PRD — Revenue Metrics (bi.sentinel.club)

Modul: menu **Revenue Metrics** · Repo: nxpmj/business-inteligence-backoffice (angular/src/app/features/revenue-metrics) · Versi: main 5456b95 · 2 Nov 2026 · Disusun: Enigma

1. Tujuan

Satu halaman laporan revenue per company (X / NX) untuk tim BI & management: melihat revenue kotor sampai bersih (Turnover → GGR → Bonus → NGR), arus dana pemain (Deposit/Withdrawal/Net Flow), performa per Category game, per Website (whitelabel), per Game dan per Provider, plus sinyal peringatan dini (website yang turun / payout >100%).

> **Status data:** semua section saat ini masih **MOCK** (revenue-metrics.service.ts → revenue-overview.mock.ts / revenue-metrics.mock.ts / revenue-variance.mock.ts). Endpoint target sudah disiapkan sebagai komentar, pola `POST /api/v1/revenue-metrics/<section>` dengan body filter (lihat bagian 5). Format uang = Rupiah (platform format).

2. Definisi metrik dasar (dipakai di semua section)

Metrik	Definisi / rumus
Turnover (Total Bets)	Total nilai taruhan (wagering) pemain di periode.
GGR	Gross Gaming Revenue = Turnover − total kemenangan pemain (house win).
Hold %	GGR ÷ Turnover × 100. Makin tinggi = makin efisien margin.
Bonus Cost	Total bonus yang diberikan (Free Spins, Cashback, Deposit Match, Reload, Referral).
Bonus % of GGR	Bonus Cost ÷ GGR × 100.
NGR	Net Gaming Revenue = GGR − Bonus Cost.
NGR Margin %	NGR ÷ GGR × 100.
Deposit / Withdrawal	Total nominal deposit / withdrawal sukses di periode.
Net Flow	Deposit − Withdrawal (dana pemain yang tertahan).
Payout Ratio	Withdrawal ÷ Deposit × 100. Lebih rendah = lebih baik; ≥100% = website rugi.
Depositing Users	Jumlah user unik yang deposit sukses di periode.
Deposit / User	Deposit ÷ Depositing Users.
Sessions / Rev per Session	Jumlah sesi main; Rev/Session = GGR ÷ Sessions.
Active Players	User unik yang bertaruh di periode.
WoW Δ	(minggu ini − minggu lalu) ÷ minggu lalu × 100. Mengikuti Period: DoD (daily) / MoM (monthly).
4-wk Δ	Total 4 minggu terakhir vs total 4 minggu sebelumnya (%).
pp	Percentage point — selisih untuk metrik rasio (Hold %, Bonus %, NGR Margin, Payout).

3. Filter (atas halaman, sticky)

Filter	Nilai	Perilaku
View	Trend / Compare	Compare = Period A vs Period B (muncul filter Period B, tabel VAR dapat kolom Period B + VAR vs Period B).
Period	Daily / Weekly (default) / Monthly	Mengubah granularity date picker dan label (week → day/month, WoW → DoD/MoM).
Week / Date range	Range tanggal (default minggu berjalan)	Dikirim sebagai `dateFrom`, `dateTo`.
Period B	Range tanggal (hanya Compare)	`dateFromCompare`, `dateToCompare`.
Window	Daily 30/90 hari · Weekly 12/26 minggu (default 12) · Monthly 3/6/12 bulan	Panjang histori untuk ranking website, chart tier, trend sparkline.
Category	Multiselect daftar product Sentinel (Slot & Arcade, Casino, Sports, Sport, Arcade & Crash, Cockfight, Togel, Originals, Esport, Poker, Lottery, Race, …)	Kosong = semua category.
Group	Per company (NX: NXT / NX1 / ZOOM)	Company-scoped, ikut switch company X/NX di menu profil.
Website	Multiselect kode website	Company-scoped; opsi ikut Group terpilih.

Filter tersimpan di URL (param `f=`) supaya link bisa dibagikan.

4. Section dan data

Urutan sesuai tampilan halaman. Label "key" = nama data di service (calon endpoint).

4.1 Core Revenue KPIs (key: coreKpis)

Kartu KPI dengan sparkline + perubahan vs periode sebelumnya.

Kartu	Isi
Gross Gaming Revenue (GGR)	Total GGR periode; sub: 4-wk Δ.
Net Flow	Deposit − Withdrawal; sub: 4-wk Δ.
Payout Ratio	Withdrawal ÷ Deposit; sub: nilai minggu lalu.
Total Turnover	Total wagering; sub: 4-wk Δ.
Deposit / Depositing User	Rata-rata deposit per depositor aktif.
Total Deposit Amount	Total deposit; sub: minggu lalu + 4-wk Δ.
Total Withdrawal Amount	Total withdrawal; sub: payout ratio + minggu lalu.
Slot & Arcade GGR Share	GGR Slot & Arcade ÷ total GGR (category dominan).
Platform Hold %	GGR ÷ Turnover semua category.
Slot & Arcade Hold %	Hold category terbesar; sub: rata-rata 4 minggu.

4.2 GGR & Revenue Weekly Trend (key: ggrTrend)

Chart	Isi
Daily GGR — Current vs Prior Week	Bar per hari: GGR + Bonus periode ini; garis putus-putus: GGR hari yang sama minggu lalu.
GGR Mix by Category	Donut share GGR per category di periode laporan.

4.3 GGR to NGR Revenue Bridge (key: ngrBridge)

Chart	Isi
GGR → NGR Waterfall	Gross GGR, dikurangi per tipe bonus (Free Spins, Cashback, Deposit Match, Reload Bonus, Referral Bonus), hasil akhir NGR.
Bonus Cost Breakdown by Type	% of GGR per tipe bonus.

4.4 Hold % Analysis (key: holdAnalysis)

Chart	Isi
Hold % by Category	Rata-rata hold semua game per category.
Hold % — 8-Week Trend	Hold mingguan 8 minggu terakhir, 3 category terbesar.
Revenue per Session by Category	GGR ÷ Sessions per category.

4.5 Revenue Summary — Variance (VAR) (key: revenueVariance)

Tabel baris = metrik, kolom = nilai periode terpilih + VAR terhadap benchmark.

Baris (metrik)	Keterangan
Total Turnover · GGR · ↳ Hold % · Bonus Cost · ↳ Bonus % of GGR · NGR · ↳ NGR Margin % · Deposit · Withdrawal · Net Flow · Depositing Users	Definisi lihat bagian 2. Baris rasio (↳) dihitung dalam pp. Baris biaya (Bonus, Withdrawal, Bonus %) = turun dianggap hijau.
Footer: Websites with data	Jumlah website yang punya data per kolom (mode like-for-like:

	"Websites compared").

Kolom	Definisi
Periode terpilih	Nilai periode A; kalau periode berjalan belum penuh ditandai (x/7d) dan benchmark di-pro-rata.
VAR Base Avg	vs rata-rata 7 hari / 4 minggu / 3 bulan sebelumnya (ikut Period).
VAR Y-o-Y	vs hari/minggu/bulan yang sama tahun lalu.
VAR D-o-D / W-o-W / M-o-M	vs periode persis sebelumnya.
VAR L12M Avg	vs rata-rata hari/minggu/bulan 12 bulan terakhir.
Period B / VAR vs Period B	Hanya di View Compare.

Rumus VAR: metrik nominal = (A − benchmark) ÷ |benchmark| × 100%; metrik rasio = A − benchmark (pp).

4.6 Category Revenue Performance **(key: genrePerformance)**

Komponen	Isi
Kartu per category	GGR per category + WoW Δ, sub 4-wk Δ, sparkline 8 minggu.
Tabel Category Breakdown	Kolom: Category, GGR This Wk, Share (GGR ÷ total), WoW Δ, 4-wk Δ, Turnover, TO WoW, TO 4-wk, Hold % Wk, Hold % 4-wk, Signal (Dominant / Growing / Stable / Monitor / Declining / Volatile). Baris total "All Categories".
GGR Mix by Category	Donut share GGR.
Hold % by Category — This Week vs 4-wk Avg	Bar 2 seri; Lottery dikecualikan (volatile).

4.7 Revenue Growth by Category — 8-Week Trend **(key: categoryGrowth)**

Line chart GGR mingguan per category, 8 minggu terakhir.

4.8 Bonus ROI & Forecast Variance **(key: bonusForecast)**

Chart	Isi
Bonus Spend vs Incremental GGR by Category	Bar merah = bonus cost, biru = incremental GGR yang dihasilkan bonus. ROI = Incremental GGR ÷ Bonus Cost.
GGR vs Forecast	GGR harian aktual vs proyeksi (garis putus-putus); gap besar = event volatilitas (mis. jackpot).

4.9 Key Insights & Actionable Signals **(key: keyInsights)**

Kartu	Poin
GGR Growth by Category	Kontribusi GGR per category, category tumbuh tercepat (Grow), category perlu perhatian (Investigate).
Bonus Efficiency & NGR Margin	Total bonus cost (% of GGR), bonus redemption rate, overall bonus ROI, category ROI tertinggi/terendah, trend NGR margin.
Hold % Efficiency Signals	Hold rata-rata platform vs 4-wk, category hold tertinggi/terendah, jumlah game hold >4% (Promote) dan <1.5% (Demote), deviasi RTP teoritis vs aktual.
Revenue Concentration & Volatility	Share GGR top 5 provider, share top 10 game, exposure game tunggal terbesar, dampak hari jackpot, volatilitas GGR harian, rekomendasi aksi.

4.10 Website Performance **(key: tierCards, tierCharts)**

Website diranking berdasarkan rata-rata depositing users mingguan selama Window. Tier: Top 10 = rank 1–10, mid = rank 11–100, Rest = 101+.

Komponen	Isi
Tier cards (Top 10, Rank 11–100)	Per tier: Depositing users (+ catatan like-for-like), Deposit amount, Withdrawal amount, Net flow, Deposit / user — masing-masing nilai minggu ini, WoW, 4-wk; Payout last 4 wks; Websites reporting (x / total).
Depositing users, indexed	Line per tier, minggu pertama window = 100.
Payout ratio by tier	Withdrawal ÷ Deposit mingguan per tier.

4.11 Top 100 Websites **(key: top100)**

Toolbar: cari kode website + tab All 100 / Top 10 / 11–100 (client-side). Tabel bisa sort, pilih kolom, paging 25, copy PNG.

Kolom	Definisi
Rank	Urutan rata-rata depositing users mingguan di Window.
Website / Group	Kode website dan group (NXT/NX1/ZOOM).
Dep. Users / WoW	Depositing users minggu ini + perubahan WoW.
Last 4 Wk / 4-wk	Total depositing users 4 minggu terakhir + 4-wk Δ.

Deposit Amt / WoW	Deposit minggu ini + WoW.
Net Flow	Deposit − Withdrawal minggu ini.
Payout 4-wk	Withdrawal ÷ Deposit 4 minggu terakhir.
Flags	Rule early-warning yang kena (lihat 4.12).
Trend	Sparkline depositing users selama Window.

4.12 Early-warning List **(key: earlyWarning)**

Website Top 100 yang kena minimal 1 rule. Kolom: Website, Rank, Dep. Users, WoW, 4-wk, Payout 4-wk, Flags, Trend. Baris rekomendasi otomatis: website yang perlu dihubungi (consecutive declines / payout >100%) + prioritas pertama.

Rule	Kondisi	Warna
4-wk users drop	4-wk Δ depositing users ≤ −15%	Merah
Straight declines	≥3 minggu berturut-turut turun	Amber
Weak latest week	Minggu ini >20% di bawah rata-rata 4 minggu sebelumnya	Amber
Payout	Payout 4 minggu ≥100%	Merah
No data	Tidak ada data minggu ini	—

4.13 Biggest Movers **(key: movers)**

2 tabel: Biggest risers dan Biggest drops (masing-masing top 10) berdasarkan perubahan depositing users minggu ini vs minggu lalu. Kolom: #rank + website, perubahan absolut, %, nilai minggu ini.

4.14 Detailed Weekly Revenue Report **(key: dailyReport)**

Tabel per hari di periode laporan. Kolom: Date, Total Bets, GGR, Hold %, Bonus Issued, NGR, NGR Margin, Rev/Session, Active Players, Sessions, DoD Δ (GGR vs hari sebelumnya).

4.15 GGR × Category Matrix **(key: genreMatrix)**

Baris = tanggal, kolom = tiap category (GGR), kolom terakhir TOTAL GGR.

4.16 Top 20 Games — Revenue Deep Dive **(key: topGames)**

Kolom	Definisi
#, Game, Provider, Category	Ranking berdasarkan GGR.
Total Bets, GGR, GGR Share	Share = GGR game ÷ total GGR.
Hold %	GGR ÷ Total Bets game.
Bonus Cost, Eff. NGR	Bonus yang teratribusi ke game; Eff. NGR = GGR − Bonus Cost.
Rev/Session, Sessions	GGR ÷ Sessions.
Classification	Hold ≥3.5% = Promote · 2.5–3.5% = Maintain · 1.5–2.5% = Watch · <1.5% = Demote, atau Traffic sink kalau volume bets tinggi.

4.17 Weekly Revenue Summary by Provider **(key: providerSummary)**

Top 10 provider. Kolom: #, Provider, Wk1 GGR (minggu lalu), Wk2 GGR (minggu laporan), WoW Δ, Bonus Cost, NGR, NGR Margin, Hold % (GGR ÷ Turnover game provider), Top Game.

5. Kebutuhan API / BE (saat pindah dari mock)

- 1 endpoint per key fetcher: `POST /api/v1/revenue-metrics/{tier-cards|tier-charts|top-100|early-warning|movers|...}` , body = filter (period, dateFrom, dateTo, dateFromCompare, dateToCompare, window, category[], group, website[], company).
- Response mengikuti interface yang sudah ada (core/interfaces/revenue-metrics.interface.ts, table-section, chart payload) supaya FE tidak berubah.
- Sumber data yang dibutuhkan: transaksi bet/win per game (Turnover, GGR, sessions, players), bonus per tipe, deposit/withdrawal per website + user, master game/provider/category (product list Sentinel), master website + group per company.
- Data yang di mock masih hardcode dan perlu sumber asli: bonus redemption rate, incremental GGR (atribusi bonus), forecast GGR, deviasi RTP teoritis, jackpot impact.
- Semua angka per company (X / NX) mengikuti CompanySelectionService.