

TECH & AI CASE STUDY - SPORTS FRANCHISE - 2026

Real-Time Fan Analytics That Lifted In-Arena Spend 22%

Based on a delivery engagement with Harborline Sports Group

+22%

PER-FAN SPEND

-34%

PEAK QUEUE TIME

2.3x

OFFER CONVERSION

45,000

NEW FAN PROFILES

A fillable practice edition: the full story, 8 actions,
6 reflections and a 90-day plan - work it with your team.

Free - no email required
emersontechnology.com

MAKE THIS PRACTICE BOOK YOURS

Work it, do not just read it

This practice book turns the Harborline Sports Group case study into a working session for your team. Read the full story first - what happened, what was built and what it changed. Then tick the 8 actions you can commit to, write short answers to the 6 reflections, and finish with a 90-day plan. Every field in this PDF is fillable: open it in Adobe Acrobat Reader, Chrome, Edge or macOS Preview, type directly into the boxes and save.

YOUR NAME

ROLE

COMPANY

TEAM / DEPARTMENT

DATE

EMAIL (OPTIONAL)

MY GOAL FOR THIS PRACTICE SESSION

- 01

The story - What happened at Harborline Sports Group - before, during and after the project.
- 02

The results - The numbers that changed, plus industry benchmarks from public research.
- 03

The 8-action checklist - Tick boxes as your organization completes each step. Owner and date fields included.
- 04

The 6 reflections - Fillable questions that pressure-test your own roadmap.
- 05

My 90-day plan - Three fillable phase cards that turn this case study into your roadmap.

RUN IT AS A 90-MINUTE TEAM SESSION

25 min READ Read the story together. Ask everyone to note the one number that surprised them most.	40 min PRACTICE Work the 8-action checklist and the 6 reflections. Assign an owner and a date to every action you commit to.	25 min COMMIT Fill in the 90-day plan. One goal per phase, one number that tells you it worked. Book a review date before you leave the room.
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THE STORY

What happened, and why it worked

01 The Company

Harborline Sports Group owns and operates a professional franchise that plays its home schedule in a 19,000-seat downtown arena, packing in a 41-game home season plus the concerts and family shows that fill the building on dark nights. The organization runs the usual commercial engine of a mid-market franchise: a ticketing operation, concessions and retail managed through venue partners, a mobile app with a loyal but modest user base, and a sponsorships team that sells everything from court-side signage to branded lounges. On a sold-out night the building is a small city — tens of thousands of people, hundreds of points of sale, and more commercial activity in three hours than many retailers see in a week.

What the group lacked was any way to see that city operating in real time. Deloitte's sports industry outlook has repeatedly described first-party fan data as a core franchise asset, driving dynamic pricing, in-arena offers and sponsorship valuation, and Harborline's leadership knew the franchises pulling ahead were the ones monetizing the three hours a fan spends inside the building. Industry trackers such as Statista project the global sports-analytics market to reach several billion dollars this decade as teams learn to monetize ticketing, app and venue data, and Harborline's board wanted to know why their arena was still guessing.

02 Where Things Stood

Monetization at Harborline effectively stopped at the ticket scanner. Concessions and merchandising ran on disconnected point-of-sale systems, the Wi-Fi network was managed as pure infrastructure, and the mobile app tracked its own engagement in isolation. The front office knew aggregate nightly revenue and could reconcile it a day later, but it knew nothing about individual fans once they passed through the gates: who they were, where they walked, what they bought, or what they nearly bought and abandoned. Five systems held five partial views of the same person, and nothing joined them.

Marketing's only reach into a live game was an email. Offers went out as blanket promotions the next morning — a discount on team apparel sent at 9 a.m. Tuesday, hours after the buying moment had closed. Average per-fan spend had crept up at under 2% a year for several seasons, roughly tracking inflation rather than any deliberate strategy. The physical experience told a similar story: at peak periods, queue times at the most popular concession stands stretched long enough that regulars had learned to skip shops entirely.

The pressure that turned this from an annoyance into a mandate came from the sponsorship side. Harborline's biggest partners had been renewing eight-figure deals on reach estimates and goodwill, but their procurement teams were starting to demand provable engagement data — impressions, dwell time, conversion — before signing again. With a wave of renewal negotiations approaching within a single season, the group needed to prove and grow per-fan value on a deadline, not in some eventual future stadium retrofit.

03 The Challenge

The challenge was structural before it was technical. First, the arena had no identity layer: ticketing, POS, Wi-Fi and app data existed in separate vendor platforms, so the same fan was five anonymous fragments, and no export from any one system could reconstruct the journey. Second, there was no real-time loop: even if the data had been joined, nightly batch exports meant the fastest possible response to what happened in the building was the next morning — after the fan had gone home and the buying moment had passed. Third, there was no sponsor-facing product: engagement reporting was assembled manually at season's end into decks that partners had learned to discount.

Two constraints shaped everything else. The commercial clock was unforgiving: the sponsorship renewals would not wait two years for a ground-up data platform, so the group needed visible results within one season. And the trust constraint was just as hard: any fan analytics program runs on consent, and Harborline's legal team was clear that sloppy opt-in language or careless handling of location data would cost more in reputation than any lift in concession revenue could recover. The solution had to be fast, consent-first and built from systems the arena already owned.

04 Discovery and Diagnosis

Emerson Technology opened with a discovery sprint across the arena's commercial and technical landscape, mapping every signal the building already generated. The inventory was more encouraging than the front office expected: ticket scans with seat-level identity, transaction-level POS data from every concession and retail stand, Wi-Fi access-point associations across the concourses, and an app with push capability and an existing user base. Individually, each system revealed a fragment of fan behavior; the audit confirmed that resolved to one identity, they would reveal the full journey. The consent picture was also workable — the app's terms of service covered core usage analytics, and the legal team drafted tightened opt-in language for location-based offers before any new collection began.

The diagnosis sharpened into three findings. The keystone gap was identity resolution: without a service that could tie a device, a seat and a payment event to a ticketed account, every downstream idea stayed theoretical. The timing gap was just as damaging — a reconstruction of a typical game night showed the arena's richest buying moments, halftime surges, goal celebrations, weather-delay crowds, all passed completely unobserved by the marketing team. And the operational gap sat in plain sight: POS timestamps already contained the raw material for live queue estimation, but no one had ever surfaced it, so concourse staffing followed a fixed plan written months earlier. The building was already measuring itself; it just never told anyone what it knew until the next day.

05 The Solution

Emerson Technology built a real-time fan analytics platform around an event-streaming backbone on Kafka, with a containerized Python stack for the services that turn raw events into decisions. The architecture has three layers.

The event backbone

Kafka ingests every commercial and behavioral signal the arena produces: ticket scans at the gates, associations from the Wi-Fi access points, concession and retail POS transactions, and mobile-app activity, all with sub-second latency. Vendor systems feed the stream through APIs wherever the platforms exposed them, with lightweight adapters covering the two older POS terminals that could only emit files. Every event lands in a small number of well-defined topics, which means new consumers — a dashboard, an offer engine, a sponsor report — plug into the same stream the offer engine reads. The design principle: no system in the arena should know something the rest of the building cannot see within a second.

The live fan profile

A real-time fan profile service resolves each device to a ticketed account at the moment a ticket is scanned, then maintains a running picture per fan: current location in the building, spend so far tonight, the wait times around them, and their purchase history across past seasons. The service runs on the same containerized Python stack as the rest of the platform and honors the consent state attached to each account — fans who have not opted into location-based personalization still generate operational signals for staffing, but never receive targeted offers. This separation let legal sign off cleanly, because staffing data and personalization data carry different, explicit

permissions.

Offers, dashboards and the sponsor portal

On top of the profiles, a decision layer chooses which of dozens of offer templates to push to each fan's app at each moment, driven first by business rules and then by a lightweight ML ranking model that learns which offers convert for which segments in which situations. A fan sitting through a queue-time spike gets a discount offer for a quieter stand around the corner; when a rival scores, fans near the team shop get a merchandising bundle while the emotion is still in the room. The same Kafka signals stream into Tableau dashboards for revenue operations, who watch spend, queue depth and offer conversion live during games, and into a partner-facing portal where sponsors view anonymized, zone-level engagement for their activations. The sponsors finally see the impressions, dwell time and conversions they are actually earning, in a form they can show their own boards.

06 The First 90 Days

The engagement began in the offseason, which made the calendar honest: whatever existed at opening night would define the season. Weeks one and two went to the workstreams that would otherwise become blockers — legal and consent design ran first, the data inventory was completed, and the sponsorships team interviewed anchor partners about what evidence would actually move them at renewal. That last exercise changed the build: partners wanted zone-level footfall and dwell time far more than they wanted impression counts, so the portal's first screens were designed around those two numbers.

Weeks three through eight delivered the pilot on a single concourse. The team fused POS and Wi-Fi signals for two stands and the adjoining sections, resolved devices to ticketed accounts, and pushed rules-based offers only — no machine learning yet, deliberately, because a rules engine with a handful of segments beats an unfinished ML platform and ships value in weeks rather than months. The pilot ran across the final preseason events and the first regular-season home games, measured against comparable control sections. Conversion on the simplest offers was strong enough that the front office approved the full-arena rollout without a steering-committee debate.

Weeks nine through thirteen scaled the platform to every concourse and layered the ML ranking model on top of the rules engine, now trained on real offer data from the pilot weeks. Revenue operations established the in-game rhythm that became the program's signature: analysts in front of the Tableau dashboards during every event, making small corrections to staffing, pricing and promotions between periods. The sponsor portal went to beta with two anchor partners, whose early access became the opening exhibit in their renewal conversations. By the first long homestand, the arena was making money decisions during the game instead of the morning after.

07 The Results

Over the full season, the platform changed the commercial arithmetic of the building. Per-fan spend rose 22% year over year, with targeted offers converting at 2.3 times the rate of the old blanket emails — a result consistent with the lift McKinsey research attributes to personalization, and in Harborline's case above it, because the offers arrived inside the buying moment rather than the morning after. Average queue time at peak periods fell 34%, as dynamic staffing and wait-time alerts smoothed demand across concourses instead of letting half the building pile into two stands. The club captured consented digital profiles for 45,000 new fans in a single season, and sponsorship renewals closed with new data-driven packages worth \$2.1M annually — deals that were renegotiated on evidence rather than goodwill.

METRIC	BEFORE	AFTER
Per-fan spend	-	+22%
Peak queue time	-	-34%

METRIC	BEFORE	AFTER
Offer conversion	-	2.3x
New fan profiles	-	45,000

The qualitative changes showed up fastest of all. Decisions that once waited for next-morning exports now happen between innings: a slow stand gets a second register at halftime, a cold section gets a push offer, an overstocked retail item gets bundled before the night ends. Queue times, once nobody's problem, became a number the operations team owns and moves. The sponsorship conversations changed posture entirely — partners stopped asking whether the audience data existed and started asking what the next activation package could include. And the front office now runs its season reviews on per-fan economics, which means the analytics program is judged by the same north-star metric it was built to move.

08 What Your Business Should Do

Harborline's season breaks down into eight moves that transfer to almost any venue operator. Start with consent, not collection: work with legal counsel to define exactly what fan data you gather, why and for how long, because clear opt-in language protects trust and unlocks richer downstream personalization rather than constraining it. Next, fuse your ticketing, POS and Wi-Fi signals — individually they reveal fragments of fan behavior, but resolved to one identity they reveal the full journey, and that identity layer underpins every personalization play you will ever run. Trigger offers inside the buying moment, not after it: a discount pushed the morning after the game is marketing archaeology, so target the moments of high intent — long queues, halftime, big scores, weather delays — when the fan is actually present at the register.

Personalize around wait times too, not just prices. Spend and experience are tightly linked, and live queue data that reroutes fans to shorter lines or triggers staffing alerts lifts conversion as reliably as any discount code. Keep the first model simple: a rules engine with a handful of segments beats an unfinished ML platform, so ship value in weeks and layer ranking models on top of real behavioral data once it exists. Build a sponsor-facing data product early — anonymized, zone-level engagement dashboards turn your analytics into sellable inventory, and partners renew faster when they can see the impressions, dwell time and conversions their activations actually earned.

Then make the operating rhythm match the technology. Put revenue operations in front of live dashboards during events, not after them: small in-game corrections to staffing, pricing and promotions compound over a full 41-game home season in a way no end-of-month report ever will. And measure per-fan spend rather than totals, because aggregate revenue hides attendance effects — spend per attendee per game isolates whether analytics is genuinely changing fan behavior rather than just riding the gate. Before you fund any of it, answer the questions Harborline had to face honestly: do you know what an individual fan spent last night, or only what the arena collected in total; how many buying moments inside your venue pass before marketing even sees the data; what a 20% lift in per-fan spend would be worth across your full season and who would own delivering it; which sponsorship deals are up for renewal and what engagement evidence you could actually show those partners; if queue times are a revenue problem, who owns them tonight; and how much of your fan data sits siloed in vendor platforms you cannot export from. Work through the eight actions with your commercial, operations and legal leads, and revisit those reflection questions each month of the season to keep the program honest.

REAL-WORLD PROOF & BENCHMARKS

McKinsey research on personalization reports that tailored experiences typically lift revenue by 10-15% and improve marketing-spend efficiency by up to 30%. - McKinsey & Company

Deloitte's sports industry outlook has repeatedly described first-party fan data as a core franchise asset, driving dynamic pricing, in-arena offers and sponsorship valuation. - Deloitte Sports Outlook

Industry trackers project the global sports-analytics market to reach several billion dollars this decade as teams monetize ticketing, app and venue data. - Statista market data

THE PRACTICE PAGES

The 8-action checklist

Work through the list with your team. Tick each box as your organization completes the step, and fill in an owner and a target date so every action has a name and a deadline.

☐
1. Start with consent, not collection

Work with legal counsel to define exactly what fan data you gather, why, and for how long. Clear opt-in language protects trust and unlocks richer downstream personalization.

OWNER

TARGET DATE

STATUS

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☐
2. Fuse ticketing, POS and Wi-Fi signals

Individually, ticketing, POS and Wi-Fi systems reveal fragments of fan behavior; resolved to one identity, they reveal the full journey. This foundation underpins every personalization play.

OWNER

TARGET DATE

STATUS

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☐
3. Trigger offers inside the buying moment

A discount pushed the morning after the game is marketing archaeology. Target moments of high intent — long queues, halftime, big scores, weather delays — when a fan is actually present.

OWNER

TARGET DATE

STATUS

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☐
4. Personalize around wait times too

Spend and experience are tightly linked. Live queue data that reroutes fans to shorter lines, or triggers staffing alerts, lifts conversion as reliably as any discount code.

OWNER

TARGET DATE

STATUS

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☐
5. Keep the first model simple

A rules engine with a handful of segments beats an unfinished ML platform. Ship value in weeks, then layer ranking models on top of real data.

OWNER

TARGET DATE

STATUS

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☐

6. Build a sponsor-facing data product

Anonymized, zone-level engagement dashboards turn analytics into sellable inventory. Partners renew faster when they can see the impressions, dwell time and conversions their activations actually earned.

OWNER

TARGET DATE

STATUS

☐

7. Review live dashboards between periods

Put revenue operations in front of real-time dashboards during events, not after. Small in-game corrections to staffing, pricing and promotions compound over a full 41-game home season.

OWNER

TARGET DATE

STATUS

☐

8. Measure per-fan spend, not totals

Aggregate revenue hides attendance effects. Track spend per attendee per game as your north star — it isolates whether analytics is genuinely changing fan behavior rather than just gate counts.

OWNER

TARGET DATE

STATUS

AFTER THE CHECKLIST: OUR TOP 3 PRIORITIES

From the eight actions above, write down the three you will start first - and the single number you expect each one to move. Three priorities with owners beat eight without any.

PRIORITY 1 NUMBER IT SHOULD MOVE	PRIORITY 2 NUMBER IT SHOULD MOVE	PRIORITY 3 NUMBER IT SHOULD MOVE
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THE PRACTICE PAGES

Reflections for your team

Use these questions in your next planning session and type short answers into the boxes. The gaps you find are usually the fastest wins.

Q1. Do you know what an individual fan spent last night, or only what the arena collected in total?

Q2. How many buying moments inside your venue pass before your marketing team even sees the data?

Q3. What would a 20% lift in per-fan spend be worth across your full season — and who would own delivering it?

Q4. Which sponsorship deals are you renewing this year, and what engagement evidence can you actually show partners?

Q5. If queue times are a revenue problem, who in your organization owns them tonight?

Q6. How much of your fan data is siloed in vendor platforms you cannot export from?

THE PRACTICE PAGES

My 90-day plan

Finish the session by committing to a plan. Three phases, one goal each, one number that tells you it worked. Bring this page to your next leadership review - or to a free consultation with Emerson Technology, and we will pressure-test it with you.

Days 1-30 Focus: audit and alignment

PRIMARY GOAL**KEY ACTIONS****HOW WE MEASURE SUCCESS****OWNER**

Days 31-60 Focus: build and prove

PRIMARY GOAL**KEY ACTIONS****HOW WE MEASURE SUCCESS****OWNER**

Days 61-90 Focus: scale and measure

PRIMARY GOAL

KEY ACTIONS

HOW WE MEASURE SUCCESS

OWNER

Tip: save a copy per team so each group keeps its own answers. Revisit the reflections every quarter - the questions stay the same even as the numbers move.

BOOK THE REVIEW BEFORE YOU CLOSE THE BOOK

Plans without a review date drift. Before you close this practice book, agree on when you will come back to these pages, who will run that session, and when you will check the numbers again. If you want an outside pair of eyes, bring this page to a free consultation with Emerson Technology and we will pressure-test the plan with you.

REVIEW DATE	REVIEWED BY	NEXT CHECK-IN
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Ready for a transformation like Harborline Sports Group's?

Emerson Technology designs and builds the data, AI, cloud and automation systems behind results like these. On a free consultation call we will map this exact playbook to your business - your data, your constraints, your numbers.

Book a free consultation

support@emersontechnology.com

or start online: emersontechnology.com/contact