



Student
International
Business Council

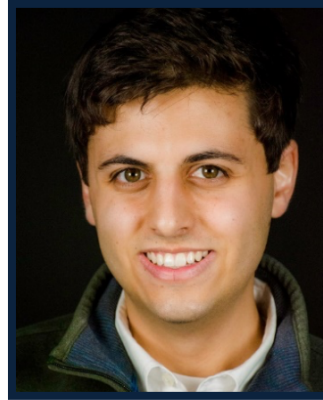
Spring 2017 Deloitte Project - STEM Division
04/12/2017

SP17 SIBC Deloitte Project: Travel Team



Lan Zhou
Sophomore

ACMS, Financial Economics



Daniel Tawil
Junior

Chemical Engineering



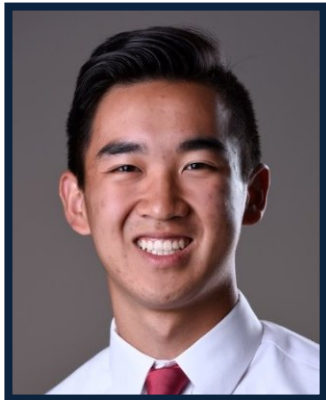
Lucas Don
Sophomore

Business Analytics

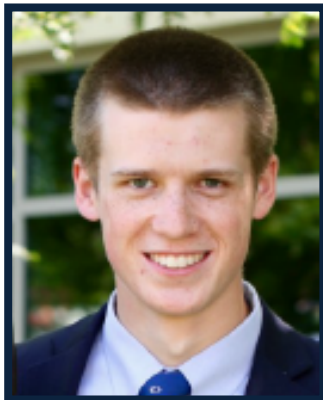


Andrew Fuller
First Year of Studies

ACMS



Edward Yuan
First Year of Studies
Computer Science



Ryan McAndrews
First Year of Studies
Business and Economics



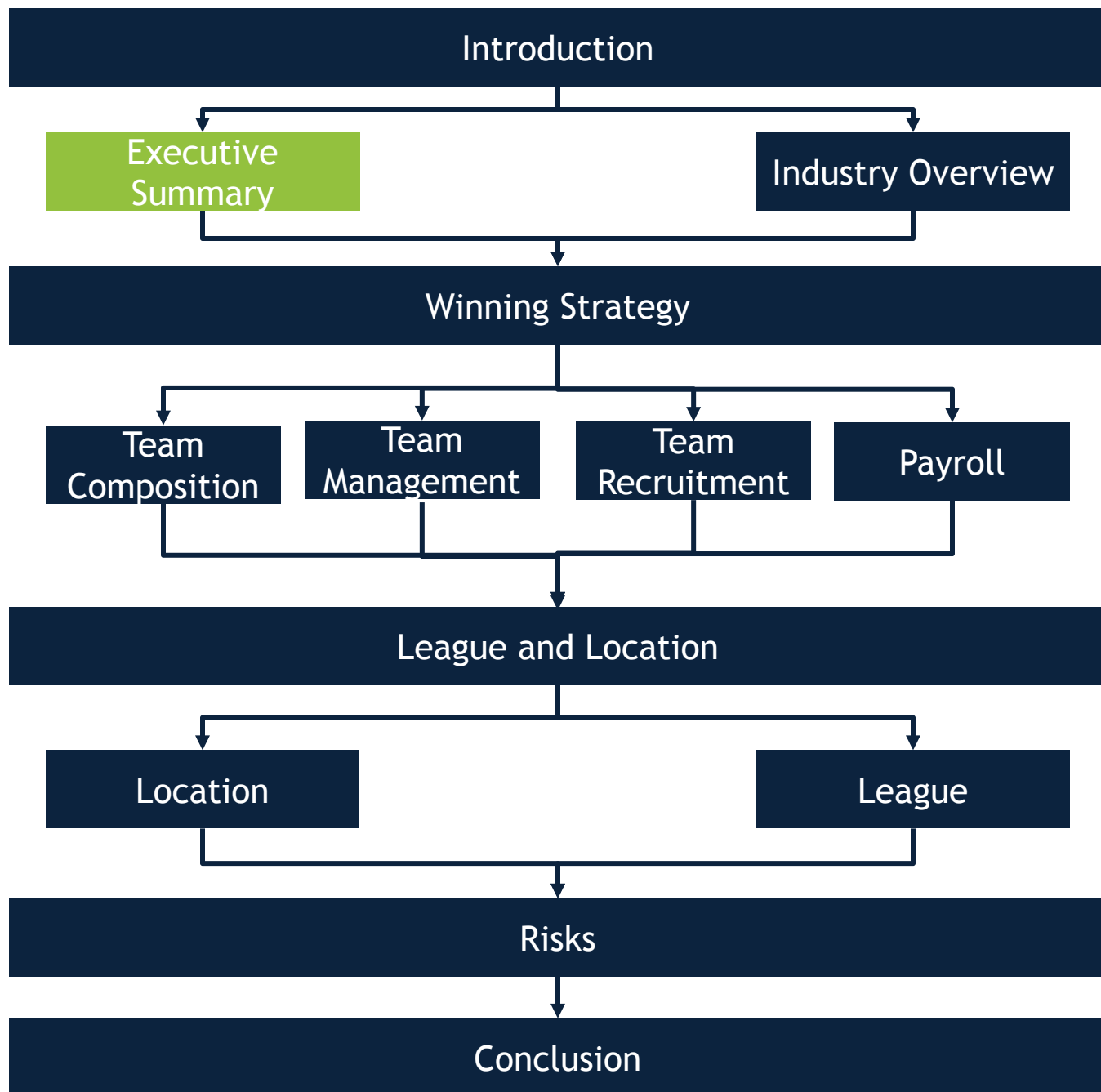
Patrick Stepien
Junior
Chemical Engineering



Wendi Gradoville
First Year of Studies
Economics and ACMS



Vince Sellner
Junior
Mechanical Engineering



Executive Summary



Client Situation:

Client wants to start a new MLB Team that will make the playoffs by 2020

Choose a league to optimize winning

Choose a location between Charlotte, NC; Las Vegas, NV; and Memphis, TN

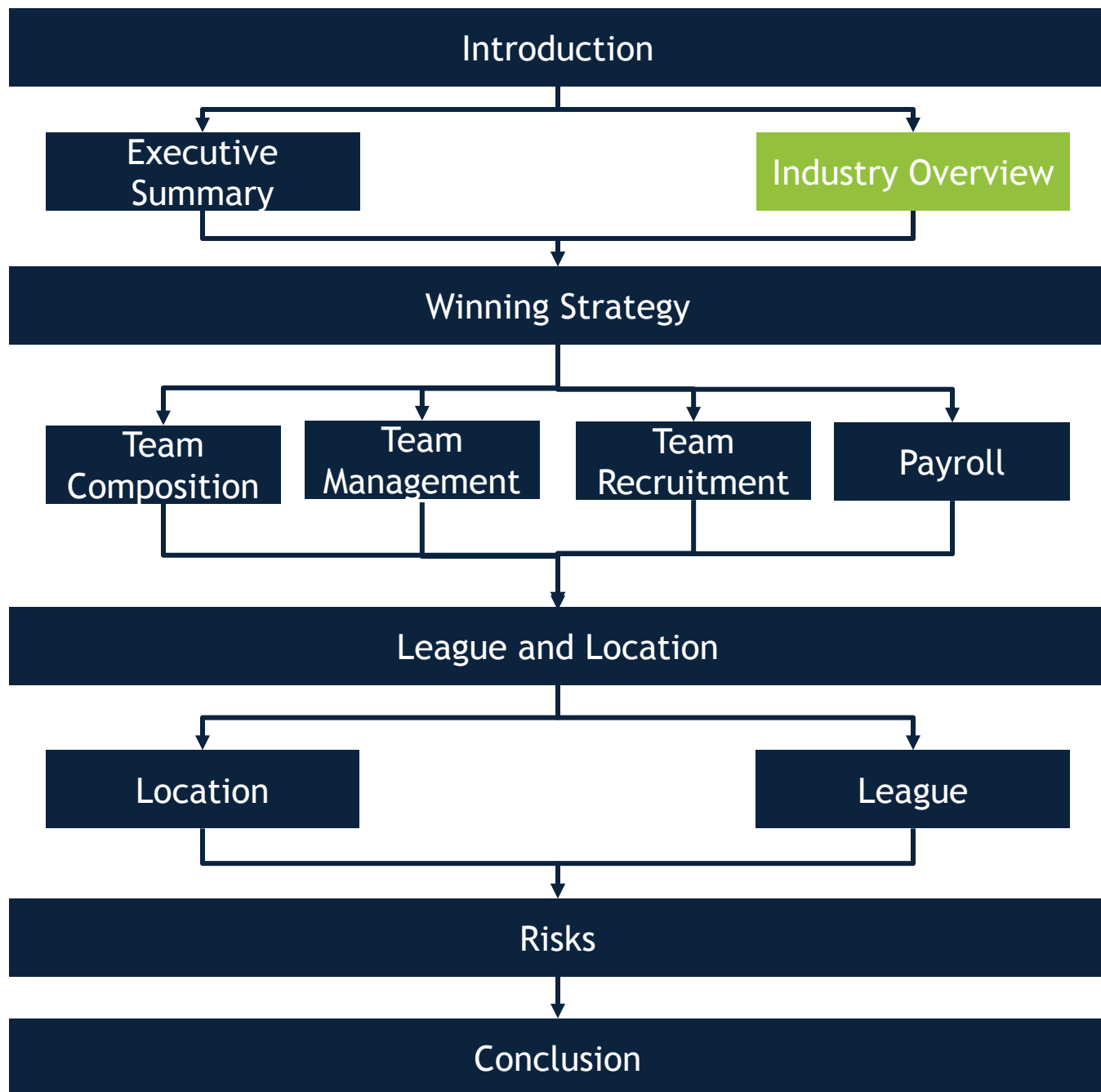


Strategy Recommendation:

Focus on recruiting experienced pitchers from the US system to make the playoffs.

Join the National League

Start the team in Charlotte, NC



MLB Industry Overview



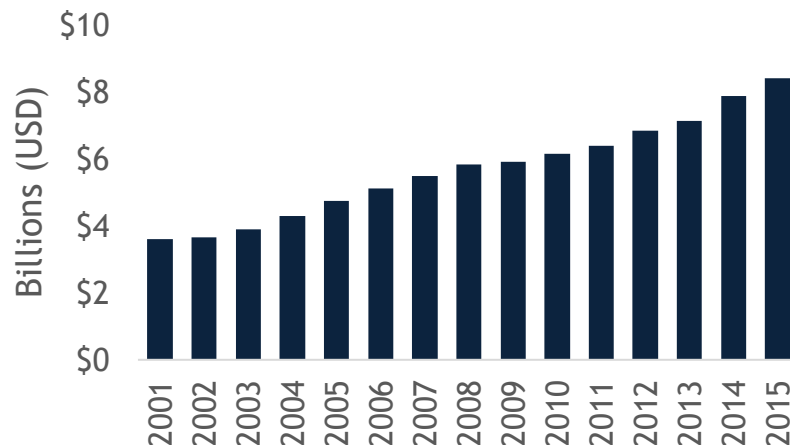
Industry Landscape

- Founded in 1903
- Composed of the American and National Leagues, both made up of 15 teams
- Expected to maintain recent growth
- High competition and increasing barriers to entry
- 50% viewers are 55 or older, 70% are male, 83% are white

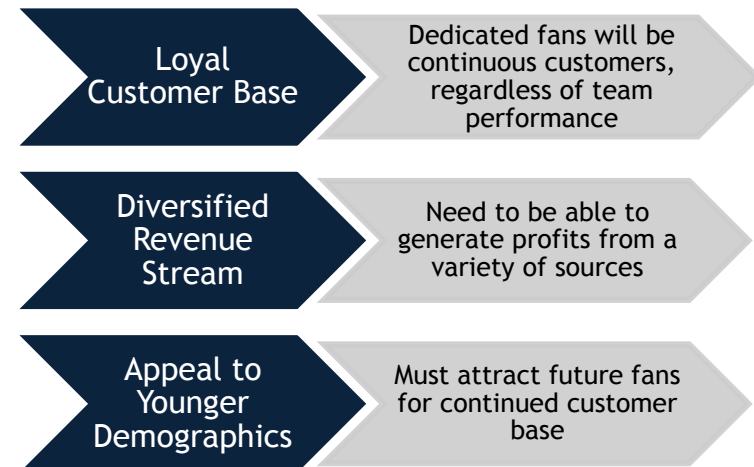
Map of Major League Baseball

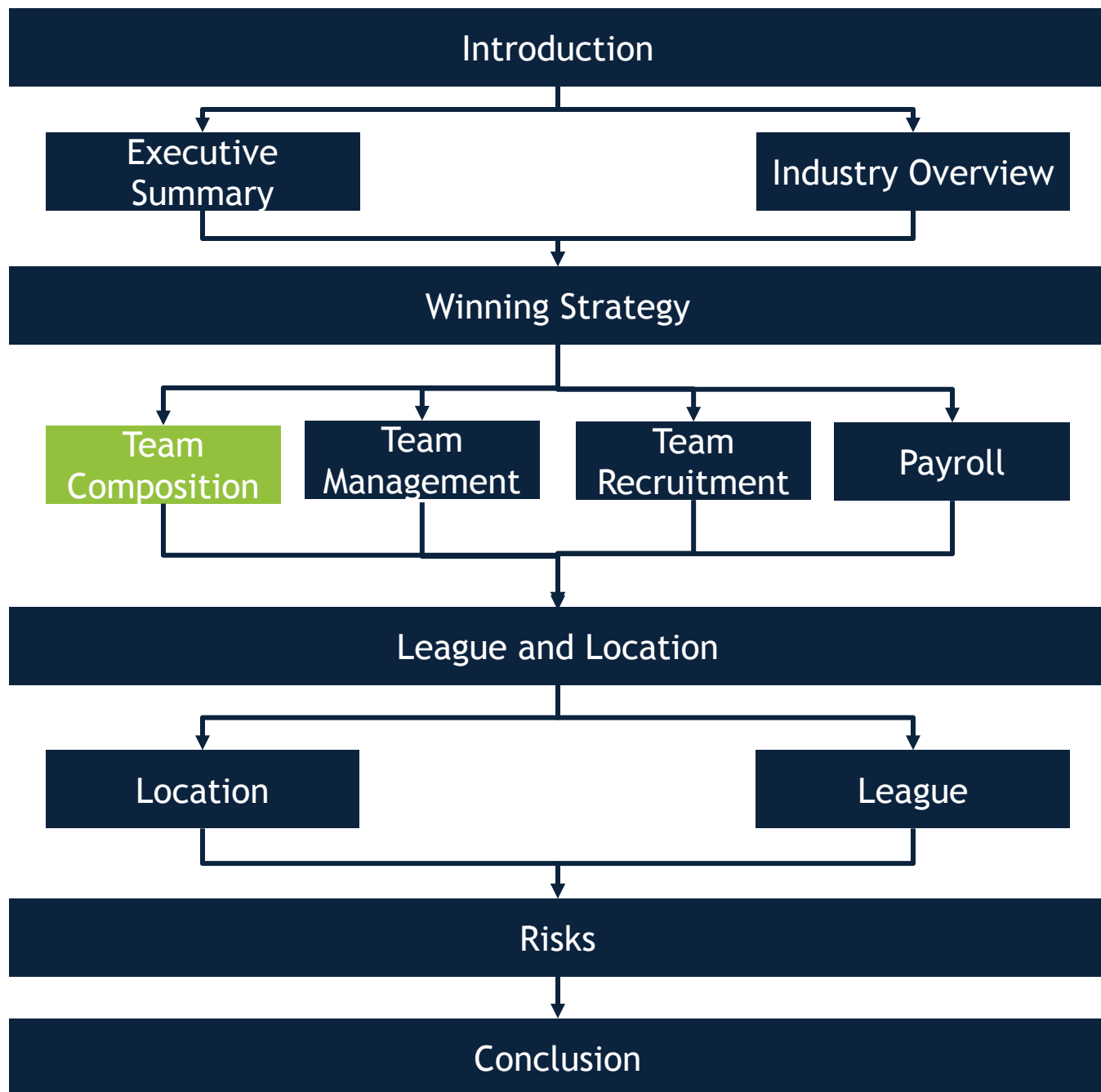


Revenue Growth



Key Successful Factors



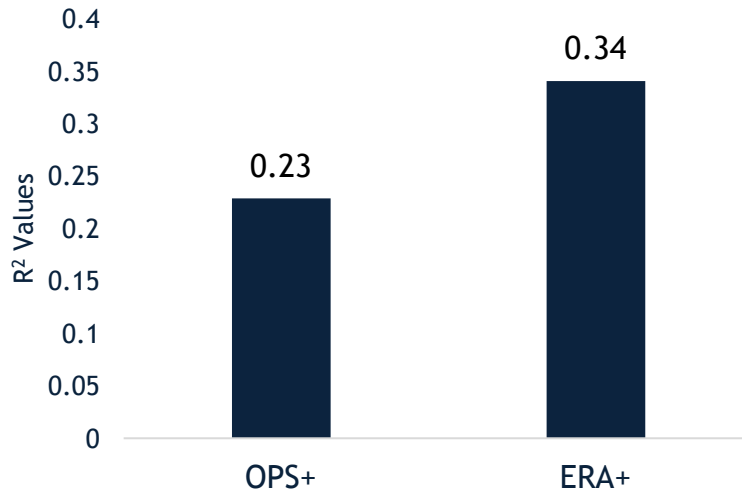


Focus on pitching, particularly pitchers with low walk and home run rates



Pitching vs. Hitting

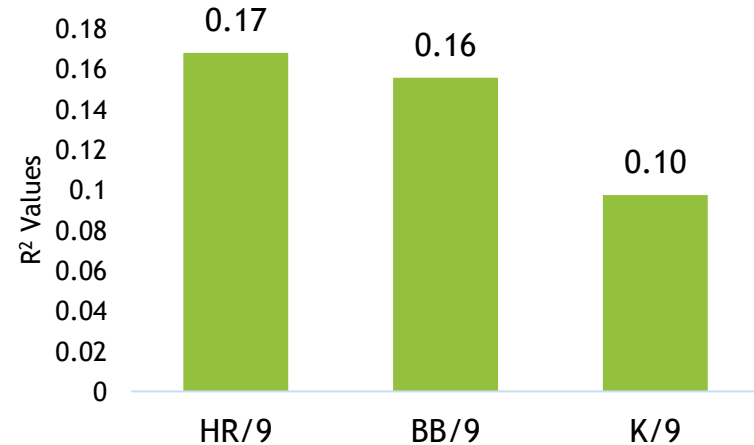
Correlation with Making Playoffs,
2012-2016



- OPS+: Standardized Hitting Statistic (OPS: On-base Plus Slugging)
- ERA+: Standardized Pitching Statistic (ERA: Earned Run Average)

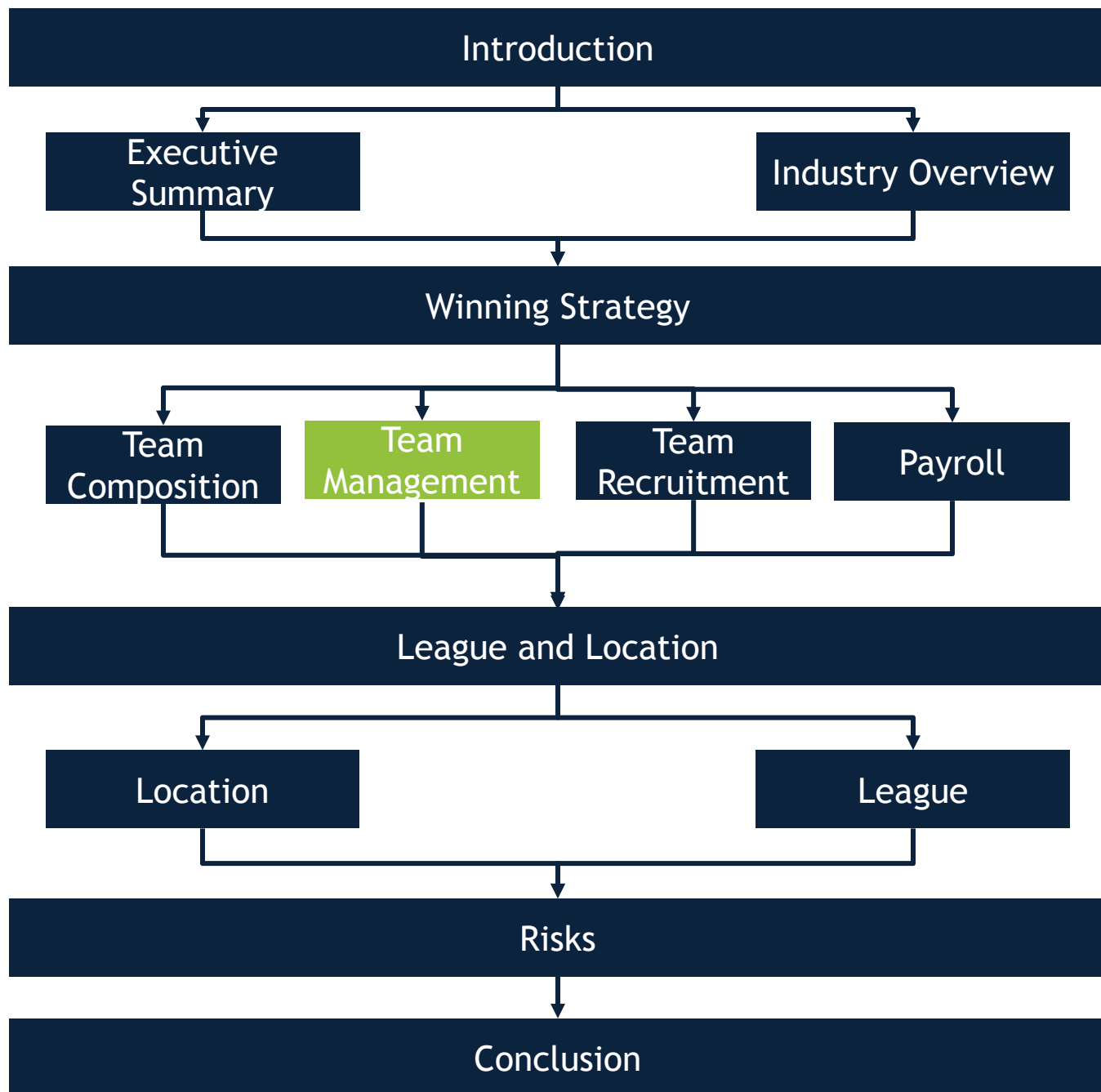
Specific Stats to Look For in Pitchers

Correlation with Making Playoffs,
2012-2016



- There are three main pitching statistics that are almost entirely independent of team fielding
 - Home run rate (HR/9)
 - Walk rate (BB/9), and
 - Strikeout rate (K/9)

The new franchise should focus on acquiring strong pitching in its first couple of years, defined as pitchers with low home run and walk rates.



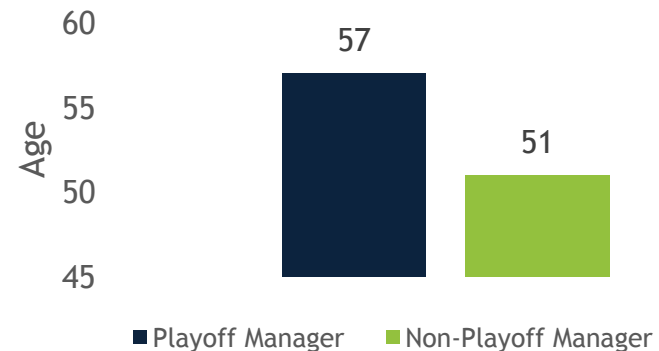
Managers who bring their team to the playoffs are older and experienced



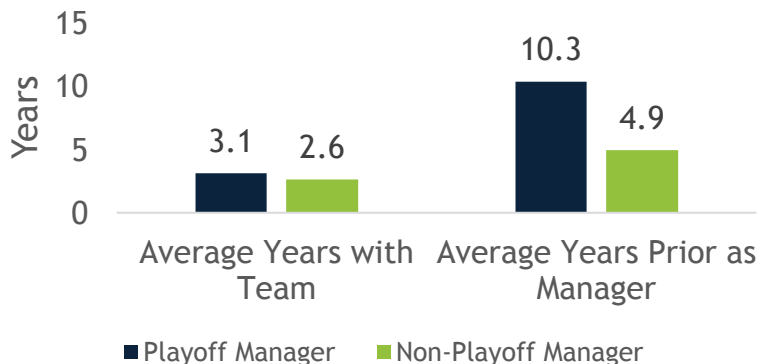
Quick Facts

- **10/10** playoff managers played in minor leagues
- The average playoff manager was a manager for **2 years** prior to making the playoffs
- The **top 3** vote-getters in ESPN The Magazine poll all made the playoffs in 2016
- Winner of the poll - Joe Maddon - led Cubs to World Series win

Average Age of a playoff Manager

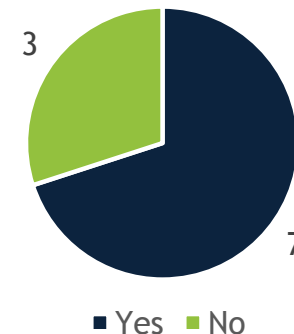


Experience as a Manager

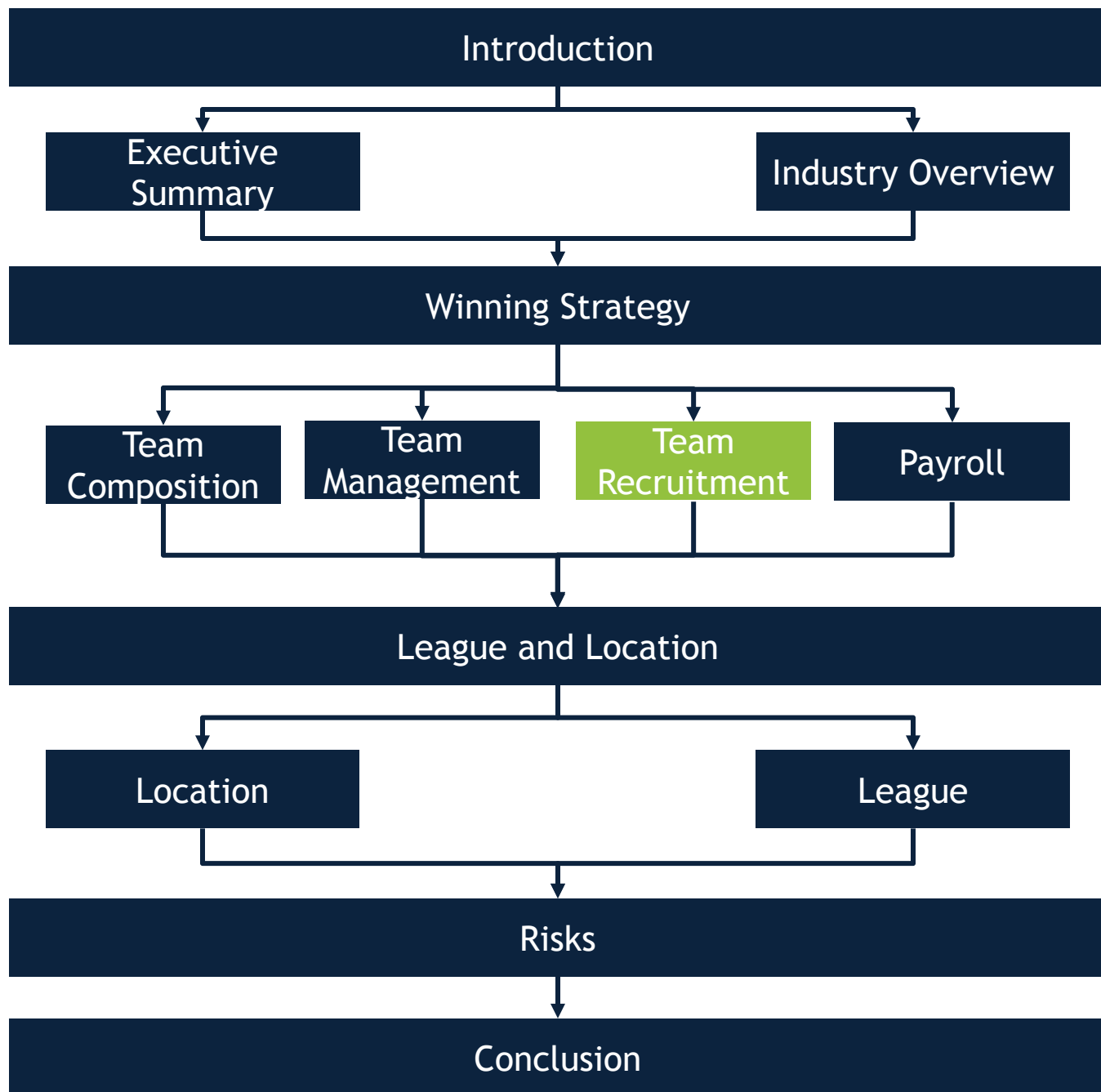


Experience as a player

Played Season in MLB



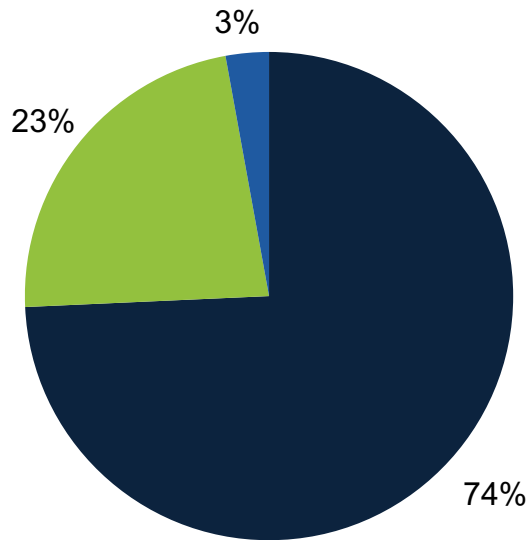
For a greater chance at making the playoffs, a manager with extensive experience as a manager and as a player should be acquired.



Analysis of Top 35 High-Value Starting Pitchers

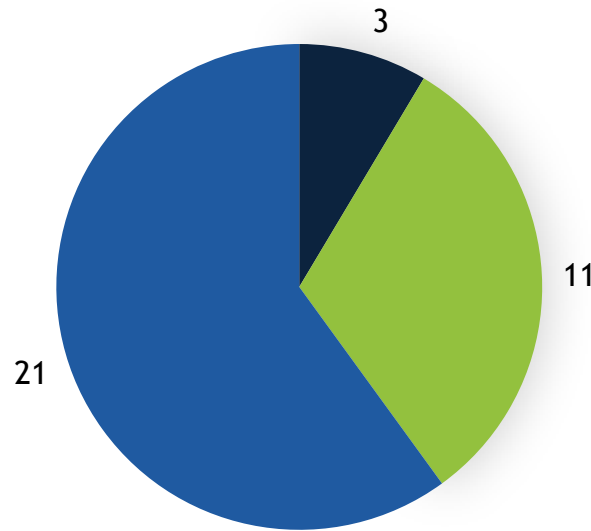


Location



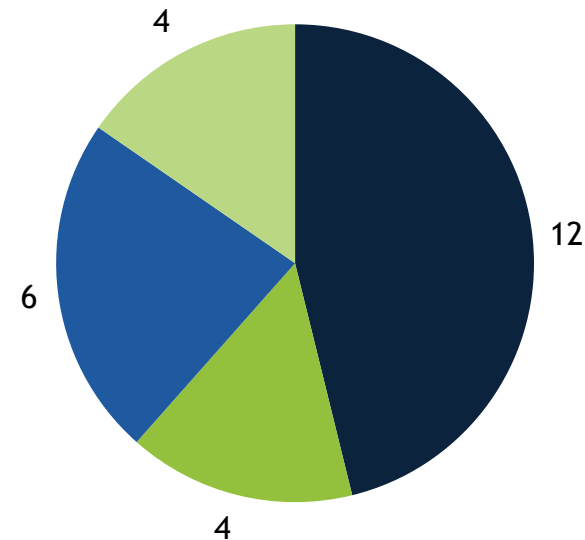
■ U.S. ■ Latin America ■ Asia

Experience



■ < 1 Year ■ 1 < 4 Years ■ > 4 Years

Draft Round



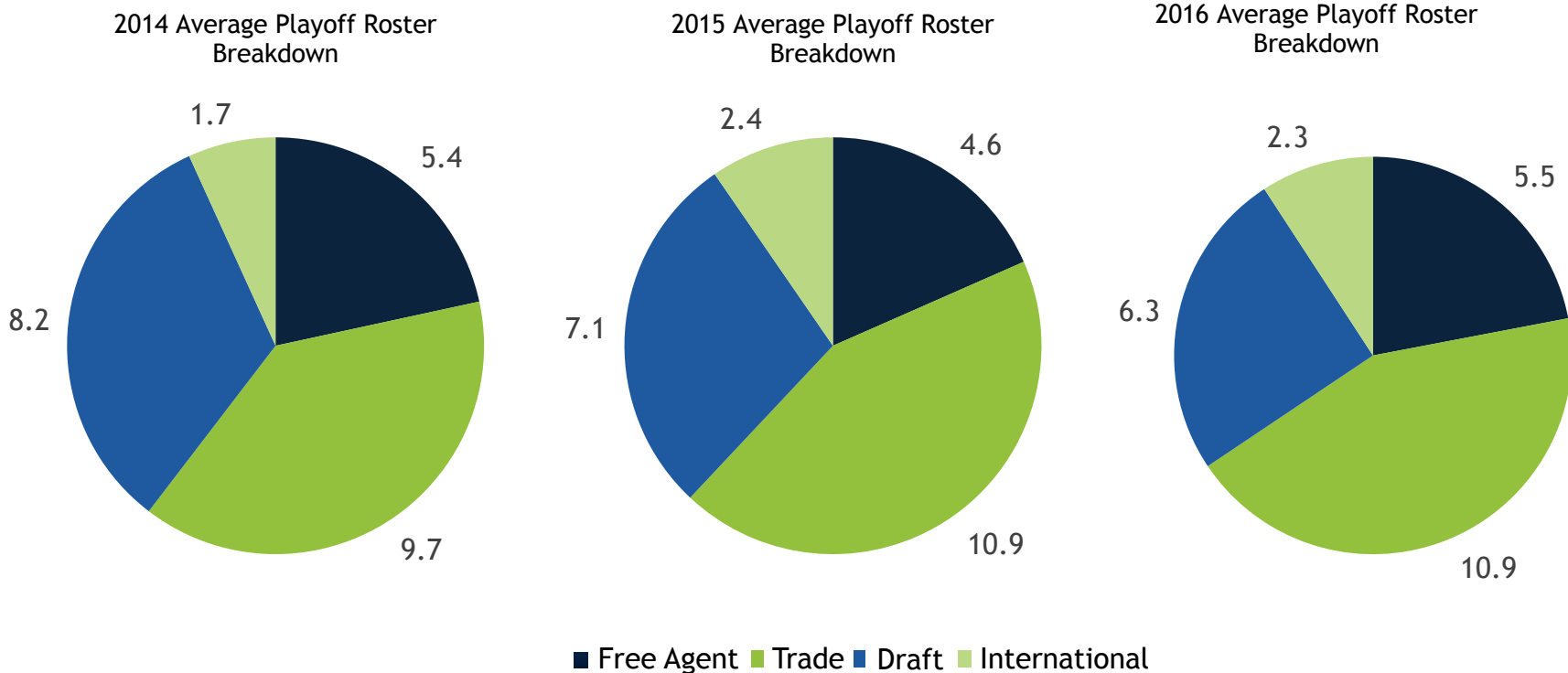
■ Round 1 ■ Round 2-3
■ Round 4-7 ■ Round 8+

The most-valuable pitchers are experienced players drafted in early rounds from the US system. The new franchise should recruit pitchers that fit these criteria.

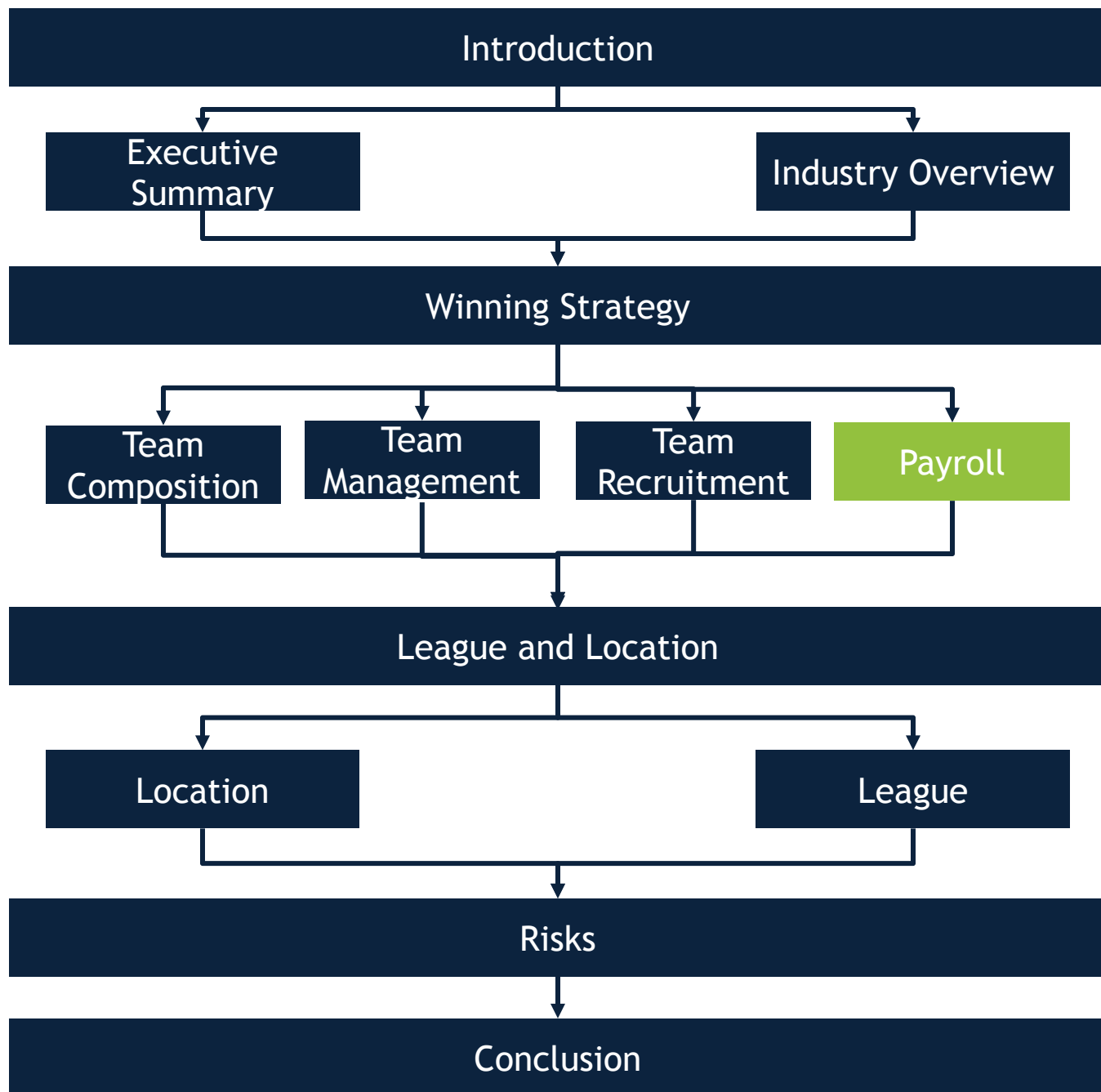
Playoff teams focus on traded and drafted players



Playoff Roster Breakdowns: 2014 - 2016 Playoff Teams



For the past three seasons, the rosters of playoff teams have followed a consistent trend: 1-2 international players, 4-5 free agents, 6-8 drafted players, and 10-11 traded players. The new team should follow this pattern.



High Payroll Leads to Making the Playoffs

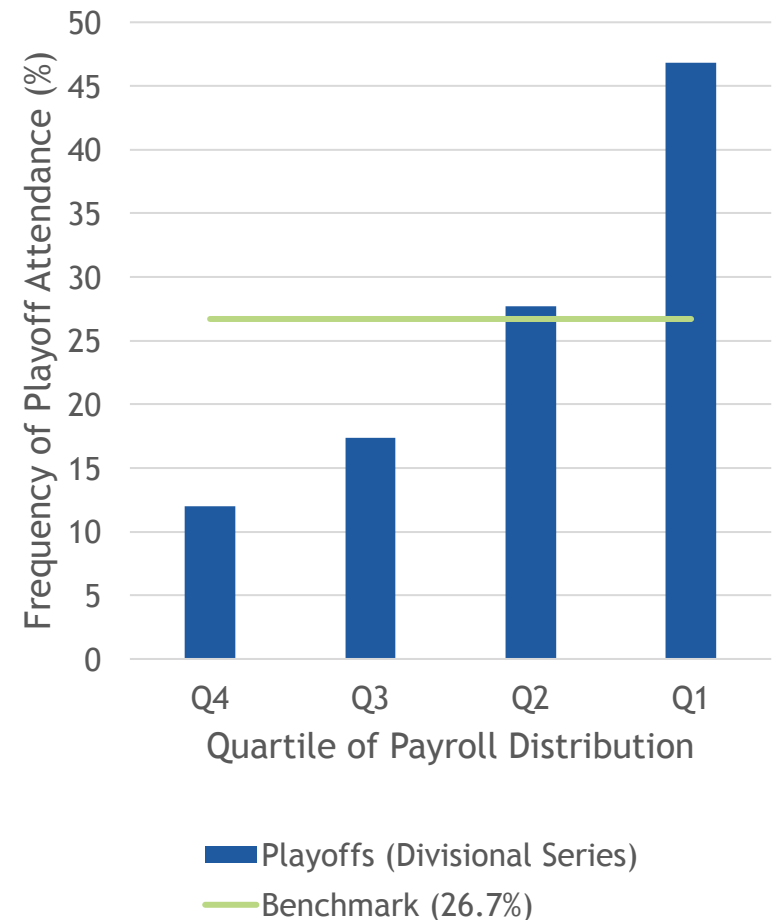


Relationship Between Payroll and Wins

Period of time	Correlation (R^2)
1 year	.0289
2 years	.1225
3 years	.16
4 years	.1936
5 years	.2401

There is little correlation between a high payroll and wins over one year, but high payroll correlates with sustained success

Effect of Payroll on making the Playoffs, 1995-2013

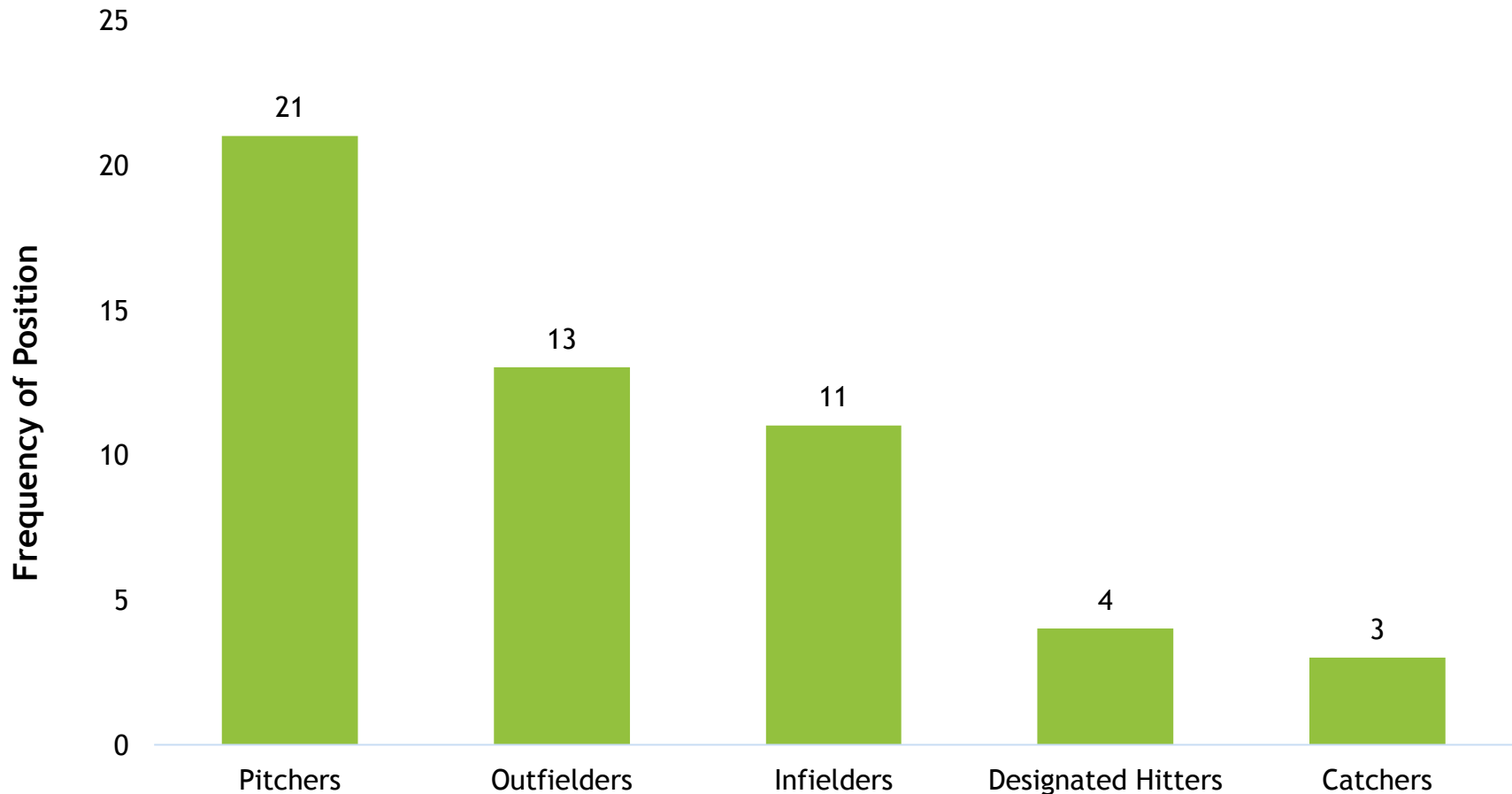


It is evident that the correlation between payroll and sustained success is high and teams in the top half of payroll make the playoffs at a significantly higher rate.

Pitching is biggest contributor to payroll



Positional Breakdown of 52 Highest 2017 Salaries



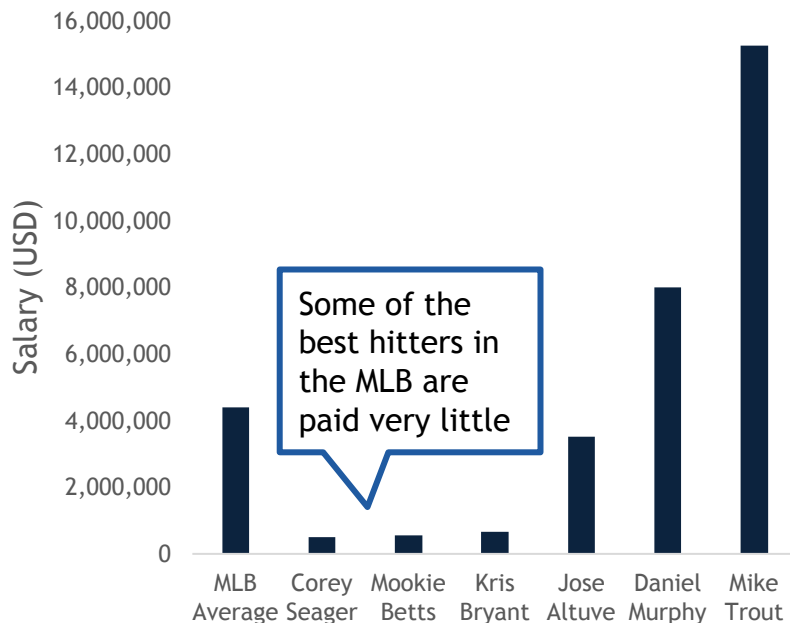
Top pitchers are generally experienced and expensive, but will be necessary for the team to succeed and make the playoffs.

Young Hitters Provide Higher Return on Value



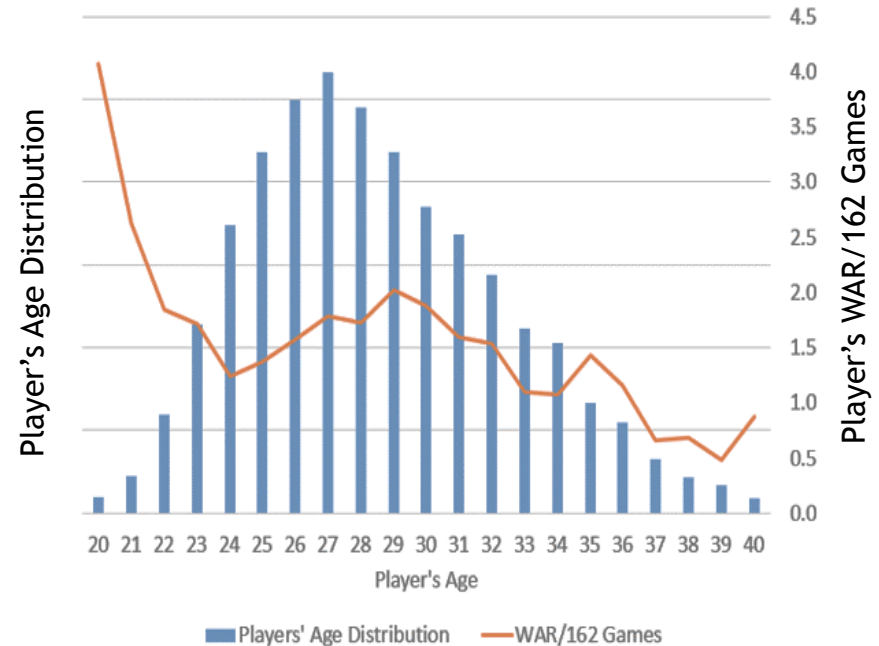
Rookie Contracts

2016 MVP Voting Top Finishers' Salaries



MLB teams have control over rookies for 6 years after being called up to major leagues

Efficiency by Age



- WAR, or Wins Above Replacement, measure a player's value to a team
- WAR generally decreases over a career, especially past age 30

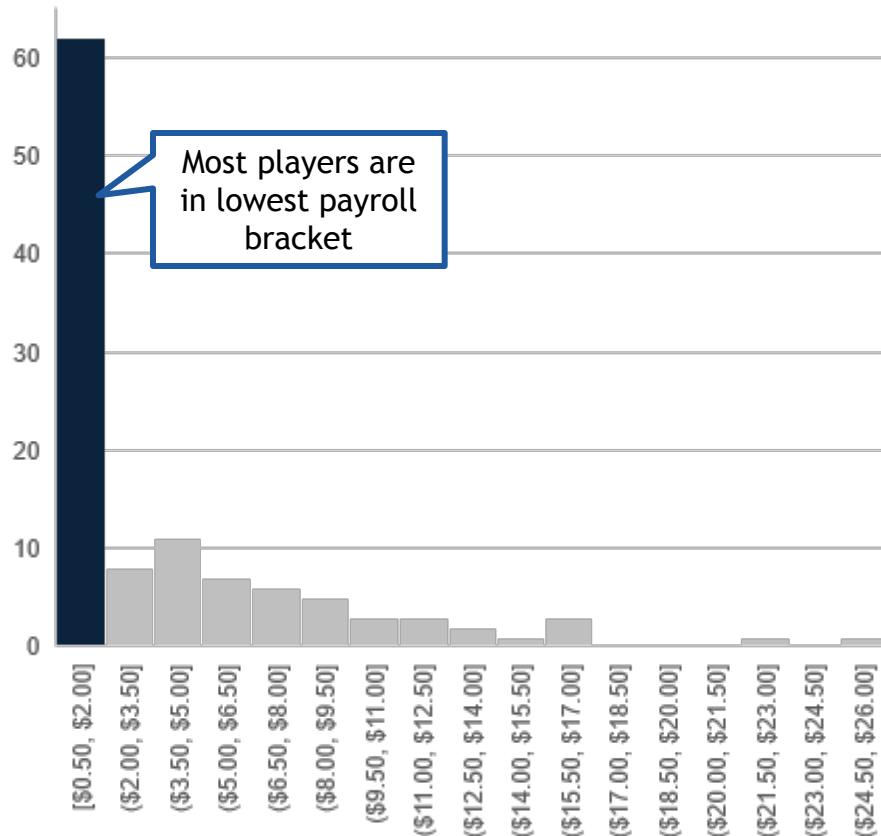
The team's ideal payroll strategy is to maximize talent from cheap, young hitters and spend the rest of the money signing elite pitching.

Proof of Concept: Case Study of 2014-2016 World Series Champs



Offset Veterans With Young Talent

Frequency of Salaries (\$millions)

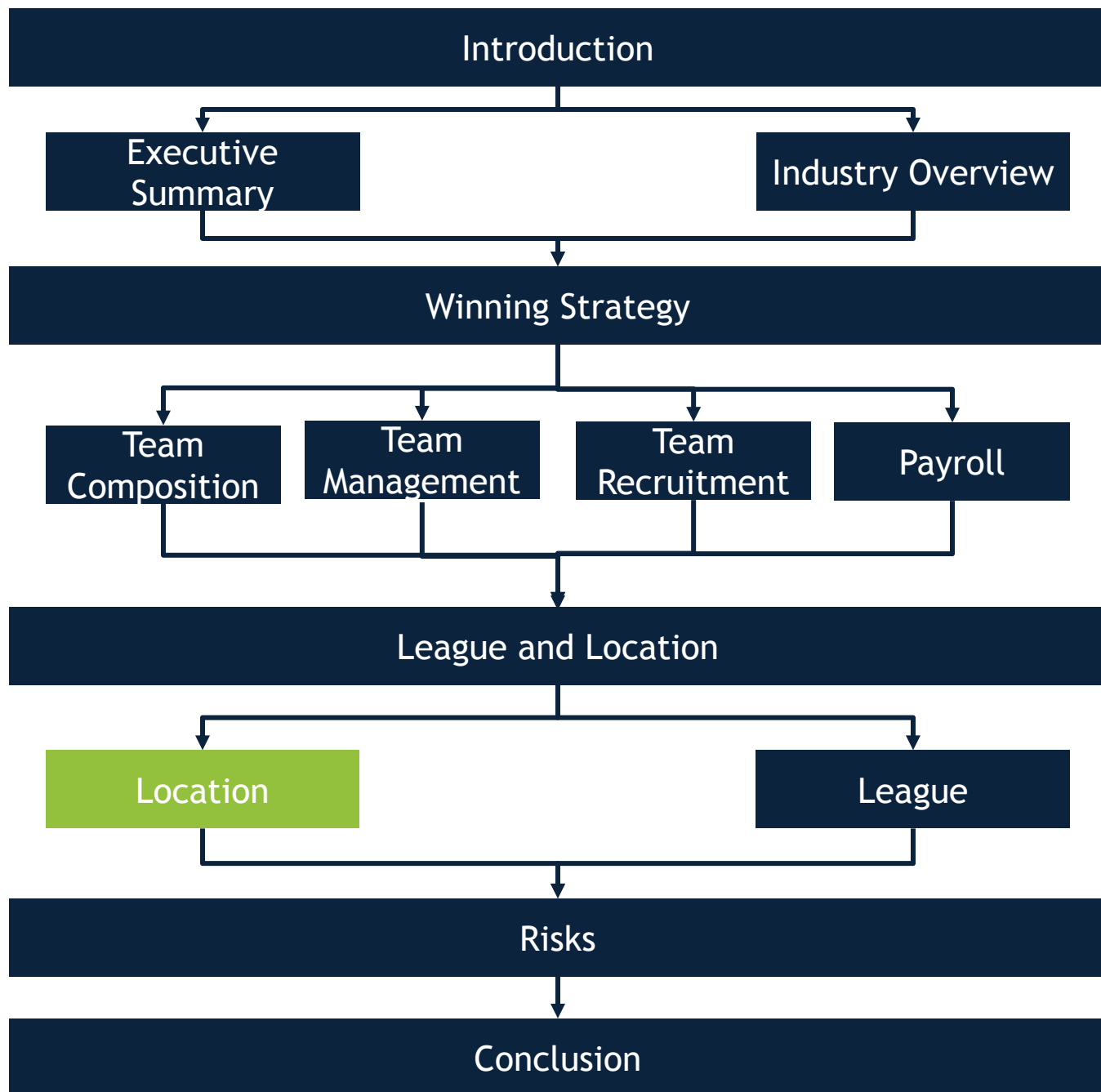


High Returns Worth Pitching Costs

Active Player Payroll by Position



Recent World Series Champion spend the majority of active payroll on pitching. Veteran pitchers can be acquired due to low cost of the rest of the team.

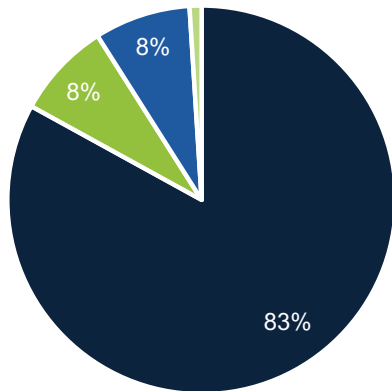


Charlotte and Las Vegas match MLB viewer demographics

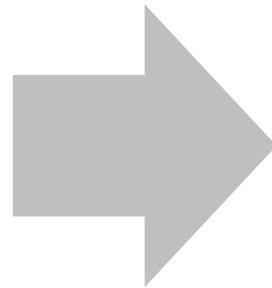


Demographics of Candidate Cities

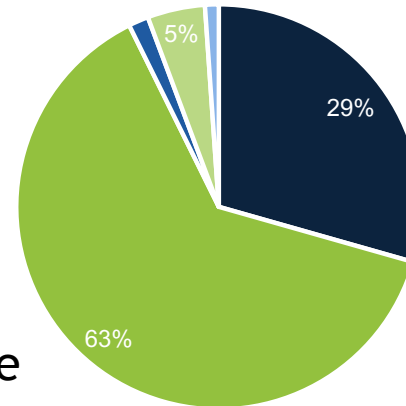
MLB Average Viewers



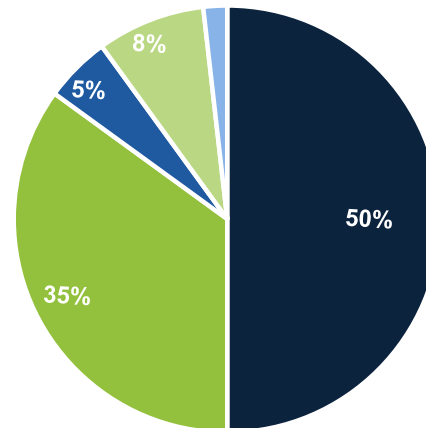
■ White ■ Black
■ Hispanic ■ Other



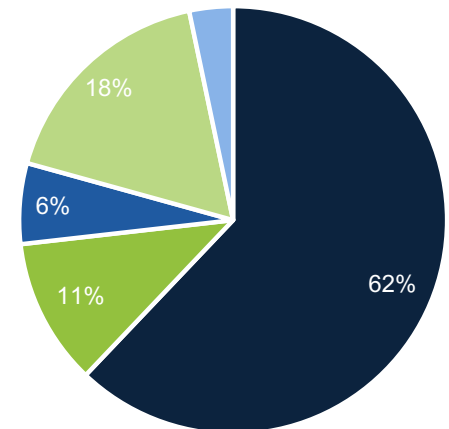
Memphis



Charlotte



Las Vegas

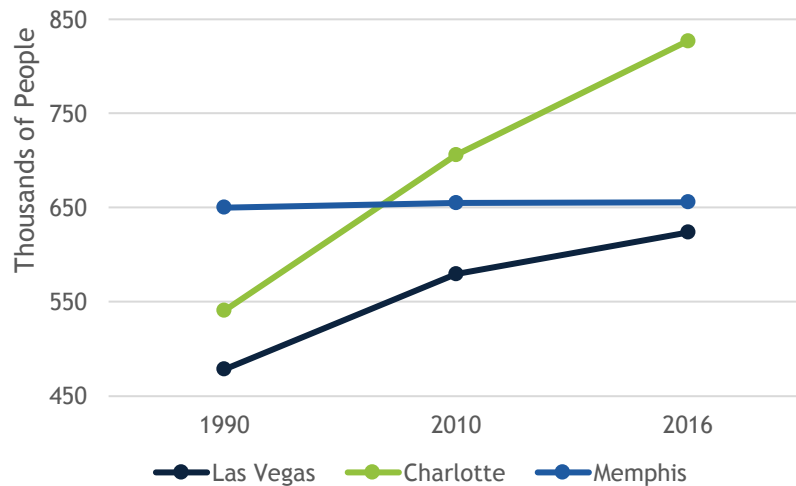


The demographics of Charlotte and Las Vegas align well with the average MLB viewership while Memphis's do not.

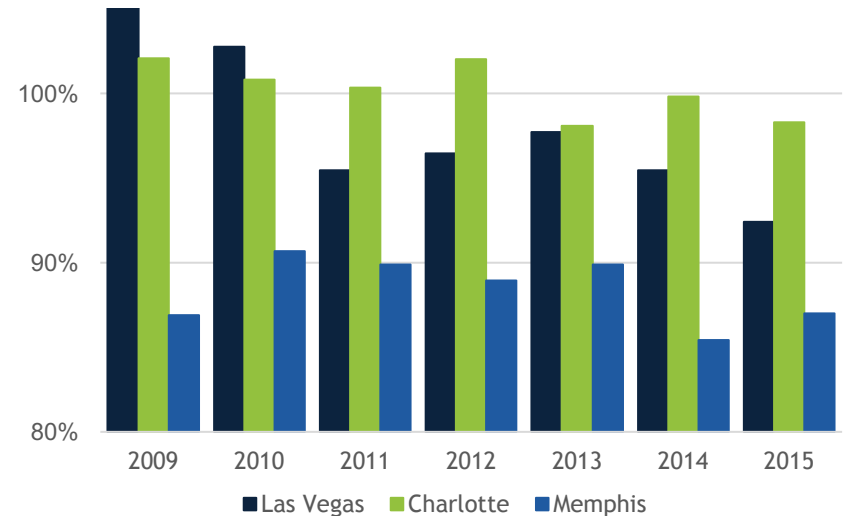
Charlotte's demographics are best suited for a successful team



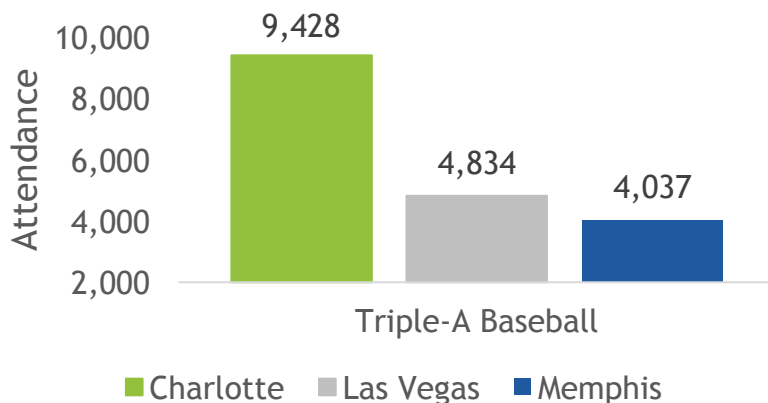
Population



Normalized Income Trends



Minor League Attendance



Charlotte is the best location

- Highest Population and Fastest Population Growth of the three locations
- Greatest Current Interest in organized baseball
- Consistently strong household Income level, compared to the national average

Charlotte provides the best market opportunities



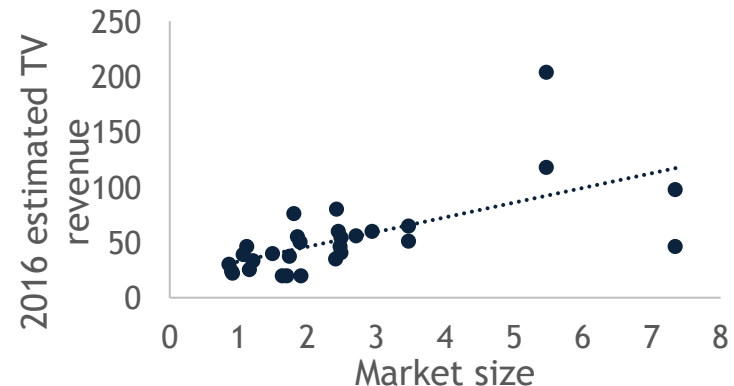
Key Demographics

	Charlotte	Las Vegas	Memphis
Media Market Size	#22	#40	#50
Metro Area Size	2.4 million	2.1 million	1.3 million

Television Deals

- The new team must maximize its local cable TV deal in the 22nd largest market
- Fox Sports Carolinas currently broadcasts Reds and Braves, but a team in Charlotte would easily replace them
- MLB teams receive anywhere between \$20-\$200 million annually in TV deals, which has a huge impact on spending money on players

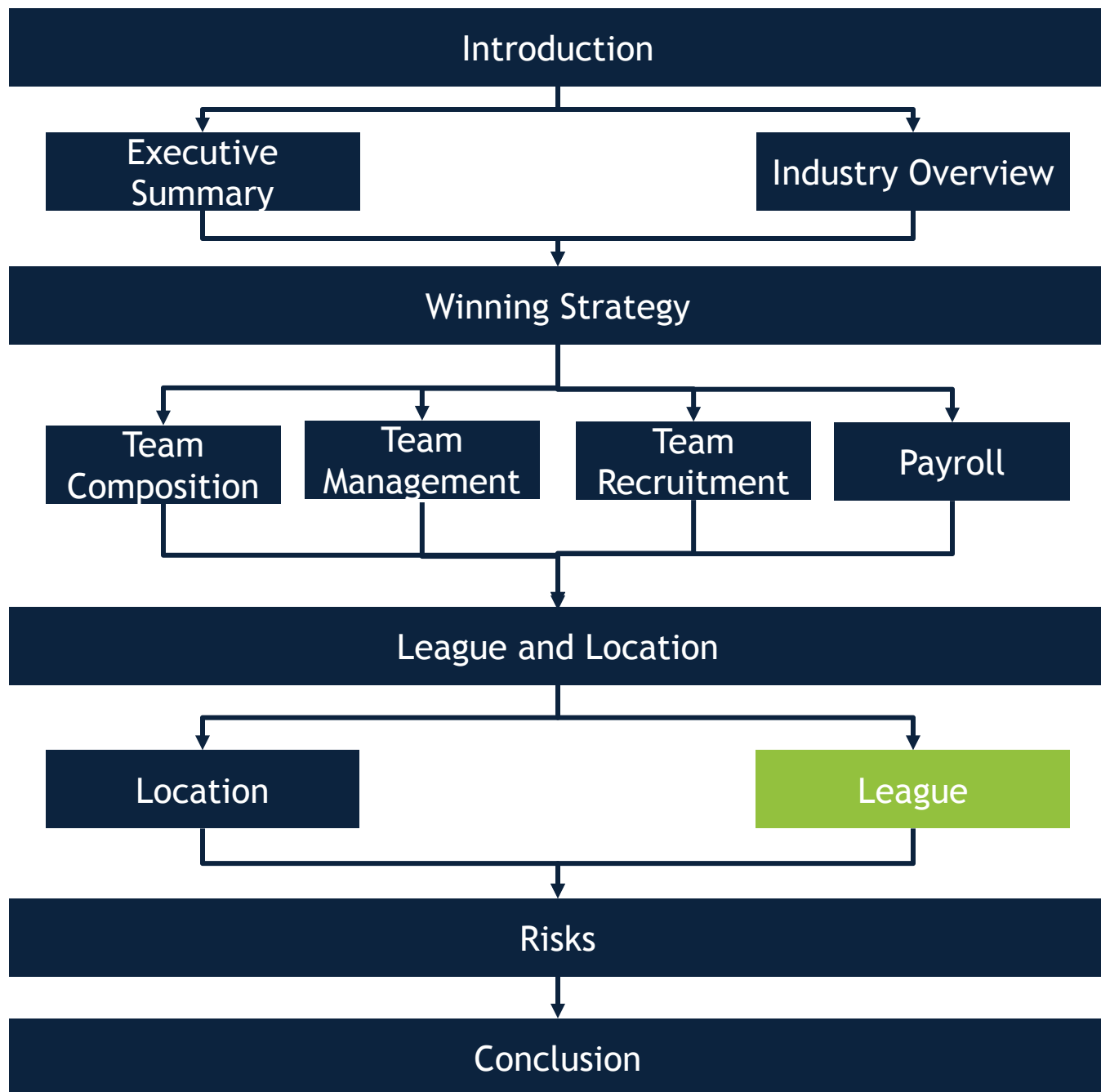
Cable TV Revenue (\$M) and Market Size (M)



MLB Sponsors



Charlotte has the largest Media Market Size of the three locations. There are also many company sponsorships for the MLB in Charlotte.



National League provides higher chance of making the playoffs



Collective Division Win Percentage (2012-2016)

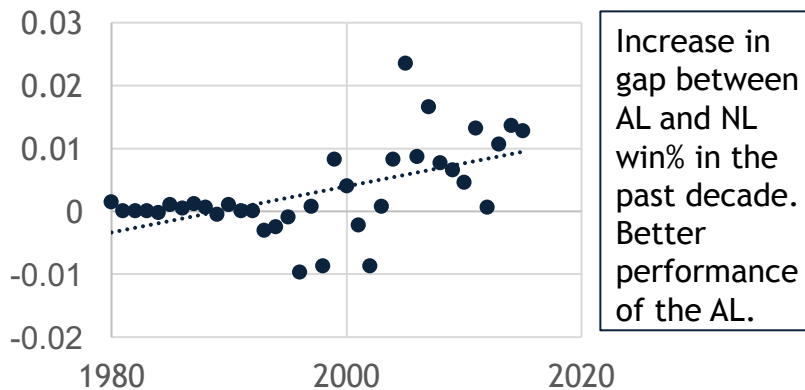
AL East • 0.520

AL West • 0.505

NL East • 0.491

NL West • 0.488

AL win% - NL win%



Comparison

Payroll

- 9 of the top 15 payrolls in 2016 came from AL
- Yankees and Red Sox (both AL) are consistent top spenders

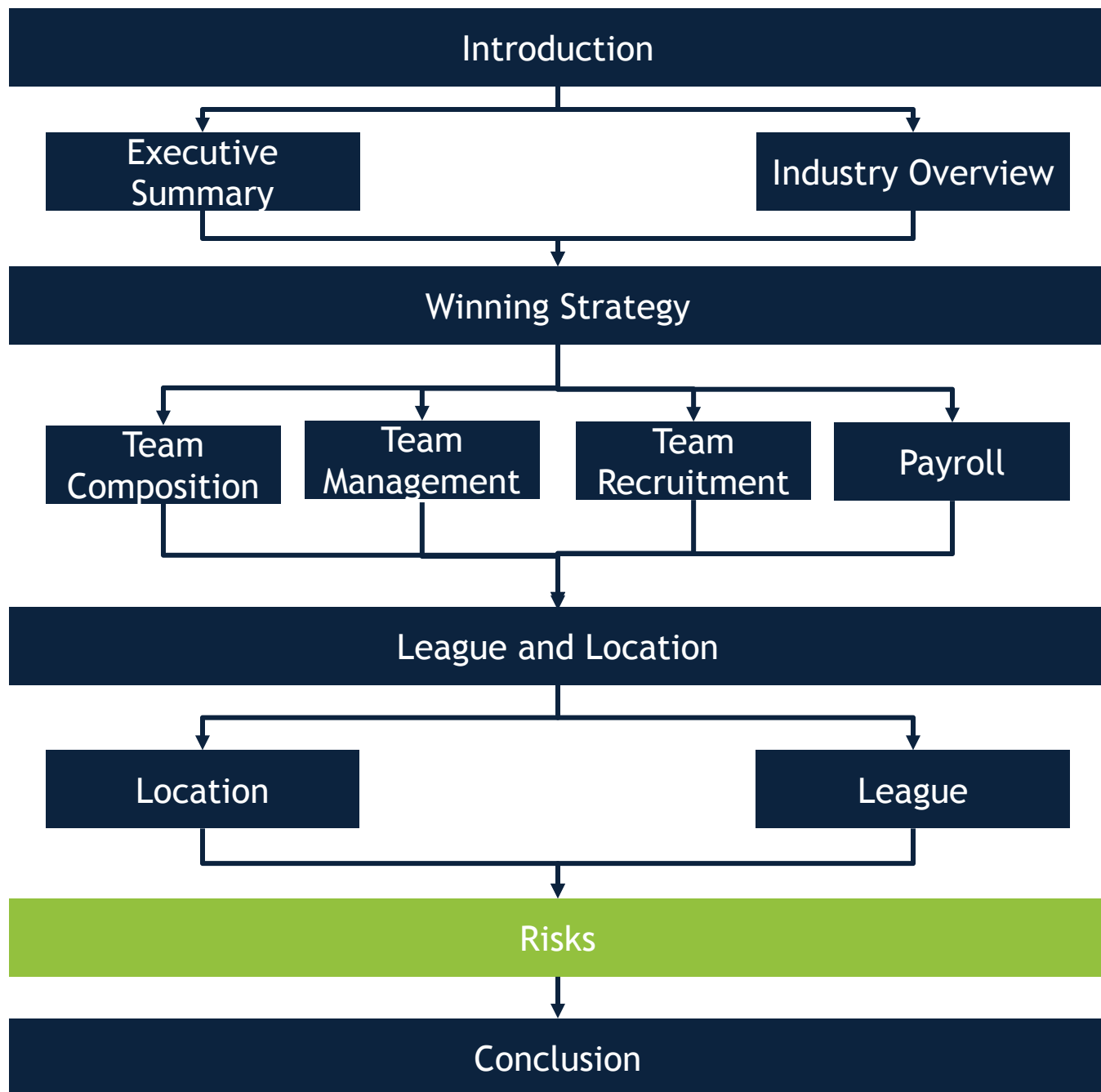
Interleague Play

- AL has won 54.7% of interleague games from 2004-2015
- AL has winning interleague record over NL each year since 2003

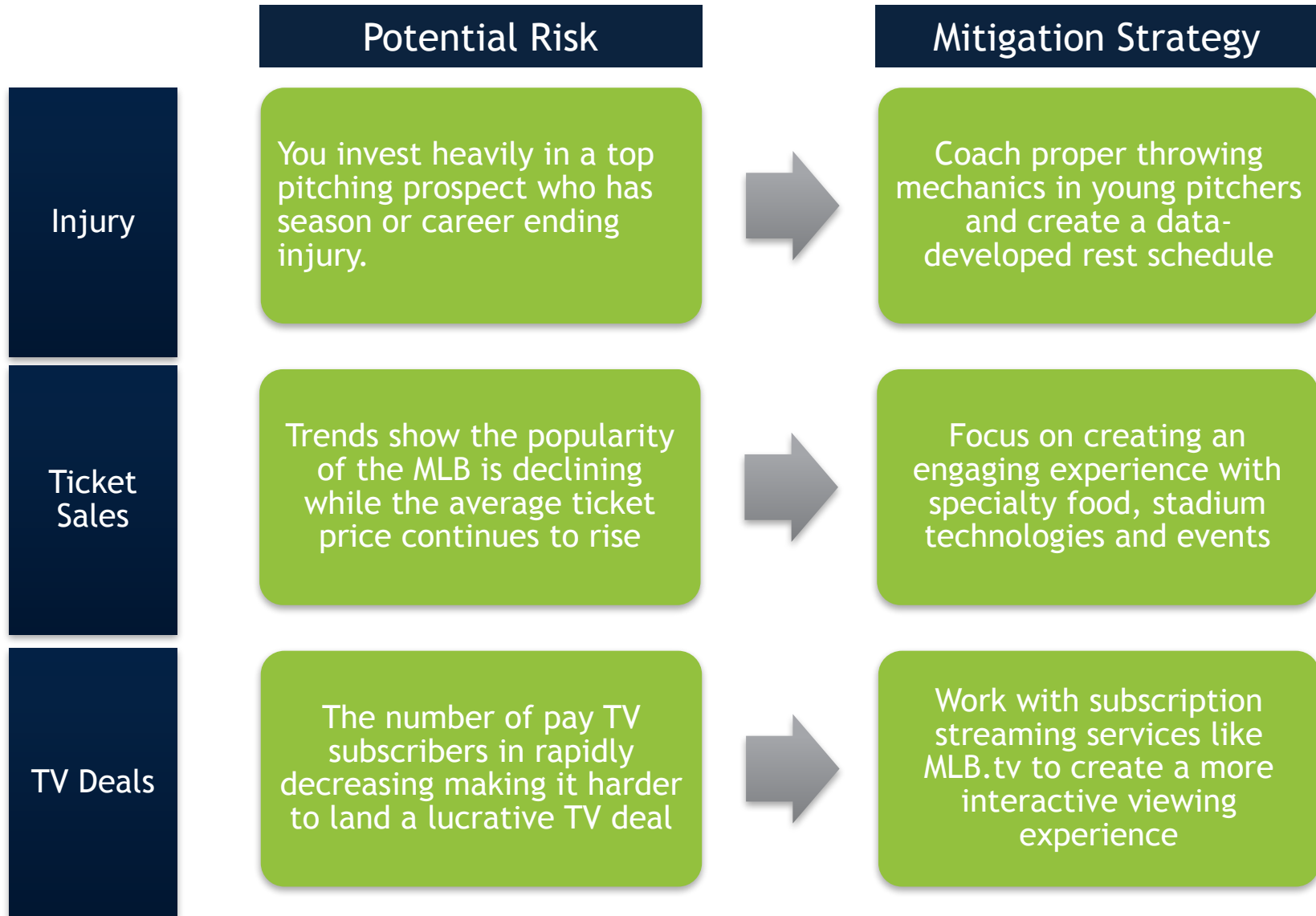
Division Strength

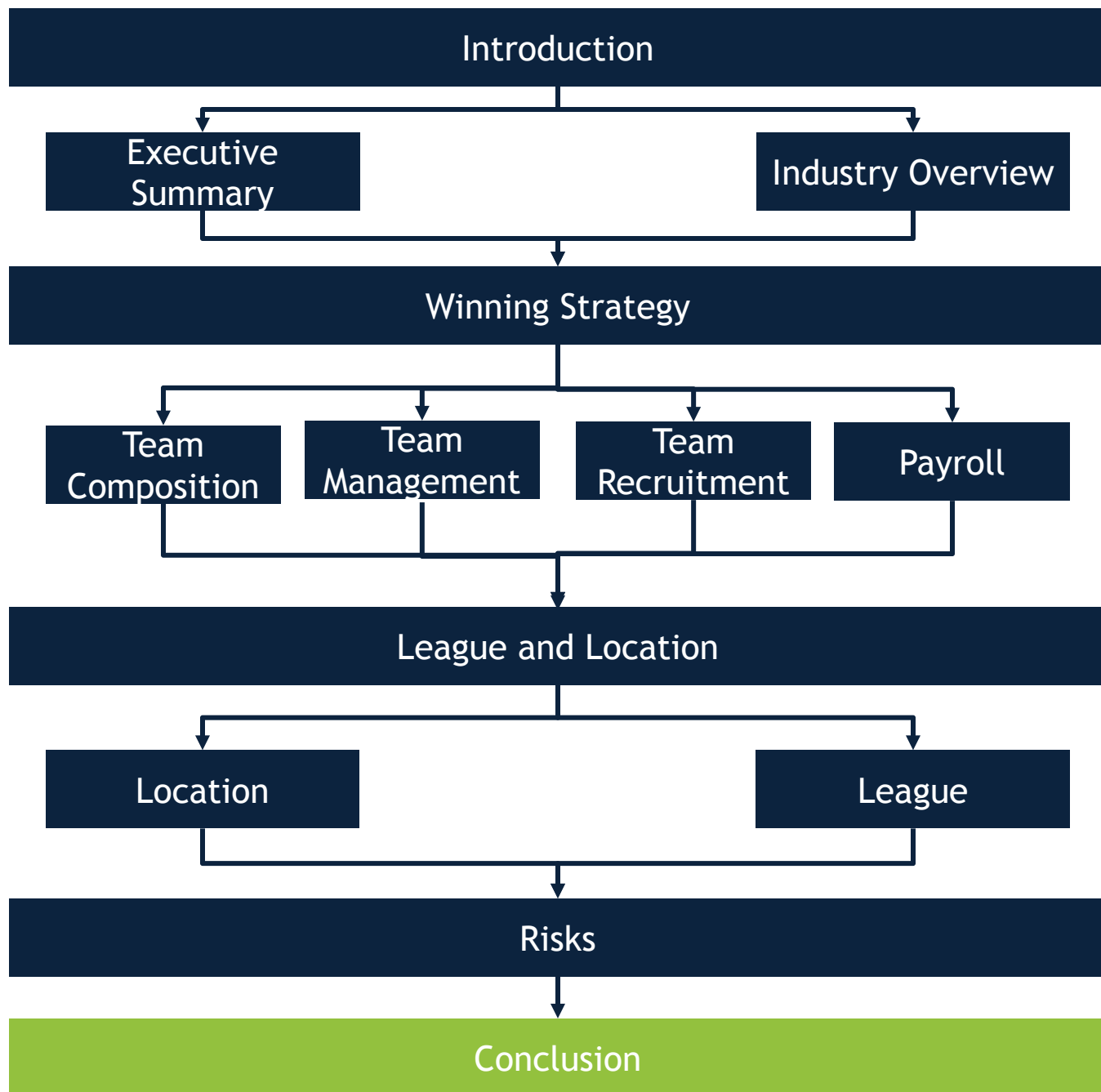
- Charlotte will likely be placed in the East or West, respectively
- NL East and NL West have collective sub-0.500 records over the last five years

The team should enter into the National League because competitors have lower payroll as well as lower win percentages. This increases our teams winning potential.



Major risks can be mitigated





Conclusion



Location

The team should be established in Charlotte, NC due to the good demographic fit and interest for traditional baseball, as well as a stable income above the national average.

League

The team should enter the National League in order to take advantage of the weaker performing opponents and avoid playing successful, dynastic teams in the American League.

Player Strategy

The team should focus the majority of its resources on acquiring experienced pitching talent. The rest of the team should be composed of young players who are still in their rookie contract.

Media + Management

Advertising and broadcasting media will be key revenue streams for supporting team operations. A respected and experienced manager should be hired to head the new team.



ANY QUESTIONS?



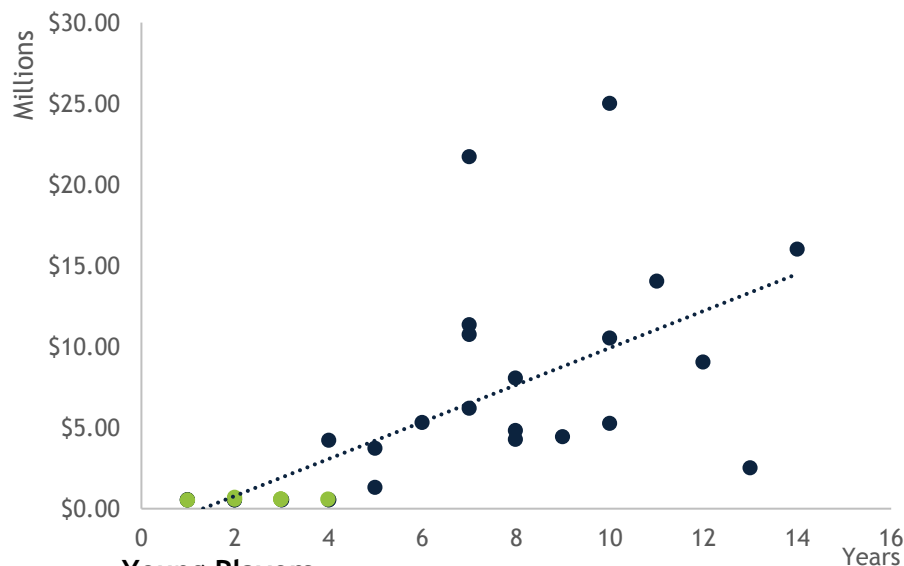
APPENDIX

Case Study: 2016 World Series Champs CHI Cubs



Young Talent Offsets Veteran Salary

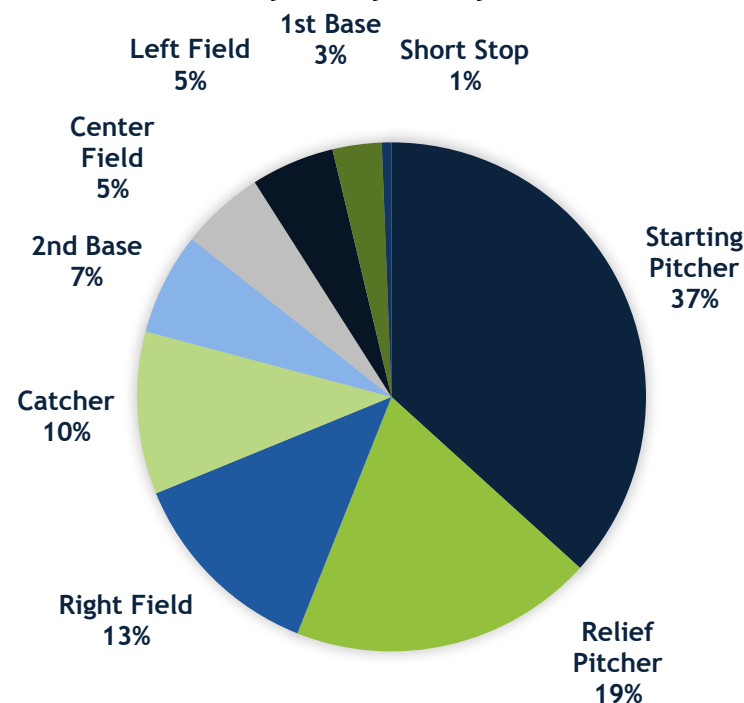
Active Roster Salary vs Experience



- **Young Players**
 - Salary starts at about **\$0.5mil** and can remain so for about 4 years
 - Even **top draft picks** are started on sub-million salaries
- **New Team**
 - A new team could spend more acquiring a few top pitching or hitting talents due to lower salary of young players

Invest in Pitchers, Specialty Players

Active Player Payroll by Position



- **Pitching and Specialty Positions**
 - Pitchers are **56%** of active player payroll; two-thirds of that are **Starting Pitchers**
 - **One player** rostered for first base but **high salary** makes the position 3% of total active player payroll

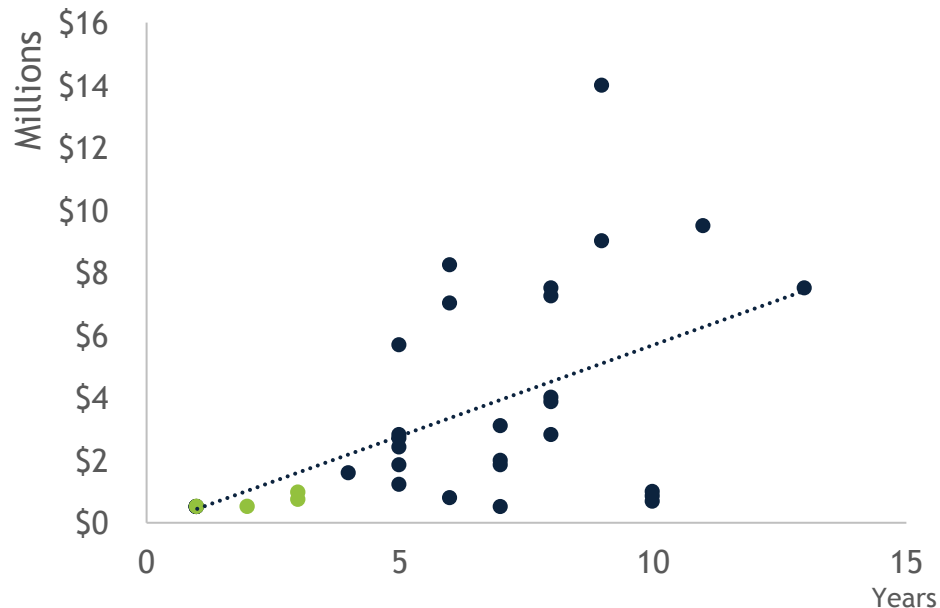
World Series Champion Cubs spent the most on pitching collectively and on specialty positions individually. Veteran players can be acquired due to low cost of rostering players with 4 or fewer seasons of experience.

Case Study: 2015 World Series Champs KC Royals



Reduce Costs with Young Talent

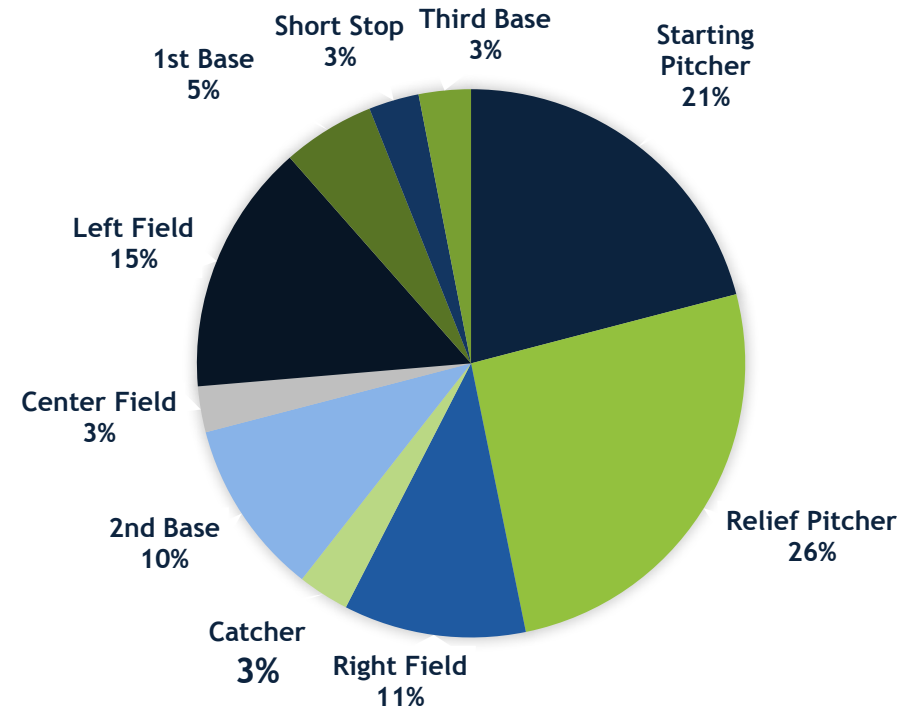
Active Roster Salary vs Experience



- Salary Increase is Delayed
 - Almost one-third of active roster has 4 or fewer years of experience
 - Trend line points to increase by \$0.5mil each season of play after first year, but jump occurs after year three
 - 43% of players have salaries at or below \$1mil

High Returns Worth Pitching Costs

Active Player Payroll by Position



- Pitching is Majority of Payroll
 - 47% of active player payroll is pitchers
 - Relief Pitchers are as much of active payroll as all outfield combined

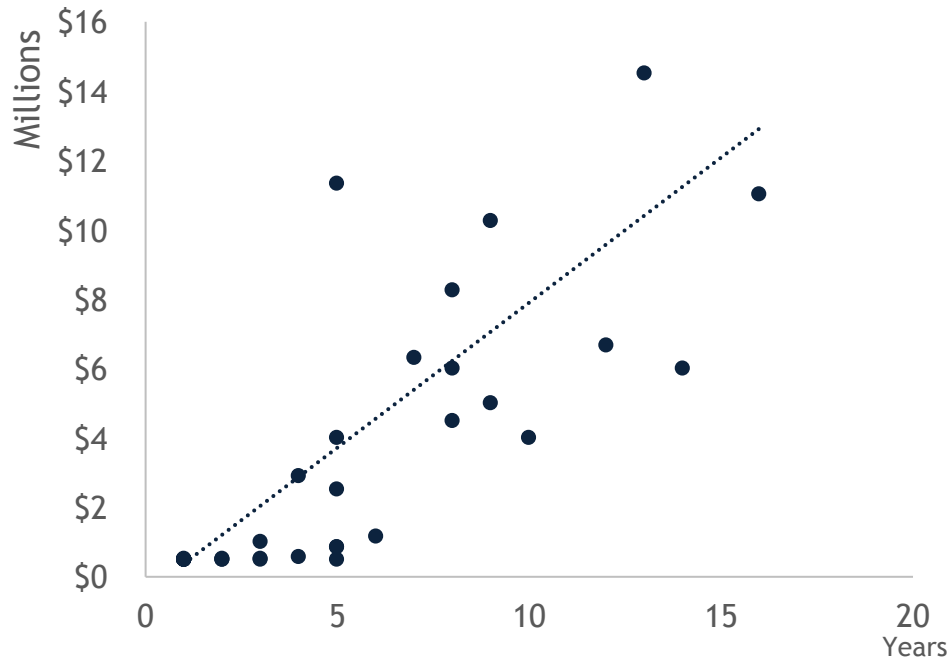
World Series Champion Royals spent half of total active payroll on pitching. Players with 4 or fewer years of experience make up almost one-third of the active roster. Salary increase is delayed for first 3 years.

Case Study: 2014 World Series Champs SF Giants



Reduce Costs with Young Talent

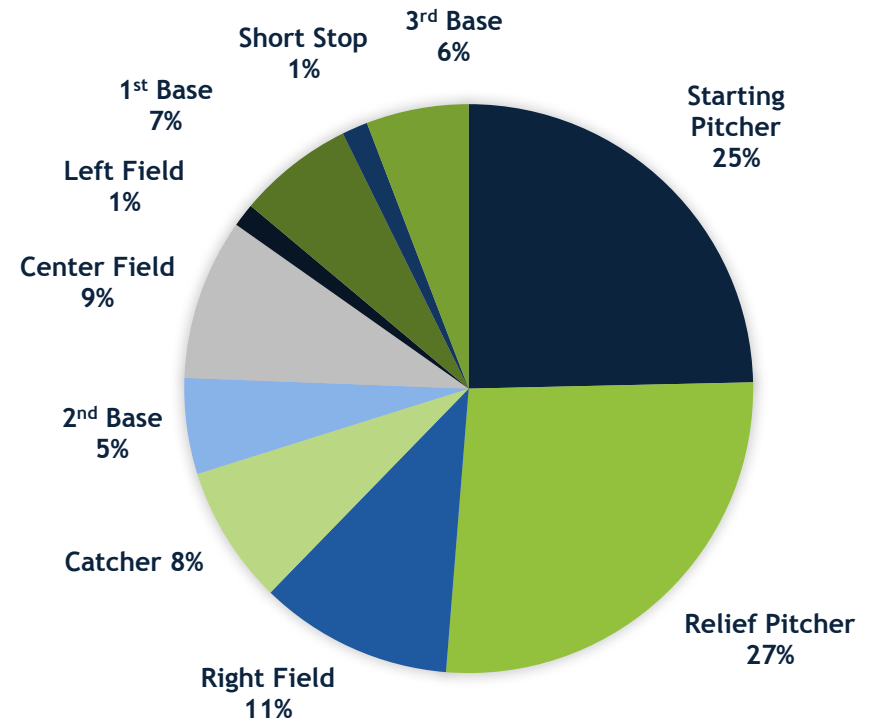
Active Roster Salary vs Experience



- Young Talent
 - **58%** of active roster at sub-\$1mil salary
 - Salary above \$1mil comes after 4+ years of experience
 - **53%** of Champion active roster has 4 or fewer years of experience

High Cost High Return Pitching

Active Player Payroll by Position



- Pitching
 - Accounts for **52%** of active player payroll
 - **43%** of active roster are pitchers

More than half of the Champion Giants team had 4 or fewer years of experience. Pitching accounts for majority of active payroll. Young players can be a solid foundation for a championship franchise.

Other Managerial Factors



Notable Managerial Successes

- Joe Maddon
 - World Series win, and back-to-back playoff appearances since taking over as Cubs manager in '15
- Jeff Banister
 - Back-to-back playoff appearances since becoming Rangers manager, 2015 Manager of the Year
- Buck Showalter
 - Long-time manager prior to becoming Orioles', 2014 Manager of the Year, made playoffs in third year at the helm

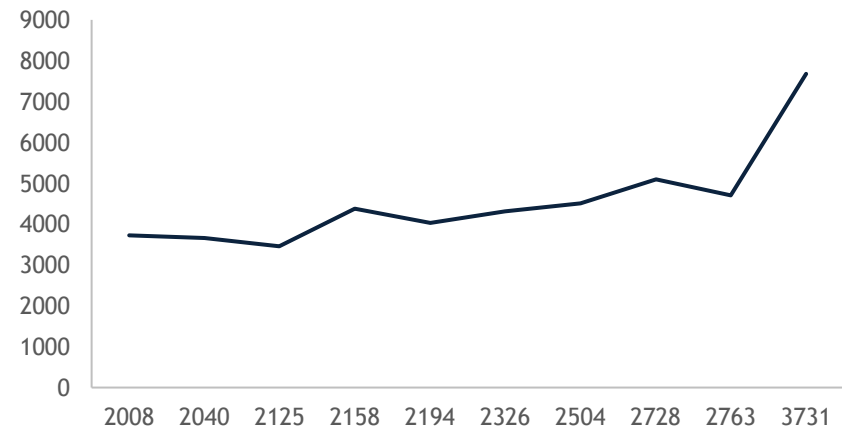
Lack of Correlation Between Salary & Playoffs

- Manager's salary is not a predictor of a team's performance
- It does not have an affect on winning percentage, attendance, or playoff appearance
- The lack of a relation between manager's salary and a team's performance could be market inefficiency.

Recent Managerial Hires - 2016-17

Manager	Team	Notes
Torey Lovullo	ARI	51 years old, no experience as permanent manager, long playing career in MLB
Brian Snitker	ATL	60 years old, no playing or managing experience in MLB, long history in Braves organization
Rick Renteria	CWS	54 years old, 1 year of managerial experience, played in MLB
Bud Black	COL	59 years old, 9 years prior as manager, long playing career in MLB

Wins vs. Games Managed (Top 10 Managers)



Determining the Value of Managers



What Determines The Value of a Manager?

The Manager's personal abilities

Onset of career, Managerial experience, confidence in him/herself

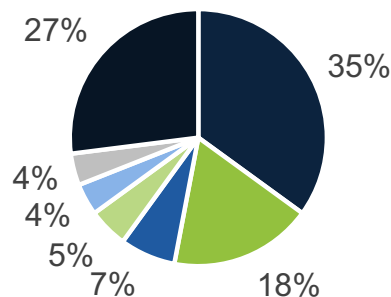
The fit between the team and the manager: experience, confidence

Different managers work well with different teams of players: the manager's personality and values matter for the team

Other factors that might affect the manager's productivity

Experience with minor league teams, age, manager's lifetime winning percentage/playoff record

ESPN The Magazine Player Poll: "If you could play for any manager, who would it be?" (2015)



- Joe Maddon
- Bruce Bochy
- Terry Francona
- Mike Matheny
- Tony La Russa
- Buck Showalter

