

INDEX

- ACE. *See* analytic center of excellence
- Adjusted Line Yards, 50
- Adjusted Net Yards Per Attempt (ANY/A), 50
- Adjusted Plus/Minus, 49
- analysis phase: metrics, 69–71; Player Efficiency Rating, 70–71
- analytic center of excellence (ACE), 121; benefits of, 122; as default, 122; downsides of, 122
- analytic models: adjusted statistics through, 8; core function of, 7; for draft selection, 7–8
- analytics: coaching, 10–11; components, 4; defining, 4–5; framework, 5; goals of, 5–6; inventory, 109; investment in, 12; in organization, 10–12; other functions of, 12; player development, 12; player evaluation, 11; as process, 63–64; strategic plan and, 19, 20, 21
- ANY/A. *See* Adjusted Net Yards Per Attempt
- assists (basketball), 126n1; percentage, 76
- Base Running Runs (BRR), 49
- batting average, 48–49, 71–72
- Beech, Roland, 122–23
- Belichick, Bill, 52
- Berra, Yogi, 44
- Blair, DeJuan, 68, 71, 73–75
- Boston Celtics, 7–8
- box-score data, 25
- brainstorming, 110–11; framework, 111
- BRR. *See* Base Running Runs
- Bryant, Paul “Bear,” 104
- build phase, 97–99
- centralization, 24, 25, 27–30, 99–100; benefits of, 28–29; data quality and, 29; SAUS responses, 14, 15
- centralized models: advantages and disadvantages of, 22; downsides of, 122; isolation and, 122; of personnel, 121, 122; resources use of, 22; smaller organizations

- centralized models (*continued*)
 gravitating towards, 23;
 standardization and, 122
- Cho, Rich, 33
- Clarke, Arthur C., 79
- Cleveland Indians, 32–33
- coaches: analytics and, 10–11;
 background, 53; grading scale, 54;
 hiring, 52–55; risk and, 52–53;
 success of, 52, 53, 54
- Collison, Darren, 77, 78
- communication phase, 71–75
- competitive advantage, 1, 4; clarity of,
 102; leadership and, 102–3;
 opportunities for, 21
- creative phase, 94–95
- Cuban, Mark, 31
- Cutler, Jay, 125n3
- Dallas Mavericks, 123
- dashboard: design, 86; information
 system, 84–85, 86; overview, 85;
 personnel, 85
- data: box-score, 25; centralization
 and quality of, 29; delegating
 collection of, 27; flow, 4;
 information differentiated from,
 36; medical, 39–40; multimedia, 6;
 play-by-play, 30; qualitative, 6, 36,
 38–40, 42–43; quantitative, 6,
 36–38, 42–43; salary, 82; scouting
 reports as raw, 36; silos, 39,
 99–100; types, 6; unstructured,
 38, 40–41
- database programmers:
 qualifications, 18; SAUS
 responses, 18; sport side, 17, 18
- database systems, 117–18
- data dependency: on one person, 15,
 16, 28; SAUS responses, 16
- data management, 4, 6–7; best
 practices, 100; human resources,
 17; implementation, 32–34, 99–100;
 leadership and, 34; principles, 24,
 25; resources, 34; role of, 7
- data sources, 6; describing, 26;
 different information from
 different, 25; identifying, 26;
 locating, 26; SAUS responses, 14;
 standardization and, 25–26;
 vendors defining, 27
- decentralized models: advantages of,
 22; benefits of, 123; disadvantages
 of, 22; larger organizations
 gravitating towards, 22–23; of
 personnel, 121, 122–23
- decision making: consistency in, 9; in
 innovation, 99; long-term
 philosophy, 19; novel insight for, 6;
 results informing process of,
 60–61; Saint Louis Cardinals and,
 103; time saving and, 5–6
- Defensive Rebound Rate (DRR), 49
- depth charts, 81
- Douby, Quincy, 8
- Doyle, Arthur Conan, 35
- draft: analytic models for selection
 in, 7–8; board, 81; failures, 125n3;
 projection models, 106; Saint
 Louis Cardinals and, 103; Seattle
 Supersonics and, 51; as starting
 point, 125n3
- DRR. *See* Defensive Rebound Rate
- Drucker, Peter, 65
- Dunlap, Mike, xi
- Durant, Kevin, 36; shooting
 percentage of, 37
- engagement phase, 96–97
- errors: automatically correcting, 30;
 checking for, 15, 16, 17, 30; high
 quantity of, 29; identifying, 30; in
 play-by-play data, 30; SAUS
 responses, 16

- failure, 114
flexibility, 87, 89
Foye, Randy, 8
- game charters, 25
Gates, Bill, 1
goals: of analytics, 5–6; defining, 112–14; long-term, 112; for new metrics, 65, 70; roadmap, 113; short-term, 112; strategic, 112; technical, 112, 113
- heart-rate monitors, 26
Hinkie, Sam, 119
hiring: coaches, 52–55; personnel, 117, 118–20
hitter identification, 106, 106–7
hitting ability, 48–49. *See also* batting average; on-base percentage
Hollinger, John, 66
Houston Rockets, 25, 119
Hudl, 4
human resources investment, 17; data management, 17; time saving through, 17. *See also* personnel
hybrid models, 22; benefits of, 123; of personnel, 121, 123–24
- ICE. *See* Interactive, Collaborative, and Evaluation system
implementation, 99–103; basic principles, 108; of data management, 32–34, 99–100; leadership for, 99
information: data differentiated from, 36; data sources and different, 25; flexibility of, 87, 89; flow design, 85; interaction and, 87–90; levels, 83–85; multiple sources of, 84; player, 83; presentation of, 87; risk trade-off, 51; sets, 82–85; visualizing, 88
information systems, 8–10; advanced, 10; building blocks of, 84; complete integration of, 101–2; components of, 79; consistency in, 101; constructing, 79; dashboard, 84–85, 86; designing, 17; efficiency of, 79–80; estimations, 9–10; at high school level, 10; interactive component of, 9; magnet board, 80–82; prioritizing, 84; resources, 90
injuries, 31
innovation: actual use of, 97–98; build phase, 97–99; creative phase, 94–95; decision making role in, 99; engagement phase, 96–97; feedback loop, 98; four-phase approach to, 94; investment in, 98; prototyping phase, 95–96
intangibles, 47
integration, 7, 24, 25, 30–32, 41–43, 42; of information systems, 101–2; injuries and, 31; of metrics, 92; synergy from, 31
Interactive, Collaborative, and Evaluation system (ICE), 82
Internet, ix–x
interns, 27–28
interviews, 50
inventory, 26; analytics, 109; constructing, 26; definitions laid out in, 26; standardization, 26
- Johnson, Jimmy, 52
Karl, George, xi
key performance indicators (KPI), 84, 107
Krossover Intelligence, 4

- leadership, 5; competitive advantage and, 102–3; data management and, 34; for implementation, 99; limits, 114
- Leinart, Matt, 125n3
- Levitt, Theodore, 91
- Lewis, Carl, 126n1
- Lombardi, Vince, 52
- long-term goals, 112
- Ma, Jeff, x
- magnet board: grouping on, 80; limits of, 80–81; maintaining, 80; privacy and, 81; replacing, 81–82; setting up, 80
- Mangini, Eric, 117
- medical data, 39–40; as unstructured data, 40
- metrics: analysis phase, 69–71; communication phase, 71–75; context of, 72; creation model, 69; descriptive, 70; documentation, 70; evaluating, 70; example, 49–50; four-phase process of, 65, 66; goal established for new, 65, 70; integration of, 92; interpreting, 71; opportunity phase, 66–67; passing, 75–78; predictive, 70; previous attempts at, 67; private, 66; public, 66; questions about, 66; refining, 66; scale of, 72; successful, 66; survey phase, 67–69; testing, 69–71; value of, 71. *See also* innovation; *specific metrics*
- MIT Sloan Sports Analytics Conference, 37
- Morey, Daryl, 31, 119
- multimedia data, 6
- name repetitions, 27
- New England Patriots, 7
- Oakland A's, 1–2
- OBP. *See* on-base percentage
- obstacles, 2
- Offensive/Defensive Efficiency Rating (OER/DER), 49
- offensive rebounding, 56
- Oklahoma City Thunder, 33
- Oliver, Dean, 47–48
- on-base percentage (OBP), 48
- one version of truth, 9, 29, 101
- opportunity phase, 66–67
- organizational structures, 21–23, 111–12; personnel and, 117, 121–24
- Orlando Magic, 80
- pass-blocking ability, 57–58
- passing metrics, 75–78
- pedometers, 26
- PER. *See* Player Efficiency Rating
- personnel: centralized models of, 121, 122; dashboard, 85; decentralized models of, 121, 122–23; embedded, 122–23; evaluating, 117, 119, 120–21; hiring, 117, 118–20; hybrid models of, 121, 123–24; organizational structures and, 117, 121–24; recommendations, 119; skill sets, 117; training, 118; verification process, 119; vision for, 119
- Philadelphia Eagles, 7, 120
- pitcher development, 106
- Pitch F/X, 2
- play-by-play data, 30
- player: capabilities, 12; development, 12; information, 83; intangibles, 47
- Player Efficiency Rating (PER), 66; analysis phase, 70–71; distribution for centers and guards, 74; improving, 73; scale of, 73; survey phase, 67

- player evaluation, 21; analytics, 11;
 standard, 11
 point guard, 51
 Pollard, William, 24
 Portland Trailblazers, 7
 predictive models, 106–7
 Presti, Sam, 33
 privacy, 81
 prototyping phase, 95–96
- QBR. *See* Total Quarterback Rating
 qualitative data, 6, 38–40; forms of,
 36; general attitude towards, 39;
 handling, 39; processing, 39, 40;
 quantitative data combined
 with, 42–43; quantitative data
 separated from, 38; as
 unstructured data, 38
 quantitative data, 6, 36–38; forms of,
 36; qualitative data combined
 with, 42–43; qualitative data
 separated from, 38
 quarterback time to throw, 58
 question asking, 46–52; analyses,
 55–63; at beginning, 56–57;
 context of result, 57–58; metrics,
 66; thought process, 56–57;
 uncertainty, 58–60
- Reid, Andy, 52
 review board, 119–20; evaluations by,
 121; as sounding board, 120
 risk: hiring a coach and, 52–53;
 information trade-off, 51;
 reducing, 50; scouting reports
 and, 50. *See also* uncertainty
 Rondo, Rajon, 8
 Rose, Derrick, 77, 78
- sack rates, 87, 87–88, 88, 89
 SAFE. *See* Spatial Aggregate Fielding
 Evaluation
- Saint Louis Cardinals, 7; decision
 making and, 103; draft and, 103;
 tension within, 103
 salary data, 82
 sample size, 58
 San Antonio Spurs, 1–2
 San Diego Padres, 7
 San Francisco 49ers, 122
 SAUS. *See* Sports Analytics Use
 Survey
 scouting reports, 25; comments in,
 47; nuances in, 41; as raw data, 36;
 risk and, 50; standardizing, 40;
 structured, 38
 Seattle Supersonics, 32–33; draft
 pick, 51
 short-term goals, 112
 shot value, 126n4
 Spatial Aggregate Fielding
 Evaluation (SAFE), 49
 Splitter, Tiago, 68, 71, 73, 74–75
 Sports Analytics Use Survey (SAUS),
 2, 3, 13–14; centralization
 responses, 14, 15; database
 programmers and, 18; data
 dependency responses, 16; data
 source responses, 14; error
 responses, 16; results of, 21;
 statistical analysts and, 19, 20;
 strategic plan responses, 20
 SportVu, 37
 sprinter, 44–45; medal-winning time,
 45; progress of, 45, 45–46
 standardization, 24, 25; centralized
 models and, 122; challenges,
 26–27; data sources and, 25–26;
 inventory, 26; player evaluation,
 11; of scouting reports, 40
 statistical analysts: evaluating, 18–19,
 20; qualifications, 18; role of, 17;
 SAUS responses, 19, 20; on sport
 side, 17–18, 19

INDEX

- Stats LLC, 37, 82
Stokes, Sean, 10
strategic goals, 112
strategic plan: analytics and, 19, 20, 21; SAUS responses, 20; supporting, 21. *See also* team strategy
survey phase: metrics, 67–69; Player Efficiency Rating, 67
- Tampa Bay Rays, 1–2, 24
TAv. *See* True Average
team chemistry, 47–48
team strategy, 104; blueprint, 108–16; foundation of, 109–10; informing, 105–8; monitoring, 105–8; supporting, 106
technical goals, 112, 113
technology investment, 32–33
time saving, 91, 104–5; decision making, 5–6; through human resources investment, 17; new metrics for, 65
Total Quarterback Rating (QBR), x, 50
training, 118
- True Average (TAv), 49
true value, 59
- uncertainty: questions about, 58–60; reducing, 61–63; types, 58
United States Olympic Committee (USOC), 44–46
universal adoption, 101
unstructured data: analysis of, 40–41; medical data as, 40; qualitative data as, 38; structure imposed on, 40–41; time investment with, 40
USOC. *See* United States Olympic Committee
- Van Exel, Nick, 126n1
variability: comparison of, 59; importance of including, 60; measuring, 58–59; sample size and, 58
video, 25; context level in, 57; structuring, 40–41
- Westbrook, Russell, 75–78
Woolner, Keith, 33