

TECH & AI CASE STUDY - ONLINE TRAVEL - 2026

Personalization That Lifted Travel Booking Value 18%

Based on a delivery engagement with Roamcrest Travel

+18%
BOOKING VALUE

11% to 19%
PACKAGE ATTACH

+14%
CONVERSION

\$6.4M
ANNUALIZED REVENUE LIFT

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 Roamcrest Travel 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 Roamcrest Travel - 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

Roamcrest Travel is an online travel agency booking \$210M a year in flights, hotels, packages and add-ons across leisure destinations. Its economics are a study in small margins compounding: average booking value determines how much it can pay for traffic, conversion rate determines whether that traffic pays for itself, and attach rate — the share of bookings that include a hotel-plus-flight package or an activity add-on — is where the actual profit lives. With acquisition costs rising 9% year over year, the company could no longer buy its way to growth; every point of conversion and every dollar of booking value had to be earned from the traffic it already had.

The company's merchandising team was talented and completely blind. They designed the homepage, curated the deal grid and scheduled the email campaigns, but they did it for an average visitor who did not exist: no two sessions arrive with the same intent, budget or history, yet every visitor saw the same offers in the same order. By 2026, leadership had concluded that the site's biggest untapped asset was not a new market or a new channel — it was the order in which existing offers appeared.

02 Where Things Stood

Roamcrest served the same homepage, deal grid and email campaigns to every visitor. Repeat skiers who had booked three winter trips in two years saw the same Bahamas banners as first-time researchers comparing family destinations, and a shopper who had searched Rome twice in a week received the same generic deal grid on their third visit. The site treated every session as anonymous until checkout, and by then the personalization opportunity had already been spent.

The numbers told the story of relevance leaking out of the funnel. Average booking value had been flat at \$640 for six quarters. Package attach sat at 11%, meaning nearly nine in ten bookings left the flight-hotel margin on the table. Overall conversion kept sliding while acquisition costs climbed, and 63% of sessions bounced without a single search — visitors landing on a generic deal grid, finding nothing addressed to them, and leaving before typing a destination. Merchandisers redesigned layouts monthly on intuition, and finance had started asking which marketing dollars actually moved bookings. Everyone agreed relevance was the problem; nobody could measure it, and nobody owned it.

McKinsey research finds that effective personalization can lift revenues by 5 to 15% and improve marketing-spend efficiency by 10 to 30%, which framed the internal conversation: Roamcrest was not chasing a moonshot, it was leaving a well-documented band of revenue unclaimed. Salesforce research reports that 73% of customers expect companies to understand their unique needs, and Accenture found 91% of consumers are more likely to shop with brands that recognize them, remember them and provide relevant offers. Roamcrest's visitors were being greeted like strangers on every visit, and behaving accordingly.

03 The Challenge

The challenge was to personalize the storefront in real time without breaking the two things an OTA cannot afford to break: page speed and merchandiser control. Real-time personalization means scoring a session's intent from its first clicks and re-ranking offers within the page's latency budget — a deal grid that loads slowly loses more revenue than the model adds, so the entire stack had to live inside roughly 150 milliseconds. At the same time, algorithms cannot be allowed to promote money-losing deals or off-brand partners, so margin floors, brand exclusions and manual overrides had to be first-class features, not afterthoughts wrestled away from the merchandising team later.

The organizational challenge was as large as the technical one. Merchandisers had spent years developing instincts about what sells, and any system that silently replaced those instincts would be sabotaged politely and completely within a quarter. The design principle that resolved it: every algorithmic change ships behind an experiment, merchandisers get guardrails and overrides in a console they control, and every point of lift is attributable to a specific decision. Personalization would be introduced as a tool the team wields, not a black box it answers to.

04 Discovery and Diagnosis

Emerson Technology began with a four-week discovery across the storefront's analytics, booking funnel and merchandising workflow. The event audit found the raw material already existed in fragments: searches, page views and bookings were tracked, but dwell time and price interactions were not, the events lived in three systems with no shared session identity, and nothing fed decisions in real time. Personalization quality is bounded by event coverage, so the first recommendation was instrumentation — one event stream capturing every meaningful behavior — with the warning that backfilling that history later is painful.

The funnel diagnosis quantified where relevance failed. Bounce-without-search concentrated on high-intent landing pages paid for by search ads: visitors arrived from a query, saw a generic grid, and left without engaging — the most expensive form of indifference, because it was bought. The merchandising audit found layouts changing on a monthly redesign cycle with no measurement between cycles, which meant the team's considerable skill was generating anecdotes rather than lift. The diagnosis also surfaced the cold-start reality: a large share of sessions come from new or anonymous visitors, so the engine needed honest segment-level defaults rather than pretending to know more than it did. Every finding fed one design conclusion: measure everything, personalize ranking first, and never let a change reach production without an experiment.

05 The Solution

Emerson Technology designed and built a real-time personalization service on AWS, integrated into the Next.js storefront, that re-ranks offers for every session inside the page's latency budget. The architecture has three layers.

Capturing intent in real time

Event streaming through Kinesis captures searches, views, dwell time and price interactions, feeding a Redis feature store that scores session intent in milliseconds. A session that searches ski destinations, lingers on four-star properties and compares bundled prices reads very differently from one browsing last-minute city breaks, and the feature store makes that difference computable before the second page loads. Features are computed against both session behavior and the visitor's history where it exists, and cold-start sessions fall back to segment-level defaults until behavior accumulates — honest relevance for anonymous traffic rather than pretend precision. Every ranking change ships behind an experiment, so lift is always attributable to a specific decision rather than to seasonality or luck.

Retrieval and ranking

Ranking models — LightGBM re-rankers plus a TensorFlow two-tower retrieval model for candidate offers — personalize deal grids, package bundles and add-on suggestions within 150 milliseconds on the storefront. The two-tower retrieval model scans the full offer inventory for candidates relevant to the session's intent, and the gradient-boosted re-ranker orders them against conversion and value objectives, blending predicted engagement with margin-aware scoring. Bundling logic groups flights, stays and activities into coherent packages by destination and traveler type, because bundles raise order value by removing planning work, not by discounting. Models retrain nightly, so the system learns from yesterday's sessions rather than last quarter's redesign.

Guardrails and experimentation

An experimentation platform allocates traffic and reads results weekly, while an admin console gives merchandisers margin floors, brand exclusions and manual overrides — the three controls that turned the merchandising team from skeptics into owners. Every model deployment and layout change flows through the same pipeline: hypothesis, experiment, weekly readout, promotion or rollback. The console also made the algorithms legible to the people accountable for the P&L; a merchandiser can see why a slot shows what it shows, override it with a click, and watch the experiment measure whether their override was right. That closed loop — algorithm proposes, human guards, experiment judges — is what made the system compounding instead of contentious.

06 The First 90 Days

Weeks one and two built the event stream and feature store, capturing the signals discovery had found missing and establishing the session identity that made history usable. Weeks three through six ran the first experiments: re-ranking the existing deal grid for returning visitors only, with holdout groups and weekly readouts. The early lifts were modest but real, and the discipline of reading results weekly — rather than redesigning monthly on instinct — quickly became the merchandising team's habit. Weeks seven through ten extended re-ranking to package bundles and add-on suggestions, introduced the two-tower retrieval for candidate generation, and rolled the console out to merchandisers with margin floors and brand exclusions configured to their policies.

Weeks eleven and twelve hardened the system for scale: p99 latency measured at the edge on mobile networks, feature caching and pre-ranked candidate sets tuned to hold the 150-millisecond budget under peak load, and cold-start defaults validated on new-visitor traffic. Every expansion followed the same rule — nothing reaches all traffic without an experiment readout — and the team kept a running ledger of tests won, lost and inconclusive. By the end of the quarter, personalized sessions were measurably outperforming the generic experience on every metric finance cared about, and the merchandisers who had once redesigned on intuition were writing experiment hypotheses in the same document as the data team.

07 The Results

Within two quarters, personalization moved from experiment to revenue line. Booking value on personalized sessions rose 18%, package attach climbed from 11% to 19%, and overall conversion improved 14% — against six flat quarters and rising acquisition costs. The engine added \$6.4M in annualized incremental revenue, and bounce-without-search rates on high-intent landing pages fell noticeably as relevance improved across categories. Finance now treats personalization as a measured revenue line, not a marketing experiment.

METRIC	BEFORE	AFTER
Booking value	-	+18%
Package attach	11%	19%

METRIC	BEFORE	AFTER
Conversion	-	+14%
Annualized revenue lift	-	\$6.4M

The qualitative changes compounded the quantitative ones. Merchandisers launch layout changes as experiments with weekly readouts instead of redesigns on instinct, and the console's guardrails mean the algorithm cannot promote a money-losing deal even when the model loves it. The repeat skier sees ski offers; the family researcher sees family packages; and the anonymous first-timer sees a segment default rather than a random grid. The \$6.4M is reported quarterly next to acquisition spend, which has changed the budget conversation: the company is no longer only buying traffic, it is earning more from the traffic it buys.

08 What Your Business Should Do

The pattern behind Roamcrest's result is repeatable, and it begins with instrumentation rather than algorithms. Instrument behavior before modeling: capture searches, views, cart events and price interactions in one event stream, because personalization quality is bounded by event coverage and backfilling that history later is painful. Personalize ranking before content — re-rank the offers you already promote rather than generating new material, since ranking delivers measurable lift without the legal and copy-review overhead new content carries. Bundle around the trip, grouping flights, stays and activities into coherent packages by destination and traveler type, because bundles raise order value by removing planning work, not by discounting. And run every change as an experiment with weekly readouts, because merchandising intuition plateaus fast and controlled tests keep every point of lift attributable and compounding.

Give merchandisers real guardrails — margin floors, brand exclusions and overrides in an admin console — because guardrails turn personalization from a threat into a tool the team will defend. Keep latency under 200 milliseconds by caching features, pre-ranking candidate sets and measuring p99 at the edge on mobile, since personalization that slows the page loses more revenue than the model adds. Respect cold-start sessions by serving popular-by-segment defaults until behavior accumulates, and be honest about it internally, because new and anonymous visitors still deserve relevant results or your highest-traffic pages stay generic. And report booking value, not clicks — tie dashboards to revenue per session, attach rate and margin rather than engagement metrics, because finance-friendly reporting is what keeps the program funded in year two.

Ask the questions Roamcrest's leadership now reviews quarterly: whether two random visitors to your site right now see meaningfully different experiences, and why not; what your average booking looks like, and which add-on would raise it most naturally; how much of your merchandising changes on intuition versus controlled experiments with real readouts; which session signals you are already capturing today but never using in decisions; what an 18% booking-value lift would be worth at your traffic levels; and who would own pricing, brand and inventory guardrails if algorithms started choosing what customers see. Work through the eight actions in this practice book with your team, and revisit those reflection questions each quarter to keep the growth engine honest.

REAL-WORLD PROOF & BENCHMARKS

McKinsey research finds that effective personalization can lift revenues by 5 to 15% and improve marketing-spend efficiency by 10 to 30%. - McKinsey, 2021

Salesforce research reports that 73% of customers expect companies to understand their unique needs, and 88% say the experience a company provides matters as much as its products. - Salesforce

Accenture research found 91% of consumers are more likely to shop with brands that recognize them, remember them and provide relevant offers and recommendations. - Accenture, 2018

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.

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1. Instrument behavior before modeling

Capture searches, views, cart events and price interactions in one event stream. Personalization quality is bounded by event coverage, and backfilling that history later is painful.

OWNER

TARGET DATE

STATUS

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☐

2. Personalize ranking before content

Start by re-ranking the offers you already promote rather than generating new content. Ranking delivers measurable lift with none of the legal and copy-review overhead new content carries.

OWNER

TARGET DATE

STATUS

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☐

3. Bundle around the trip

Group flights, stays and activities into coherent packages by destination and traveler type. Bundles raise order value because they remove planning work, not because they discount.

OWNER

TARGET DATE

STATUS

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☐

4. Run every change as an experiment

Allocate traffic through a proper experimentation platform and read results on a weekly cadence. Merchandising intuition plateaus fast, and controlled tests keep every point of lift attributable and compounding.

OWNER

TARGET DATE

STATUS

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☐

5. Give merchandisers real guardrails

Provide margin floors, brand exclusions and overrides in an admin console. Guardrails turn personalization from a threat into a tool the merchandising team will defend.

OWNER

TARGET DATE

STATUS

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**6. Keep latency under 200 milliseconds**

Cache features, pre-rank candidate sets and measure p99 latency at the edge on mobile. Personalization that slows the page loses more revenue than the model adds.

OWNER

TARGET DATE

STATUS

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**7. Respect cold-start sessions**

Serve popular-by-segment defaults until behavior signals accumulate, and be honest about it internally. New and anonymous visitors still deserve relevant results, or your highest-traffic pages stay generic.

OWNER

TARGET DATE

STATUS

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**8. Report booking value, not clicks**

Tie dashboards to revenue per session, attach rate and margin rather than engagement metrics. Finance-friendly reporting is what keeps the program funded in year two.

OWNER

TARGET DATE

STATUS

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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	PRIORITY 2	PRIORITY 3
NUMBER IT SHOULD MOVE	NUMBER IT SHOULD MOVE	NUMBER IT SHOULD MOVE

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. Would two random visitors to your site right now see meaningfully different experiences, and why not?

Q2. What does your average booking look like, and which add-on would raise it most naturally?

Q3. How much of your merchandising changes on intuition versus controlled experiments with real read-outs?

Q4. Which session signals are you already capturing today but never using in decisions?

Q5. If personalization lifted booking value 18%, what would that be worth at your traffic levels?

Q6. Who would own pricing, brand and inventory guardrails if algorithms started choosing what customers see?

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 Roamcrest Travel'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