosse facility in the region. Travel to the proposed location was queried through the question “An indoor facility located in would make travel more convenient for your club”, and 50% agreed that the location would make travel more convenient for their club.

Only 30% of respondents saw the proposed facility as a direct competitor to the indoor facility that their club currently uses. A further 37% suggested that the proposed facility would not be a direct competitor, while 33% neither agreed nor disagreed with the statement that the proposed facility would be a direct competitor. The responses suggest that the proposed facility is viewed not as a competitor but rather as another facility that will fulfill their need for playing facilities. When queried about the cost of renting indoor playing fields in their current facility, 83% of respondents indicated that they were paying less than \$100 per hour. Over the course of a season, respondents indicated that the mean cost of indoor facilities was \$1, 655.00.

The managers were queried as to which sports are offered by the facility they used. The activities offered most were lacrosse (14), soccer (12), football/flag football (10), baseball (6), futsal (6) and basketball (6). The number of facilities offering the each of the activities decreased slightly during the summer months. Sixteen of the respondents indicated that the offering of additional sports provided a competitive advantage in the market place. When queried about using the proposed facility during the summer months (May – August), 55% said yes, 40% responded negatively, while one respondent was neither positive nor negative.

General Assumptions: Based on the input of the client group a number of assumptions were made to develop estimates of event activity and financial operations for the proposed facility.

The assumptions include:

- The facility will have three indoor fields
- The facility will be privately owned and operated. It will be staffed by personnel that specialize in marketing/management of sporting events and have established contacts and strong relationships with local and regional sports teams
- The facility will focus, primarily, on hosting youth sporting events.
- A high level of quality customer service will be provided
- The site will be adequate in terms of visibility, parking and safety.
- Sufficient supporting infrastructure will be located nearby (i.e. hotels, restaurants, retail, entertainment, vehicular access, etc.)

Usage/Event Activity Assumptions: An estimate of usage/event activity was developed from research on the youth sport market and this was the principal basis of the financial analyses. Data from the market analysis including input from the client groups, market characteristics, industry trends, event activity at area facilities, input from potential demand generators, information on comparable facilities as well as other research was summarized. Utilization of any facility is typically dependent on a number of factors (e.g., market size; accessibility; nearby amenities; size, configuration and quality of the facilities offered; effectiveness of the management team in booking the facility; date availability; cost, etc.). As such, the estimated range of utilization represents a stabilized year of operations.

- It was anticipated that league activity would accommodate high-level participants such as boys’ and girls’ premier youth travel teams that regularly play other regional teams, and are supportive of the complex’s efforts to draw regional and national tournaments
- In addition, there were residential-based locally organized recreation leagues that could be complimentary to the travel leagues

- As tournaments can be revenue generators and are important to indoor facilities, the usage estimate included three tournaments with an average of 100 teams per tournament utilizing the complete facility on Saturday and Sunday.
- For tournament activity, an event day was defined as three games being played at each hour, starting at 8 am and running until 11 pm on Saturday, and starting at 8 am and running until 10 pm on Sunday.
- For example, three two-day tournaments with 100 teams paying \$500 per team equates to \$103,000 in revenue, which reflects the loss the facility would take from forfeiting the weekend hours to league activity.

Field Rental: Field rental revenue represent a significant revenue source for sport complexes. Rental charges may be determined on a per hour, per game or per tournament basis dependent upon the user, the number of fields, or the services that may be required. Facility Management would negotiate terms with frequent, or larger, users such as leagues or tournaments based on potential economic impact, or willingness of the league or tournament to commit to a multi-year contract. Based on comparable facility data rental revenue dependent on the mix of rental type (tournament or league), mission of the facility (local league v economic impact) and management operating strategy (turnkey v full-service). From research and usage grid estimates revenues associated with field rental, operating at 100% occupancy during the 22 week peak time – October to February are \$899,000. The revenues from the 30 week off peak period, at 100% occupancy, are \$1,258,600. A conservative calculation of 40% occupancy during the 22 week peak season, and 10% occupancy during the 30 week off peak season produced \$359, 600 and \$125,860 respectively. The conservative analysis suggested \$485,460 in revenue from field usage.

Concessions: Concessions are generally operated either, by an independent concessionaire with exclusive rights to facility events with the facility taking a percentage of gross sales or a flat fee per month, or the facility owns and operates the service. Under the ownership method, the facility captures all food and beverage sales but also incurs expense items related to purchase and maintenance of equipment, labor and cost of goods sold. Based on experience at comparable facilities concession revenue potential was relatively limited given the nature of event activity, relatively low margin food/beverage sales, and the common practice/desire of attendees to bring their own food and beverages. For purposes of analysis a net concession income for a facility of the proposed size would be \$80,000 annually.

Advertising/Sponsorship: Advertising and sponsorship opportunities are diverse and can range from temporary signage at a single event, to permanent signage on scoreboards or billboards, to advertising in a program, to sponsoring team uniforms or sponsoring an entire event/tournament. Sponsorship could be specific to facility, team, tournaments and even individual players, and will be dependent upon the strategic approach taken.

Salaries and Wages: Staffing arrangements, particularly full time staffing arrangements vary significantly across facilities. However, salaries and wages can represent a significant expense. The variance in staffing levels is attributed to a number of factors. One is management philosophy of maintaining event-related personnel as full-time or part-time staff. The number and type of fields, the overall mission of the complex, the level of competition and primary uses can also impact staffing levels. In addition, the extent that contracted services and/or organized labor are used also impacts staffing. As a point of reference, the number of full-time equivalent staff ranged from four to ten at comparable complexes.

Repairs and Maintenance: The upkeep and maintenance of a facility can be one of the more important, but underestimated, aspects of managing a sport facility. Poorly maintained facilities greatly impact the perception of a facility and no amount of marketing can overcome the effect of a less than clean, or poorly maintained facility. As with concessions, this item can be managed internally or contracted to a third party, and the decision will be based on management/ownership philosophy.

Marketing: Constructing a new sports complex alone will not bring events to the facility. An aggressive marketing strategy needs to be undertaken to facilitate the complex to diversify and enhance its event base, particularly for large regional, or even national, tournaments. This is consistent with industry practices and is critical in order to help establish the new venue as a major complex and enhance its on-going viability.

Reserve for replacement: It is recommended that the facility management put aside an annual payment designated as a reserve for replacement fund in order to safeguard the investment in the facility. This reserve would be used in circumstances where any extraordinary annual/future capital repairs or improvements to the facility are required. A reserve fund of 6% of operating revenues is recommended.

Field Rental Matrix Assessment: An analysis of field rental matrix was conducted to determine income at different levels of field use. The maximum weekdays (i.e., Mondays through Fridays operated from 5:30PM to 10:30PM) income is \$23,250 at the rate of \$200 per hour for Field 1 and 2 and \$125 for No-board field 1, 2, and 3. The operation hours on Saturdays and Sundays are from 9:00AM to 11:00PM resulting \$18,200 total field rental income.

A number of rental scenarios were imagined and they are represented on Table 2. These represent a variety of peak time and off peak usage and the financial consequences of same. If concession income, birthday parties, office lease and advertising income is factored in, at 70% occupancy during the 22 week peak period and 10% occupancy (70/10) during the 30 week off peak period, net income is estimated at \$591,689 before mortgage payments. Net revenue before mortgage payment at 60/30 occupancy is estimated at \$753,509, while net revenue at 50/25 occupancy before mortgage payments is \$402,179. A quite conservative occupancy rate of 40/10 will generate net revenue of \$321,989 before mortgage payment.

Table 2
Field Rental Matrix by Occupancy Scenarios

	70/10 Occupancy	50/25 Occu.	40/10 Occu.
22 Week Total (Peak Season 100%)	\$899,000	\$899,000	\$899,000
30 Week Total (Off Peak Season 100%)	\$1,258,600	\$1,258,600	\$1,258,600
22 Week * 70%	\$629,300	\$449,500	\$359,600
30 Week * 10%	\$125,860	\$314,650	\$125,860
Programs and Tournaments (adult, youth)	\$198,500	\$198,500	\$198,500
Concession	\$80,000	\$80,000	\$80,000
Birthday parties	\$30,000	\$30,000	\$30,000
Office lease	\$30,000	\$30,000	\$30,000
Advertisements	\$20,000	\$20,000	\$20,000
Yearly Total	\$1,113,660	\$924,150	\$843,960
Expenses	\$521,971	\$521,971	\$521,971

Net Revenue	\$591,689	\$402,179	\$321,989
Mortgage Payment (20 years, 6% APR)	\$255,768	\$255,768	\$255,768
Yearly Revenue After Mortgage	\$335,921	\$146,411	\$66,221

In analyzing the usage field usage grid, and using field rental income only, it was determined that a peak time occupancy of 33% and an off peak occupancy of 10% would “break even”. An assessment of the 22 week peak season, and using only peak hours as a basis of the assessment, suggested a need for 86.5% occupancy to offset total expenses including mortgage payment. When revenue from other sources is added, the breakeven point is 46.6% occupancy.

Critical Success Factors: Several critical success factors were identified in the feasibility analysis. The proposed facility has a solid foundation in usage by the lacrosse playing base in the local and regional market. However, diversification in use by other sports, such as soccer or flag football, is highly recommended to ensure commercial success. The following is also recommended;

- Utilization of the entire calendar year not only to increase revenues, but to build critical relationships with select audiences
- Expand service offerings in off peak hours throughout the year
- Capitalize on secondary and tertiary sport segments to enhance revenue streams
- Develop a strategic marketing plan to ensure that marketing communication is appropriate for each consumer segment and that relevant channels are being used
- Enhance sponsorship and advertising opportunities, including naming rights, for local and regional business to enhance revenue
- Ensure that staff and management are well versed in youth sports industry.
- Ensure that the facility is operated to the highest quality standards. ISO Standard 9001 is recommended (ISO, 2017)
- Monitor, local, regional and national market to ensure competitive pricing
- Develop youth sports networks that will enhance use of the facility by educational and community groups for tournaments, camps and practice.
- Create an Advisory Board to enhance engagement with various stakeholders.

Conclusions and Recommendations: The objective of the study was to determine whether the proposed facilities, and the commercial concession services were of investment scale by which a capable private operator could achieve economic success, as well as offer good quality services and facilities at reasonable prices to the public and, most importantly from the investors’ perspective, meet financial obligations. Simply stated the study assisted the potential investor, and potential lender, to make the go/not go decision on the project and investment. For the following reasons the study recommends that the proposed facility will meet these criteria. The population density within 10, 25 and 50 mile radii is sufficient to support the facility and the youth population is above the national average. While the two counties which the location straddles are slightly below national averages in youth population, the remaining counties in the primary, secondary and tertiary market are above both state and national averages. The median income of the town where the facility will be located is significantly below state and national level, but this is more than offset by the median income of the county which is above state average.

National sports participation has been stable since 2009, and while not recession proof, participation trends have been more resilient than other industries in a down economy.

Contributing to this phenomenon is that parents continue to support the participation of their children in sports, and continue to invest significantly in apparel, equipment and coaching as well as in sport organization memberships and travel. While parents continue to support their children, Olympic sports such as swimming, gymnastics, rugby, and beach volleyball have had the largest increase in participation levels between 2015 and 2016. Lacrosse, along with rugby and field hockey, were among the team sports with the largest increase in participation since 2011.

Not only did a significant proportion of managers of facilities in the market indicate in a survey that there was inadequate access to facilities in the market but, the proposed location was viewed as optimal because of its accessibility and proximity to the market. Aside from peak time usage, over 50% of survey respondents indicated that they would use the facility in the non-peak summer hours. Owners of other facilities in the market indicated that they are at maximum occupancy during the peak season, and while the proposed facility would be a rival to their facility, it was felt that there was room in the market for a new facility which would complement the network of existing facilities.

After a detailed review of the primary and secondary data, an analysis of market trends and of the financial projections around the project, it was felt that the facility was a viable and realistic investment which will meet lender and investor needs.

This case focuses on conducting market studies in a specific market in the United States.

However, the basic approach to market analysis—methods and content—can be applied to sport facility developments anywhere in the world. Product characteristics, consumer preferences, location issues, and data sources will be unique to each market and information on current conditions may be limited, however the techniques for analyzing supply and demand, and the need for market analysis, are similar the world over (Brett & Schmitz, 2009).

REFERENCES

Apanavičienė, R., A. Daugėlienė, T. Baltramonaitis, and V. Maliene (2015), “Sustainability Aspects of Real Estate Development: Lithuanian Case Study of Sports and Entertainment Arenas,” *Sustainability*, 7(No. 6), 6497-6522.

Brett, D. L., and A. Schmitz (2009), *Real estate market analysis: methods and case studies*. (2nd Ed.), Washington, DC: Urban Land League.

Clarke, A., and R. Kelleher (2016), “Common Feasibility Study Mistakes and How to Avoid Them. Ground Floor Partners” Available: <http://groundfloorpartners.com/common-feasibility-study-mistakes-and-how-to-avoid-them/>.

ESRI (2017), *The Spending Potential Index*, US Census Bureau.

Goodwin, N., J. A. Nelson, and J. Harris (2009), *Macroeconomics in context* (2nd Ed.), Armonk, NY: Sharpe.

Gregory, S (August, 2017), “How Kids’ Sports Became a \$15 Billion Industry”, Time. Available: <http://time.com/4913687/how-kids-sports-became-15-billion-industry/>

Hageman, W (March 27, 2015), “Spending more money on kids' athletic future often backfires”, Chicago Tribune, StarTribune. Available: <http://www.startribune.com/spending-more-money-on-kids-athletic-future-often-backfires/262585181/>

ISO (2017), *International Organization for Standardization*, Available <https://www.iso.org/iso-9001-quality-management.html>

Kim, M., J. J. Zhang, and D. Connaughton (2010), “Modification of the volunteer functions inventory for application in youth sports,” *Sport Management Review*, 13, 25-38.

Mitchell, M.P. (2012), “Team Business: A Post- Recession Update”, *Impressions*, 6-9

NCDC (2017). National Climatic Data Center. Available: <https://www.ncdc.noaa.gov/>

NSGA National Sporting Goods Association (2016), *Sports Participation in the United States 2016*, Mt. Prosepect, IL: National Sporting Goods Association.

Novak, L. (1996), *Market Feasibility Studies: A How-To Guide*, University of Oregon.

Rupert, C. (2014), “Importance of a market feasibility analysis”, Available: <http://bowernational.com/author/craig/>

Sangree, D. J. (2012), “Perform Market Analysis with a Feasibility Study for Indoor Waterpark Resorts and Outdoor Waterparks”, *Appraisal Journal*, 80(No. 2), 149-156.

SFIA Sports & Fitness Industry Association (2017), *Sports, Fitness, and Leisure Activities Topline Participation Report*, Silver Springs, MD: SFIA.

U.S. Census Bureau, Census (2010), Available: <https://www.census.gov/data.html>

Wintergreen Research (2017), “Youth team, league, and tournament Sports: -- Markets reach \$41.2 billion by 2023”, Available: <http://wintergreenresearch.com/reports/Youth%20League%20Sports%20Software%202017%20press%20release.pdf>

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