

WHITEPAPER · THE LANGUAGE KEY · HONG KONG

The Cost of Poor Spoken Business English

The evidence base and methodology behind the BEST cost-exposure model.

This whitepaper sets out, in full, how the BEST cost model estimates a Hong Kong company's annual hidden loss from poor spoken-English assessment. Part One documents every researched constant, its sources, and its confidence rating. Part Two defines the model architecture, the formulas, and how each survey answer changes the result. All figures are in Hong Kong dollars.

Part One — Evidence Base

This evidence base documents the public sources behind each constant in the BEST (Business English Speaking Test) cost model. The model estimates a Hong Kong company's **annual hidden loss (in HKD)** from poor spoken-English assessment, across four categories: (1) lost deals and revenue, (2) project delays and rework, (3) mis-hire cost, and (4) management and productivity drag. All money is expressed in **HKD**. USD figures are converted at **7.8 HKD = 1 USD** (the HKMA Linked Exchange Rate System central peg; structural band 7.75–7.85; spot held near 7.80 in early and mid-2026). GBP cross-checks use approximately 10.54 HKD = 1 GBP (2026 average).

Each numeric finding carries a method tag and a confidence rating. The **direct** tag marks a hard public statistic quoted from a citation. The **indirect** tag marks a value computed from component statistics, with the calculation shown beneath each table. Every finding also carries a fact-check status (**confirmed** , **adjusted** , or **unverifiable**) and a confidence level, so the basis for each constant is fully visible to the reader. The evidence base reflects data available in mid-2026, preferring 2023–2026 sources and using older sources only where they are the best available.

Bucket 1 — Hong Kong annual salaries by seniority level

Confidence: high. Two load-bearing sources verify cleanly: the Hong Kong Census and Statistics Department (C&SD) 2024/2025 wage surveys, and the KPMG Hong Kong Executive Salary Outlook 2024 salary tables (each KPMG row matches the source PDF; figures are HKD, 12-month base, excluding bonuses).

Metric (annual gross, HKD/yr)	Low	Expected	High	Unit	Method	Status	Confidence
Entry-level (degree white-collar new hire)	204,000	252,000	330,000	HKD/yr	indirect	confirmed	high
Middle management (Manager/Senior Manager)	510,000	760,000	1,200,000	HKD/yr	direct	confirmed	high
Senior management (Head-of / SVP, below Director)	800,000	1,100,000	1,700,000	HKD/yr	indirect	confirmed	medium
Director-level / top-leadership	1,100,000	1,500,000	2,300,000	HKD/yr	direct	confirmed	high
Executive / C-suite (CEO/CFO/CIO/CHRO, base)	1,400,000	2,200,000	4,000,000	HKD/yr	direct	adjusted	high

Workings (indirect/adjusted rows):

- Entry-level:** Anchor = HKBU all-graduate average HK\$19,500/mo (2025). LOW = 17,000 × 12 = 204,000; EXPECTED ≈ 21,000/mo × 12 = 252,000 (commercial white-collar above the all-graduate average); HIGH ≈ 23,000/mo × 12 + partial 13th month = 330,000. Note: 252K expected sits slightly above the verified all-graduate average (234K at ×12 / 253.5K at ×13).
- Senior management:** Interpolated between Middle Management and Director from verified KPMG rows (Senior Finance Mgr 900K–1.2M, Financial Controller 850K–1.8M, Treasurer 1.1M–2.2M, Compliance VP 970K–1.7M). Tier boundaries deliberately fuzzy (a banking "SVP" ≈ an industry "Director").
- C-suite:** KPMG CxO midpoints (CFO 1.4M–2.7M, Chief People Officer 1.5M–3.0M, CIO/CTO 1.2M–3.0M, GC 1.6M–3.2M, CCO 1.7M–2.7M) cluster ~2.0–2.25M. LOW = 1.4M (KPMG CFO floor); EXPECTED = 2.2M (median of KPMG CxO midpoints; above PayScale's own CEO avg of HK\$1.82M); HIGH = 4.0M (PayScale CEO 90th pctile). PayScale's Hong Kong CEO average is HK\$1,821,980 (range 465k–4.0M) and CFO average HK\$1,397,411.

Sources: KPMG China, *Hong Kong Executive Salary Outlook 2024* (assets.kpmg.com/.../hong-kong-executive-salary-outlook-2024.pdf); HK C&SD, *2024 Annual Earnings and Hours Survey* (gia.info.gov.hk P2025032400381...pdf); HKBU The Young Reporter (2025); Human Resources Online (2024); PayScale HK CEO & CFO pages (2026).

Bucket 2 — Cost of a bad / mis-hire

Confidence: medium. All nine findings verify against their cited sources. No Hong Kong-specific bad-hire study exists, so the multipliers are US/global proxies applied to Hong Kong. The executive multiples (Topgrading, HBR/Gartner) are fully loaded and **overlap** with the model's other three loss categories, so they are not layered on top; doing so would double-count.

Metric	Low	Expected	High	Unit	Method	Status	Confidence
Headline bad-hire multiplier (scales w/ seniority)	30	100	200	% of first-year salary	direct	confirmed	medium
US DOL floor	30	30	30	% of first-year earnings	direct	confirmed	high
CareerBuilder avg \$ cost (US)	14,900	15,500	17,000	USD/bad hire	direct	confirmed	high
CareerBuilder cost → HKD	116,000	121,000	133,000	HKD/bad hire	indirect	confirmed	medium
HK-grounded absolute cost (multiplier × HK salary)	76,000	432,000	1,231,000	HKD/bad hire	indirect	confirmed	medium
SHRM seniority tier multiplier	50	125	213	% of annual salary	direct	confirmed	medium
Topgrading extreme-tail (5×–27×)	500	1,500	2,700	% of salary	direct	confirmed	low
Failed-executive (HBR/Gartner, 10×–15×)	1,000	1,200	1,500	% of salary	direct	confirmed	low
Prevalence of bad hires	74	74	95	% of employers	direct	adjusted	low

Workings (indirect rows):

- **CareerBuilder → HKD:** US\$14,900 × 7.8 = 116,220; US\$17,000 × 7.8 = 132,600; expected US\$15,500 × 7.8 ≈ 121,000.
- **HK-grounded absolute cost (recommended HK figure):** multiplier × C&SD 2025 wage anchors. LOW = 30% × (median 21,200/mo × 12 = 254,400) = 76,320. EXPECTED = 100% × (mean ~36,000/mo × 12 = 432,000) = 432,000. HIGH = 200% × (90th pctile 51,300/mo × 12 = 615,600) = 1,231,200. (Expected uses the **mean** wage, which is pulled up by high earners — defensible for above-median client-facing roles but inflates "expected" vs a median view.)
- **Prevalence:** 74% (CareerBuilder, "ever/last year") and 95% (Glassdoor/Brandon Hall, "every year") measure different things and are not blendable. Expected is anchored to the conservative, better-defined 74%; 95% is the per-year ceiling.

Sources: inop.ai (citing SHRM + US DOL, 2026); Waterfall Planning (citing SHRM, 2024); Frontline Source Group (citing US DOL, 2025); CareerBuilder/PR Newswire (2017); HK C&SD 2025 Annual Earnings & Hours Survey (info.gov.hk P2026032300370.htm); Trading Economics (C&SD-derived); Topgrading/Bradford Smart (2024); Hunt Scanlon / Millman Search (HBR/Gartner, 2024-25); Glassdoor/Brandon Hall (2015).

Bucket 3 — Prevalence of weak business spoken English in Hong Kong

Confidence: mixed. The hard direct anchors (EF EPI, HK Census, Hays) are high confidence. The synthesised headline prevalence is low confidence and directional, not counted. EF's Hong Kong **speaking sub-score is 494 (Low band)** — the lowest of all four skills and the single most on-topic statistic for this bucket; it is the most directly relevant figure for spoken English, more so than the composite 538.

Metric	Low	Expected	High	Unit	Method	Status	Confidence
EF EPI 2025 HK score	538	538	538	EPI points (0–800)	direct	confirmed	high
EF EPI 2025 HK rank	39	39	39	rank of 123	direct	confirmed	high
EF EPI HK trend (2023–25)	538	548	558	EPI points	direct	confirmed	high
Share of HK adults ≤ lower-B2 (proxy)	40	50	60	% of test-taker pop	indirect	confirmed	low
Written-vs-spoken gap (white-collar)	27	31	31	percentage points	indirect	adjusted	medium
Share of white-collar not "trilingual"	40	41	43	% of occ. group	indirect	adjusted	medium
HEADLINE: % client-facing hires below spoken bar	25	35	50	% of candidates	indirect	confirmed	low
Employers citing communication as short-supply skill	26	28	38	% of orgs	direct	confirmed	medium
Employers reporting moderate-extreme skill shortages	48	48	48	% of hiring mgrs	direct	confirmed	high
Context: HK pop. aged 5+ able to speak English	45.1	57.7	57.7	% of pop 5+	direct	adjusted	high

EF EPI sub-scores (2025 fact sheet): Reading 550, Listening 526, Writing 527, **Speaking 494 (Low band)**. Band cutoffs: Very High 600+, High 550–599, Moderate 500–549, Low 450–499. 538 sits in Moderate (EF.com's "High" header is a legacy CMS artifact).

Workings (indirect/adjusted rows):

- **Written-vs-spoken gap:** Census 2021 read/write vs trilingual: Professionals 91.4% vs 60.3% = 31.1pp; Managers 85.4% vs 58.8% = 26.6pp; Associate professionals 88.8% vs 57.5% = 31.3pp. Band is 27–31pp, based only on figures present in the cited Census source.
- **Share not trilingual:** complements of trilingual rates: 39.7% / 41.2% / 42.5%; average 41.1%. This is framed as "not credited with full biliterate-and-trilingual status (a proxy for the white-collar spoken-English ceiling)" — NOT "cannot speak English" (the complement includes people who can speak English but fail on Putonghua).
- **Headline (synthesised):** triangulated from (1) Census ~41% not trilingual (discounted for recruiter pre-screening), (2) EF mean 538 / speaking 494 below a B2+/C1 client-facing bar, (3) Hays communication 28% / shortages 48%. Band = "roughly 1 in 3, range 1-in-4 to 1-in-2." Highly sensitive to whether the role bar is set at B2 vs C1.
- **Base rate:** 57.7% (2021) and 45.1% (2011) confirmed. The internal split: English as **usual** spoken language is **4.6%**; ~4.6% usual + ~53.1% other = 57.7%.

Sources: EF Education First, *EF EPI 2025 fact sheet — Hong Kong* (ef.com/.../2025/ef-epi-fact-sheet-hong-kong-english.pdf) + 2023/2024 fact sheets + About-EPI page; Wikipedia (EF EPI band cutoffs); HK C&SD, *2021 Population Census — Use of Language* (census2021.gov.hk/doc/pub/21C_Articles_Use_of_Language.pdf); Statista (English usual language 4.6%); Hays Asia Salary Guide 2025 (hays.com.hk press release).

Bucket 4 — Cost of poor communication per employee/year + English/spoken decomposition

Confidence: medium. Component statistics verify and the arithmetic is correct. Part A reflects currency conversion and source vintage (the newer 2025 Grammarly figure pulls the central estimate down). Part B's Hong Kong component statistics (Bacon-Shone/HKU) are strong and directly verified. Factor (iii) is unverifiable.

Metric	Low	Expected	High	Unit	Method	Status	Confidence
Part A: poor-communication cost per employee/yr	72,000	85,000	195,000	HKD/employee/yr	indirect	adjusted	medium
Part B (i): share of business comms in English	0.45	0.60	0.75	ratio	indirect	confirmed	medium
Part B (ii): spoken share of total comms	0.35	0.45	0.55	ratio	indirect	confirmed	medium
Part B (iii): share of miscomm. due to language	0.15	0.30	0.45	ratio	indirect	unverifiable	low

Workings:

- **Part A:** Grammarly/Harris franchise figures × 7.8. 2022 report US\$12,506 × 7.8 = 97,547; **newer 2025 report US\$9,284 × 7.8 = 72,415**. For a mid-2026 model the central value sits between vintages → EXPECTED ≈ (97,547 + 72,415)/2 ≈ 85,000. LOW = 72,000 (the current Grammarly figure ported; the lowest real survey figure). HIGH 195,000 (~US\$25,000) is conservative vs the Axios HQ 2025 ceiling US\$37,440 × 7.8 = 292,000. Holmes/Grossman productivity-only floor = US\$624/employee = ~4,870 HKD. All US/global, ported to HK.
- **Part B decomposition:** spoken-English-attributable share of poor-communication cost = factor(i) × factor(ii) × factor(iii). Expected = **0.60 × 0.45 × 0.30 = 0.081** (~8% of total poor-communication cost is attributable to spoken-English specifically).
- **Factor (i):** Bacon-Shone/HKU verified — English with clients 48.1%, colleagues 33.2%; internal 85.8% / external 85.5% / reading 86.9%; **oral English only 41.6% "quite well or better" vs 92.1% oral Cantonese**. Weighted: written (0.85) × ~0.45 + spoken (0.45) × ~0.55 = 0.63 ≈ 0.60.
- **Factor (ii):** Grammarly time-allocation (~20 of ~40 hrs written ⇒ ~50/50) and Statista 2023 (meetings ~10.45 hrs/wk, email ~6) support spoken ~0.45–0.50.
- **Factor (iii) (unverifiable):** No source isolates the pure language-proficiency share. Supporting stats real (~80% executives cite culture+language combined; ~42% cite communication-style differences — orig. EIU; 65% say language barriers exist). 0.30 is a reasoned estimate, not a published figure.

Caveats: The Bacon-Shone fieldwork dates from approximately 2012–13 — the oldest input in this bucket; no newer comprehensive Hong Kong workplace-language survey is available.

Sources: Grammarly Business / Harris Poll (2022 & 2023 via Business Wire); Pumble (2026, aggregating Grammarly 2025 + Axios HQ); CMBell (Holmes Report / Grossman); HKU Social Sciences Research Centre, *Language Use, Proficiency and Attitudes in HK* (Bacon-Shone & Bolton; socsc.hku.hk/.../HK_lg_survey_Final.pdf); Statista (2023 work-communication time); Simon & Simon (Forbes Insights/Rosetta Stone); Weavix (citing EIU); Journal of Management (Fiset et al., 2024).

Bucket 5 — Direct consequence stats (delays, lost sales, hours lost)

Confidence: medium. Every cited primary source independently verifies (EIU/Lucidchart 2018, Grammarly/Harris 2022, PMI 2013, FMI/PlanGrid 2018, EF EPI 2024). The per-company SHRM figure is used only as a cross-check. All consequence statistics are US/global proxies, mostly self-reported, and several pre-2020.

Metric	Low	Expected	High	Unit	Method	Status	Confidence
Comms barriers → delayed/failed project	40	44	48	%	direct	confirmed	medium
Comms barriers → lost sale	15	18	22	%	direct	confirmed	medium

Metric	Low	Expected	High	Unit	Method	Status	Confidence
Comms-driven lost sales valued ≥US\$100k	30	30	30	% of incidents	direct	adjusted	medium
Comms barriers → missed performance goals	22	25	28	%	direct	confirmed	medium
Comms barriers → low morale / stress	31	41	52	%	direct	confirmed	medium
Hours/wk lost per employee	5.6	7.47	13	hrs/employee/wk	direct	confirmed	medium
Poor-comms cost per employee/yr (Grammarly→HKD)	78,000	97,547	110,000	HKD/employee/yr	indirect	confirmed	medium
Lost-business value bands (cumulative \$50k+/\$20k+/\$10k+)	22	60	86	% of leaders	direct	confirmed	medium
On-time completion: min- vs highly-effective comms	37	54	71	% on time	direct	confirmed	medium
Meeting-goals rate: min- vs highly-effective comms	52	66	80	% meet goals	direct	confirmed	medium
Project budget at risk from poor comms (per \$1bn)	75,000,000	75,000,000	135,000,000	USD per \$1bn spend	direct	confirmed	medium
Ineffective comms = PRIMARY cause of project failure	28	33	56	% of failures	direct	confirmed	medium
Rework caused by poor comms/data	26	48	52	% of rework	direct	confirmed	medium
Comms-driven rework cost (US construction)	14,300,000,000	17,000,000,000	31,300,000,000	USD/yr	direct	confirmed	medium
Per-company poor-comms cost (SHRM-cited)	3,276,000	243,360,000	486,720,000	HKD/company/yr	indirect	adjusted	low
HK spoken-English proficiency (exposure rationale)	494	549	550	EF EPI score	direct	confirmed	high

Workings (indirect / scalable rows):

- **Lost-sales value:** EIU states "nearly a third (30%) [of comms-driven lost sales] valued between US\$100,000 and US\$999,999" (= HK\$780k–7.79m per incident). For sizing a single lost deal, use the Grammarly value bands instead.
- **Poor-comms cost → HKD:** $\text{US\$12,506} \times 7.8 = 97,547$ (built on a US\$66,976 salary base; re-base on HK pay for final HK use, which lowers it).

- **Budget-at-risk ratio (best scalable input for category 2):** US\$75m of US\$135m at risk per US\$1bn spent = **7.5% of project spend at communication-risk**. HKD: US\$75m × 7.8 = HK\$585m per HK\$7.8bn spent.
- **Per-company SHRM (cross-check only):** US\$420k × 7.8 = 3.276m (small firm); US\$62.4m × 7.8 = 486.72m (large firm, per-company avg across "400 companies with 100,000 employees each"); midpoint = 243.36m. Provenance is weak and old; the US\$420k traces to Debra Hamilton's "email blunders" article, not original SHRM research. Per-head these imply only ~US\$420–624/head — far below Grammarly's US\$12,506 — so the model is not anchored on these.

Sources: EIU/Lucidchart, *Communication Barriers in the Modern Workplace* (2018, original PDF + PR Newswire); Grammarly & Harris Poll, *State of Business Communication* (2022, research page + Business Wire); PMI, *Communication: The Message Is Clear / Essential Role of Communications* (2013, white paper PDF + Business Wire); FMI/PlanGrid (Autodesk), *Construction Disconnected* (2018, original PDF + PR Newswire); SHRM (2023, citing Grossman/Hamilton); EF EPI 2024 HK fact sheet + regional page.

Bucket 6 — Revenue-at-risk / lost-deal basis by industry

Confidence: high on the Hong Kong anchors; low on the two judgment multipliers in the combining formula. The four HK C&SD value-added-per-person figures are confirmed verbatim from the July 2025 Monthly Digest (Asset Management feature). Communication-loss survey statistics and SaaS ACV benchmarks are confirmed.

Metric	Low	Expected	High	Unit	Method	Status	Confidence
VA/person — HK financial services	2,300,000	2,700,000	2,900,000	HKD/worker/yr	direct	confirmed	high
VA/person — HK trading & logistics	900,000	1,000,000	1,100,000	HKD/worker/yr	direct	confirmed	high
VA/person — HK professional services	450,000	500,000	550,000	HKD/worker/yr	direct	confirmed	high
VA/person — HK tourism	450,000	500,000	550,000	HKD/worker/yr	direct	confirmed	high
Cross-industry RPE (global benchmark)	780,000	2,730,000	11,700,000	HKD/employee/yr	direct	adjusted	medium
B2B ACV — cross-segment median (SaaS proxy)	174,000	205,000	235,000	HKD/contract/yr	direct	confirmed	medium
B2B deal value by segment (SMB/mid/ent)	39,000	351,000	1,716,000	HKD/contract/yr	direct	confirmed	medium
Deals lost attributable to poor communication	0.20	0.43	0.66	ratio	direct	confirmed	medium
Win-rate uplift from problem alignment	0.10	0.38	0.38	rel. uplift / abs. pp*	direct	confirmed	medium
Employers losing business to language gaps	0.25	0.25	0.30	ratio	direct	confirmed	low
HK EF EPI 2024 (exposure multiplier)	494	538	550	EF EPI score	direct	confirmed	high
Combining formula — revenue-at-risk per role	33,750	162,000	594,000	HKD/yr per client-facing role	indirect	confirmed	low

* **Unit warning:** 38% is a *relative* win-rate uplift (Emblaze); 10 is an *absolute* percentage-point drop (Corporate Visions). Different units — never blend.

Workings:

- **Cross-industry RPE:** HRBench 2025 (USD) × 7.8. Cross-industry avg ~US\$350k = 2.73m (expected); Leisure/Hospitality floor US\$100k = 0.78m (low). HIGH = **11.7m** (financial-services ceiling US\$1.5m × 7.8 — a supported figure). Literal absolute max (energy US\$3m × 7.8 = 23.4m) noted but energy is an outlier.
- **B2B ACV median:** SaaS Capital 2025-survey median US\$26,265 × 7.8 = 204,867 (expected); prior-year US\$22,357 × 7.8 = 174,385 (low); +15% = 235,597 (high).
- **B2B by segment:** SMB ~US\$5,000 × 7.8 = 39k (low); enterprise US\$220,000 × 7.8 = 1.716m (high); blended ~US\$45,000 × 7.8 = 351k (expected). Global SaaS proxy — non-SaaS HK B2B deals are larger/lumpier, so treat as a lower bound there.
- **Combining formula (the model's category-1 engine):** $RevAtRisk_{per_role} = ValueAdded_{per_worker} \times Share_{spoken-English-dependent} \times Loss-probability-uplift$ Finance worked example: EXPECTED 2,700,000 × 0.40 × 0.15 = **162,000**; LOW 2,700,000 × 0.25 × 0.05 = **33,750**; HIGH 2,700,000 × 0.55 × 0.40 = **594,000**. Professional-services example: 500,000 × 0.40 × 0.15 = 30,000. The two multipliers (share 0.25/0.40/0.55; loss-uplift 0.05/0.15/0.40) are **judgment bands proxied from global all-communication surveys**, not measured HK spoken-English-loss rates; all three inputs are exposed as user-adjustable. Swapping value-added (conservative floor) for gross RPE scales results ~2–3×.

Sources: HK C&SD, *Hong Kong Monthly Digest of Statistics, July 2025 — Asset Management Industry feature* (censtatd.gov.hk/.../B72507FB2025XXXXB0100.pdf); HRBench (2025); SaaS Capital (2025); Optifai / Martal (ACV segments); Grammarly/Harris 2024 State of Business Communication; Project.co (2026); Corporate Visions (Emblaze 2024 / Corporate Visions 2025); ACTFL, *Making Languages Our Business* (2019); RAND Europe (2022); EF EPI 2024 HK + SCMP Young Post (2024).

Bucket 7 — Cost of a senior English examiner assessment in Hong Kong (indirect)

Confidence: medium. Five anchor components verify (HK tutoring rates, IELTS format/qualification bar, HK HR salaries, UK examiner pay). The headline total is consistent with the component sums shown in the workings.

Metric	Low	Expected	High	Unit	Method	Status	Confidence
Senior examiner hourly rate	500	700	1,000	HKD/hr	indirect	confirmed	medium
Time to conduct + mark one assessment	0.5	0.75	1.0	hrs	indirect	confirmed	medium
Examiner labour cost / assessment	250	525	1,000	HKD	indirect	confirmed	medium
HR/recruiter loaded hourly cost	180	235	400	HKD/hr	indirect	adjusted	high
HR time / assessment	0.4	0.75	1.5	hrs	indirect	unverifiable	low
HR labour cost / assessment	72	175	600	HKD	indirect	adjusted	low
Scheduling / logistics overhead	50	150	400	HKD	indirect	unverifiable	low
Sourcing-difficulty premium (amortised)	30	100	300	HKD	indirect	unverifiable	low
TOTAL fully-loaded cost per assessment	500	1,300	2,700	HKD/assessment	indirect	adjusted	medium

Workings:

- **Examiner labour:** 500×0.5=250; 700×0.75=525; 1000×1.0=1000. (HK private/business-English tutoring 400–800/hr, affluent/corporate 800–1,300/hr; senior examiner-grade sits at the top.)
- **HR loaded hourly:** JobsDB June 2026 — HR Officer 22,000–25,000/mo; HR Manager 40,000–50,000/mo. Loaded = monthly × 12 / 2,080 hrs × 1.3. Officer top: 25,000×12/2,080 = 144.2 base × 1.3 = 187.5; Manager top:

$50,000 \times 12 / 2,080 = 288.5 \times 1.3 = 375.0$. Band: low ~180 (officer), expected ~235, high ~400 (manager + small headroom).

- **HR labour:** $180 \times 0.4 = 72$; $235 \times 0.75 \approx 175$; $400 \times 1.5 = 600$.
- **TOTAL:** component sums LOW 402 / EXPECTED 950 / HIGH 2,300, with light stacking allowance → **LOW 500 / EXPECTED 1,300 / HIGH 2,700**. External reality check: a full official IELTS test in HK (4 modules incl. examiner-led speaking) retails at **HK\$2,685 (2026)**, so expected ~1,300 for a single spoken assessment + HR overhead and high ~2,700 approaching the all-modules retail price are credible. USD at 7.8: ~64 / 167 / 346.

Sources: Mr. Greg English & Tutoroo (HK tutoring rates); IELTS.org / British Council (Speaking format 11–14 min, examiner qualifications); JobsDB SEEK (HR Officer & Manager salaries, June 2026); PayScale HK; Glassdoor UK & StoryLearning (UK examiner pay); British Council HK & IDP HK (IELTS HK\$2,685 retail fee); IDP IELTS (examiner recruitment/scheduling).

Bucket 8 — Corporate business-English training cost per head (Hong Kong)

Confidence: high on the provider rate cards; low on the L&D benchmark (2021, stale). Four direct provider-rate findings verify against live rate cards. The British Council "Professional Skills" figure is the discounted price (~HK\$16,100), not the discount amount. The CEF subsidy ceiling is distinguished from the maximum actual reimbursement.

Metric	Low	Expected	High	Unit	Method	Status	Confidence
Per-head BE programme (~40 hrs), blended	5,000	15,000	32,000	HKD/person	indirect	confirmed	medium
In-company GROUP hourly rate (whole group 5–10)	730	880	1,080	HKD/hr	direct	confirmed	high
Private 1:1 / small-group hourly per person	410	600	900	HKD/hr/person	direct	confirmed	high
Fixed-fee certificate / structured course	8,000	14,760	16,100	HKD/person	direct	adjusted	high
Fixed-fee workshop (~1 day)	3,900	4,700	5,500	HKD/person	direct	confirmed	high
HK corporate L&D spend per employee/yr (cross-check)	3,000	4,600	9,000	HKD/employee/yr	indirect	confirmed	low
CEF subsidy offset (max actual reimbursement)	0	15,000	17,000	HKD reimbursed	direct	adjusted	medium

Workings:

- **Per-head programme (blended):** LOW = HKPLS group of 7–10 @ HK\$980/hr × 40hr = 39,200 / 8 heads ≈ 4,900 ≈ 5,000. EXPECTED ≈ 15,000 (blend of HKU SPACE HK\$8,000/90hr, Berlitz 40-lesson HK\$14,760, small-group in-company). HIGH = language.com.hk tailored 1:1 @ HK\$800/hr × 40hr = 32,000 (slightly conservative; sub-100hr rate is HK\$900/hr → 36,000). USD at 7.8: ~640 / 1,920 / 4,100.
- **Fixed-fee certificate:** LOW = HKU SPACE Certificate in Business English Usage HK\$8,000 (90hr, CEF-reimbursable); EXPECTED = Berlitz 40-lesson HK\$14,760; HIGH = British Council 4-module Professional Skills after 30% off ≈ HK\$16,100 (list ~HK\$23,000).
- **L&D cross-check:** HKIHRM 2021 — actual training spend = 1.9% of base salary, 14.1 hrs/employee. LOW $216,000 \times 1.3\% = 2,808 \approx 3,000$; EXPECTED $240,000 \times 1.9\% = 4,560 \approx 4,600$; HIGH $480,000 \times 1.9\% = 9,120 \approx 9,000$. All-training, not English-only — shows one dedicated English programme (HK\$5k–16k) equals/exceeds a typical employee's whole annual training budget. (2021 data, stale.)
- **CEF:** ceiling HK\$25,000 per applicant, split first HK\$10,000 @ 80% + next HK\$15,000 @ 60%. Max actual cash reimbursed = $(10,000 \times 0.80) + (15,000 \times 0.60) = 8,000 + 9,000 = \mathbf{17,000}$, not 25,000. LOW = 0 (employer-paid/non-

CEF bespoke course); EXPECTED $\approx$ 15,000; HIGH = 17,000. CEF is an individual subsidy for CEF-listed courses only (requires passing a benchmark test); most bespoke in-company remediation is NOT CEF-reimbursable.

Sources: Hong Kong Pro Language School (hkpls.com.hk price list); The Language Centre (language.com.hk fees); HKU SPACE (Cert in Business English Usage); Berlitz HK; British Council HK (Professional Skills); Human Resources Online (HKIHRM 2021 T&D survey); WFSFAA (CEF) & Wall Street English HK (CEF structure).

Bucket 9 — Hong Kong company-size scaling + client-facing role share

Confidence: high on the FX peg and the $\sim$ 40% English-critical baseline; low on the per-band client-facing shares (modelling assumptions, not measured HK data). A critical caveat applies throughout: "client-facing" (broad, including Cantonese-serving frontline) is NOT the same as "spoken-business-English-critical" (narrower); the distinction protects against over-counting.

Metric	Low	Expected	High	Unit	Method	Status	Confidence
HKD per 1 USD	7.75	7.80	7.85	HKD/USD	direct	confirmed	high
Economy-wide English-critical baseline (mgr+prof+assoc-prof)	0.36	0.40	0.47	ratio	indirect	confirmed	high
Upper-bound any client/external-facing share	0.53	0.58	0.62	ratio	indirect	confirmed	high
SME (<50) share of employment (+98% of establishments)	0.43	0.45	0.47	ratio	direct	confirmed	high
Org-design back-office scaling factor	1.5	2.5	3.0	ratio (small vs large RPE-relative)	indirect	confirmed	medium
Band 1–20 staff — client/English-critical share (rep. headcount $\sim$ 8)	0.45	0.60	0.75	ratio	indirect	unverifiable	low
Band 21–50 (rep. $\sim$ 35)	0.40	0.55	0.68	ratio	indirect	unverifiable	low
Band 51–200 (rep. $\sim$ 110)	0.35	0.50	0.62	ratio	indirect	unverifiable	low
Band 201–500 (rep. $\sim$ 330)	0.32	0.45	0.58	ratio	indirect	unverifiable	low
Band 501–1000 (rep. $\sim$ 720)	0.30	0.42	0.55	ratio	indirect	unverifiable	low
Band 1001–5000 (rep. $\sim$ 2,500)	0.28	0.40	0.52	ratio	indirect	unverifiable	low
Band 5001–10000 (rep. $\sim$ 7,500)	0.25	0.38	0.50	ratio	indirect	unverifiable	low
Band 10001+ (rep. $\sim$ 25,000–30,000)	0.22	0.35	0.48	ratio	indirect	adjusted	low
Cross-size summary: share curve (smallest $\rightarrow$ largest, $\sim$ 25pp fall)	0.35	0.48	0.60	ratio	indirect	adjusted	low

Workings:

- **English-critical baseline:** Census 2021 — managers 9.7% (356,320) + professionals + associate professionals 30.2% (412,999 + 698,462) = 39.9% of working population 3,681,295. High bound (1,467,781 + $0.40 \times 668,831$)/3,681,295 = 47.1%. (The 39.9% reconciles to the component percentages.)
- **Upper-bound client-facing:** (356,320 + 412,999 + 698,462 + 668,831)/3,681,295 = 58.0%. Many service-&-sales serve local Cantonese customers, so 58% is NOT "spoken-English-critical."
- **Org-design factor:** TechServe — small/mid firms have 2.5 $\times$ back-office per revenue vs large firms; MSH IT ratio 1:18 (<500 staff) vs 1:40 (10,000+). Mechanism is two-sided (back-office often grows faster at scale) but both

readings point the same way: client-facing share falls with size.

- **Per-band shares:** No HK source measures client-facing share by firm size; these are extrapolations from the org-design proxies + SME structure, anchored on the verified ~40% baseline. Monotonic decline ~0.60 (micro) → ~0.35 (largest), crossing ~0.40 around the 500–2,000 staff range. Band 10001+ representative headcount is ~25,000–30,000 (MTR group ~30k+). The cross-size summary row is a proper monotonic band (low 0.35 / exp 0.48 / high 0.60).

Sources: HKMA (Linked Exchange Rate System) + Wikipedia; HK C&SD, *2021 Population Census — Main Results, Table 6.9* (census2021.gov.hk/doc/pub/21c-main-results.pdf); LegCo Research Office *Statistical Highlights: SMEs* (ISSH28/17-18) + TID SUCCESS; TechServe Alliance; MSH Talent Solutions; The F Suite (2026); StockAnalysis.com / CompaniesMarketCap (MTR headcount).

Bucket 10 — Per-industry English-criticality weight + revenue/head

Confidence: the ordering is well-supported; the exact weights are a constructed index (unverifiable as figures); the HK-direct revenue anchors are medium. The weights are a structured prior, not published statistics. The HK-direct revenue/head facts check out (manufacturing VA HK\$482K/worker exact from C&SD; Cathay 2023 revenue HK\$94.48B). A key caveat applies for a **spoken**-English product: Evans (2010) finds English dominates *written* HK professional comms while Cantonese remains the usual *oral* language, so several high weights may overstate the case for spoken English specifically. The Damodaran revenue/head dataset is US data used as a global/HK proxy.

Industry	Weight Low	Weight Exp	Weight High	Status	Confidence	Indicative revenue/head (HKD)
Aviation	1.7	2.0	2.2	confirmed	medium	3.0M–5.5M (Cathay ~3.9–4.3M)
Banking & Finance	1.5	1.8	2.0	unverifiable	low	2.5M–9.0M
Professional Services (legal/acct/consult)	1.3	1.6	1.9	adjusted	low	1.2M–3.0M
Trading, Shipping & Logistics	1.4	1.6	1.9	confirmed	low	1.5M–4.5M
Insurance	1.3	1.5	1.8	unverifiable	low	1.8M–5.5M
Technology / Software	1.2	1.45	1.7	unverifiable	low	1.5M–3.5M
Hospitality & Tourism	1.1	1.3	1.5	unverifiable	low	0.5M–1.2M
Telecommunications	1.0	1.2	1.5	adjusted	low	2.0M–4.0M (HKT ~2.7M)
Media & Advertising	1.0	1.2	1.5	unverifiable	low	0.9M–2.2M
Healthcare & Pharma	0.9	1.1	1.4	unverifiable	low	0.9M–2.5M
Real Estate & Property	0.9	1.1	1.3	unverifiable	low	1.0M–3.0M
Education	0.7	1.0	1.4	unverifiable	low	0.5M–1.2M
Manufacturing	0.8	1.0	1.2	confirmed	medium	1.0M–2.4M (VA HK\$482K/worker)
Public Sector / NGO	0.7	0.9	1.1	unverifiable	low	GDP/worker ~0.8M proxy
Retail	0.6	0.8	1.0	unverifiable	low	0.7M–1.6M
Construction & Engineering	0.6	0.8	1.1	unverifiable	low	0.9M–2.2M

(1.0 = HK economy baseline. Weights are a relative index; method = indirect throughout; all USD-derived revenue/head figures converted at 7.8.)

Notable anchors:

- **Aviation (strongest evidence):** ICAO Level 4 English mandatory since March 2008 for pilots/ATC in international ops (re-tested; from Jan 2026 extended to ground-ops) — a hard regulatory mandate for *spoken* radiotelephony English. Cathay 2023 revenue HK\$94.48B confirmed; ÷ year-end ~24,000 headcount ≈ HK\$3.9M/employee (the 4.3M used mid-2023 headcount of 21,900, so it sits at the high edge).
- **Professional services:** Evans (2010) proves *written*-English dominance, not spoken — expected weight is 1.6, high 1.9.
- **Telecommunications:** HKT 2023 revenue is HK\$34.33B → RPE HK\$2.70M.
- **Manufacturing (best-anchored revenue/head):** C&SD 2023 — VA HK\$37.0B / 76,700 persons = HK\$482K value-added per worker (exact). Revenue basis assumes revenue ≈ 2–3× value-added (plausible, unsourced).
- **Trading & logistics (confirmed):** 18.8% of GDP (HK\$548.8bn), 576,300 jobs, import/export employment 412,074 (Dec 2023).

Sources: SKYbrary (ICAO Level 4); Cathay Pacific Annual Report 2023; PCCW/HKT 2023 Annual Results; HK C&SD industrial-sector statistics (info.gov.hk P2024112800190.htm) + Four Key Industries; Statista (finance GDP share 24.9%, trade employment); Stephen Evans, *Business as usual* (English for Specific Purposes vol 29, 2010); HRBench (2025); NYU Stern / Damodaran *Employee Metrics by Sector* (Jan 2026); Tomasz Tunguz (software RPE); eFinancialCareers (2021).

Recommended model constants

Distilled numbers to plug into the cost model (low / expected / high; HKD unless noted).

Salary by level (annual gross, HKD):

Level	Low	Expected	High
Entry	204,000	252,000	330,000
Middle management	510,000	760,000	1,200,000
Senior management	800,000	1,100,000	1,700,000
Director	1,100,000	1,500,000	2,300,000
C-suite	1,400,000	2,200,000	4,000,000

Bad-hire multiplier (% of first-year salary): 30 / 100 / 200. (Scales with seniority; the Topgrading 5×–27× or HBR/Gartner 10×–15× tail is not layered on top, as those multiples double-count.) HK-grounded absolute mis-hire cost: 76,000 / 432,000 / 1,231,000 HKD.

Prevalence — share of client-facing hires below the spoken bar: 25% / 35% / 50%.

Per-employee poor-communication cost (HKD/employee/yr): 72,000 / 85,000 / 195,000. Spoken-English decomposition factors: (i) share of comms in English **0.60**; (ii) spoken share **0.45**; (iii) language-attributable share **0.30** → combined **0.081** (~8%).

Delay / lost-sale / consequence probabilities (per exposed employee, from EIU/PMI):

- Lost sale: 15 / 18 / 22 %
- Delayed/failed project: 40 / 44 / 48 %
- Missed performance goals: 22 / 25 / 28 %

- Comms as primary cause of project failure: 28 / 33 / 56 %
- Rework attributable to comms/data: 26 / 48 / 52 %
- Project budget at communication-risk: **7.5% of project spend** (US\$75m of US\$135m per US\$1bn)
- On-time uplift gap: 37% → 71% (34pp); meeting-goals gap: 52% → 80% (28pp)

Revenue-per-head & deal basis (HKD):

- VA/person: Financial services 2.7M; Trading & logistics 1.0M; Professional services 0.5M; Tourism 0.5M; Manufacturing ~0.48M (use as conservative floor; gross RPE scales ~2–3×).
- B2B deal (ACV) median: 174,000 / 205,000 / 235,000. By segment: SMB ~39,000; mid ~351,000; enterprise ~1,716,000.
- Category-1 revenue-at-risk per client-facing role (formula): **VA/worker × spoken-English-dependent-share (0.25/0.40/0.55) × loss-probability-uplift (0.05/0.15/0.40)**. Finance example: 33,750 / 162,000 / 594,000.

Examiner cost per assessment (HKD): 500 / 1,300 / 2,700. (Component drivers: examiner labour 250/525/1,000; HR labour 72/175/600; logistics 50/150/400; sourcing premium 30/100/300.)

Training cost per head (HKD): Programme (~40hr) 5,000 / 15,000 / 32,000. CEF offset (where eligible): 0 / 15,000 / 17,000 (max reimbursement 17,000, NOT the 25,000 ceiling).

Company-size representative headcounts & English-critical client-facing shares:

Band	Rep. headcount	Share low	Share exp	Share high
1–20	8	0.45	0.60	0.75
21–50	35	0.40	0.55	0.68
51–200	110	0.35	0.50	0.62
201–500	330	0.32	0.45	0.58
501–1000	720	0.30	0.42	0.55
1001–5000	2,500	0.28	0.40	0.52
5001–10000	7,500	0.25	0.38	0.50
10001+	25,000–30,000	0.22	0.35	0.48

Economy-wide English-critical baseline: **0.40** (band 0.36–0.47). SME share of employment: ~0.45.

Industry criticality weights & revenue/head: see Bucket 10 table (1.0 = baseline; Aviation highest at 2.0, Retail/Construction lowest at ~0.8).

FX constant: 7.80 HKD = 1 USD (band 7.75–7.85). For GBP: ~10.54 HKD = 1 GBP.

Gaps & caveats

Low-confidence / unverifiable items (use as tunable assumptions, not facts):

- **The three combining-formula multipliers** (spoken-English-dependent share; loss-probability-uplift; the language-attributable miscommunication share, factor iii) are judgment bands proxied from global all-communication surveys — no HK spoken-English-loss measurement exists. All are exposed as user-adjustable.
- **Per-band client-facing shares (Bucket 9)** are modelling extrapolations, not measured HK data. Only the ~40% economy baseline and the 7.8 FX peg are high-confidence in that bucket.

- **Industry criticality weights (Bucket 10)** are a constructed relative index; only the *ordering* is evidence-backed (aviation's ICAO mandate is the cleanest hard support).
- **Examiner HR-time, logistics, and sourcing-premium components (Bucket 7)** are reasoned estimates with no source.
- **Prevalence headline (Bucket 3, ~35%)** is synthesised, not counted; highly sensitive to whether the role bar is set at B2 or C1.

Proxies / structural transfer assumptions:

- Nearly all consequence and bad-hire dollar/multiplier stats are **US/global**, ported to HK on the assumption HK white-collar pay/recruiting is broadly comparable. Several are pre-2020 (EIU 2018, PMI 2013, FMI 2018 — the last is construction-sector-specific).
- The Bacon-Shone HKU workplace-language survey (Bucket 4) is the only comprehensive HK source and is fieldwork ~2012–13 — the oldest input; no newer equivalent found.
- The Damodaran revenue/head dataset (Bucket 10) is US data used as a global/HK proxy.

Written-vs-spoken conflation (most important for a SPOKEN-English product):

- HK Census "biliterate-and-trilingual" status and Evans (2010) both describe a world where English dominates *written* professional comms while Cantonese remains the usual *oral* language. The cleanest spoken-specific evidence is **EF EPI HK speaking sub-score 494 (Low band)** — lead with it. Several "high English criticality" signals may overstate the case for spoken English specifically; the model's decomposition factor (ii) (spoken share 0.45) and the spoken-dependent-share multiplier are designed to discount for this.

Part Two — Methodology

This part defines how the lead-magnet survey converts a respondent's answers into an estimated annual hidden loss from poor spoken-English assessment, broken into four cost categories. Each of the 11 survey questions maps to a model parameter, so every selected option visibly moves the number. All money is in HKD; figures sourced or calculated in USD are converted at the rate of approximately 7.8 HKD = 1 USD. The model applies to Hong Kong companies and the Hong Kong branches of larger groups, and its product context is BEST (Business English Speaking Test) by The Language Key. The researched constants behind each parameter are documented in the evidence base.

1. What the headline number means

Estimated Annual Hidden Loss (HK\$ / year) = the expected yearly cost a company absorbs because weak spoken Business English enters — and persists in — roles where it matters, *because the current assessment process cannot reliably catch it.*

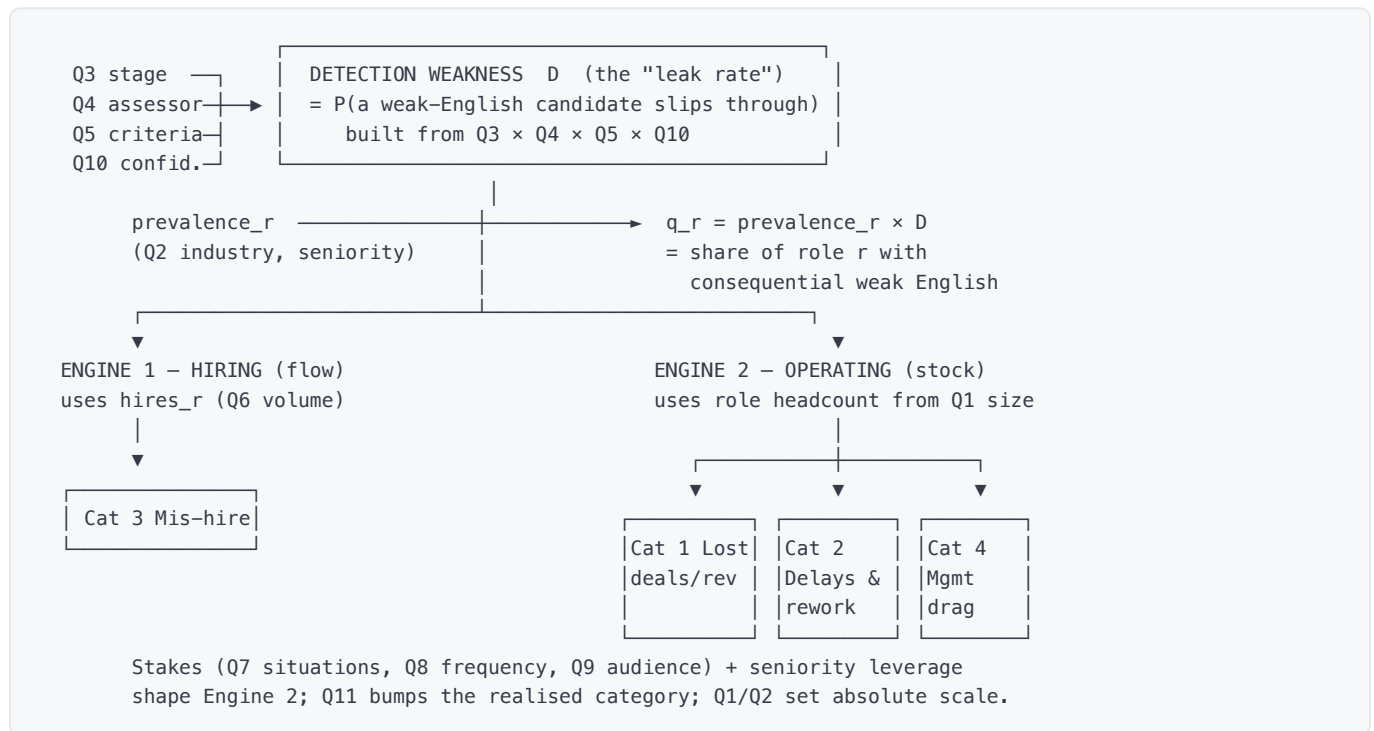
The number is deliberately annual and recurring (not one-off, not per-hire), so it reflects an ongoing cost rather than a single event. It is expressed as a low / expected / high band (a defensible range, not a statistical confidence interval). It is the sum of four categories (Section 4).

The factor the model holds responsible — and the factor BEST addresses — is detection weakness: the inability to measure spoken English objectively and reliably. Every category scales with it, so a respondent can see that improving assessment shrinks the loss.

2. Design principles

1. **Every question must move the number.** If an answer changes nothing, the question is decorative. Section 5 shows how each of Q1–Q11 maps to a live parameter.
 2. **Expected-value, not worst-case.** Loss = (how many people have the problem) × (what each one costs). The model does not rely on a single catastrophic anecdote.
 3. **Conservative and defensible.** Indirect calculations show their workings; ranges establish a credible floor. The model is designed to under-claim and withstand scrutiny rather than over-claim and lose trust.
 4. **Spoken-English-specific.** Generic "cost of miscommunication" statistics bundle all languages and both writing and speaking. The model decomposes them down to the spoken-English-proficiency slice and shows the decomposition (Section 6, bucket 4).
 5. **One lever ties it together.** A single quantity `q_r` (the share of people in a role with consequential weak spoken English) connects "how you assess" to "what it costs," across both new hires and the standing team.
-

3. Architecture — two engines, four categories, one leak gate



- **Engine 1 (flow)** acts on the *people hired this year* (hires r from Q6) → the **mis-hire** category, where a wrong hire's cost is incurred as a hiring event.
- **Engine 2 (stock)** acts on the *standing team* in each role (estimated from company size Q1) → the three **operating** categories (lost deals, delays/rework, management drag), which recur every year the wrong-skill people are in seat.
- The **leak gate D** and the prevalence give **q_r**, the single share that drives both engines. Improving assessment (BEST) lowers **D**, which lowers every category.

4. Master formulas

Notation (constants with provisional expected values; **bold** = sourced in the evidence base):

Symbol	Meaning	Source
H	HK-branch headcount (Q1 band → representative figure)	research bucket 9
pyramidShare $_r$	share of headcount at seniority level r	structural (org pyramid)
roleStock $_r$	standing headcount in role $r = \mathbf{H} \times \text{pyramidShare}_r$	derived
hires $_r$	annual hires into role r (Q6 volume band → midpoint)	from form
prevalence $_r$	share of people in role r with sub-par spoken English before detection	bucket 3 × industry/seniority
D	detection weakness / leak rate (Q3-Q4-Q5-Q10)	structural weights (§5)
q $_r$	$= \text{prevalence}_r \times \mathbf{D}$ — share with consequential weak English	derived
salary $_r$	HK annual gross salary at level r	bucket 1

Symbol	Meaning	Source
badHirePct	bad-hire cost as multiple of salary — flat 30 / 100 / 200 %	bucket 2
englishShare	share of bad-hire cost attributable to the English gap	judgment (≈0.5)
vaPerWorker_ind	industry value-added per worker (conservative vs gross revenue)	bucket 6/10
clientFacingShare	share of role in client/external-facing work	bucket 9
spokenDepShare	share of value riding on spoken English	bucket 6 (0.25/0.40/0.55)
lossUplift	loss-probability uplift when the communicator is weak	bucket 6 (0.05/0.15/0.40)
miscommCost_spoken	per-person annual delay/rework cost from weak spoken English	bucket 4 decomposition
dragPct	extra supervision/productivity loss as % of salary	judgment (≈0.12)
impactLeverage_r	downstream ripple multiplier by seniority	structural
stakesRev_r, stakesDelay_r, stakesDrag_r	usage-profile weights (Q7·Q8·Q9)	structural (§5)
Q11bump_c	realised-problem multiplier per category	structural

Detection weakness (leak):

```
D = clamp( baseLeak × stage(Q3) × assessor(Q4) × criteria(Q5) × conf(Q10), 0.03, 0.90 )
```

The connecting lever:

```
q_r = prevalence_r × D
weakHires_r = hires_r × prevalence_r × D           (Engine 1 flow)
```

Category 3 — Mis-hire (Engine 1):

```
MisHire_r = weakHires_r × salary_r × badHirePct × englishShare
            (badHirePct flat 30/100/200%; seniority enters via salary_r)
```

Category 1 — Lost deals / revenue (Engine 2):

```
LostDeals_r = roleStock_r × clientFacingShare × q_r
              × vaPerWorker_ind × spokenDepShare × lossUplift
              × impactLeverage_r × stakesRev_r(Q7,Q8,Q9)
```

Value-added per worker (bucket 6) is used rather than gross revenue-per-head — the conservative floor; gross revenue would scale category 1 by ~2–3×.

Category 2 — Project delays & rework (Engine 2):

```
Delays_r = roleStock_r × q_r × miscommCost_spoken
           × impactLeverage_r × stakesDelay_r(Q7,Q8,Q9)
```

Category 4 — Management & productivity drag (Engine 2):

$$\text{Drag}_r = \text{roleStock}_r \times q_r \times \text{salary}_r \times \text{dragPct} \\ \times \text{impactLeverage}_r \times \text{stakesDrag}_r(Q8)$$

Totals (per category c, then headline):

$$\text{Category}_c = \sum_{\text{roles}} \text{Category}_{c,r} \times Q11\text{bump}_c$$

$$\text{AnnualLoss} = \text{LostDeals} + \text{Delays} + \text{MisHire} + \text{Drag}$$

Range method. The central (expected) figure uses the expected value of every researched constant. For the band, the model does not display the naive all-low / all-high product: with approximately 8 multiplicative factors each spanning approximately 2–3×, compounding them to their extremes simultaneously implies perfect correlation and yields an implausible spread of approximately 100× (a negligible floor and an unrealistic ceiling). Instead the underlying factors are treated as partly independent, and the log-deviation from expected is dampened:

$$\text{displayed_low} = \text{expected} \times (\text{naiveLow} / \text{expected}) ^ { (1 / k)}$$

$$\text{displayed_high} = \text{expected} \times (\text{naiveHigh} / \text{expected}) ^ { (1 / k)}$$

where naiveLow/High = all-low / all-high products, $k \approx \sqrt{(\# \text{factors})} \approx 2.5$

This is equivalent to assuming the factors' log-variances add (independent log-normals) rather than their deviations (perfectly correlated). The result is a credible envelope of roughly **0.4× – 2.5× the expected value** — a band, not a statistical confidence interval.

5. Every question → its parameter (and direction of effect)

Q	Parameter(s)	How options move the number
Q1 Company size	H → <code>roleStock_r</code> ; <code>clientFacingShare</code>	Larger HK branch → larger operating loss (near-linear, mild scale economies). Sets absolute scale.
Q2 Industry	<code>prevalence_r</code> (criticality raises the bar), <code>revPerHead_ind</code> , <code>clientFacingShare</code> , salary index	Banking/finance, aviation, professional services, trading/shipping, insurance → high; local-facing education, construction, retail → low. Higher criticality → higher prevalence-of-shortfall + higher revenue-at-risk.
Q3 Where checked	<code>stage</code> factor in <code>D</code>	Interview (real speaking task) → lowest leak; Phone screen → higher; CV/Resume → highest (no speech + AI-written).
Q4 Who checks	<code>assessor</code> factor in <code>D</code>	Senior examiner → lowest leak (specialist; its own cost surfaced separately); Agency → higher (breadth-not-depth, score-only, no role insight); HR / line manager → higher (not language specialists); untrained AI → highest (unreliable without fine-tuning + rubric).
Q5 Criteria	<code>criteria</code> factor in <code>D</code>	Objective/concrete → low leak; Subjective "gut feel" → high (the exact pain both interviewed clients named).
Q6 Roles + volume	role set; <code>hires_r</code> ; <code>salary_r</code> , <code>impactLeverage_r</code> , <code>pyramidShare_r</code> per level	More hires → more mis-hire loss; higher seniority → far higher cost per incident (C-suite » entry) via salary and ripple leverage.
Q7 Situations	<code>stakesRev_r</code> / <code>stakesDelay_r</code> + category routing	Negotiations/conferences → <i>Lost deals</i> ; meetings/presentations/calls → <i>Delays & rework</i> .
Q8 Frequency	<code>freqMult</code> inside all stakes weights	Daily ≈1.0 → Weekly ≈0.55 → Monthly ≈0.25 → Bi-yearly ≈0.08.
Q9 Audience	<code>stakesRev_r</code> / <code>stakesDelay_r</code> + routing	External (clients/customers/partners) → revenue risk; internal (managers/overseas colleagues) → delay/rework.

Q	Parameter(s)	How options move the number
Q10 Confidence (0–5)	<code>conf</code> factor in <code>D</code> ; narrative	Low confidence → higher leak and stronger "the cost is real" framing; high confidence → lower leak.
Q11 Real problem?	<code>Q11bump_c</code> ; narrative flag	Admit delays/lost-deals → bump that category (revealed > modelled); "nothing I'm aware of" → keep loss, deploy <i>hidden-cost</i> copy ("hidden ≠ absent").

Structural weight tables (judgment, held fixed across the range)

Leak factors (`baseLeak` expected ≈ 0.15 ; band 0.10 / 0.15 / 0.22):

Q3 stage	factor	Q4 assessor	factor	Q5 criteria	factor	Q10 conf	factor
Interview	0.70	Senior examiner	0.45	Objective	0.80	0	1.40
Phone call	1.10	Agency	1.15	Subjective	1.40	1	1.30
Resume/CV	1.70	HR / Recruiter	1.25			2	1.15
		Line manager	1.25			3	1.00
		AI (untrained)	1.50			4	0.90
						5	0.80

Seniority (salaries from bucket 1, expected):

Level	pyramidShare	impactLeverage	salary (exp, HK\$/yr)
Entry	0.64	1.0	252,000
Middle management	0.22	1.4	760,000
Senior management	0.10	2.0	1,100,000
Top leadership / Director	0.03	3.0	1,500,000
Executive / C-suite	0.01	4.0	2,200,000

Bad-hire cost is a **flat 30 / 100 / 200 %** of salary across all levels (bucket 2). The executive bad-hire multiples reported elsewhere — the Topgrading 5x–27x range and the HBR/Gartner 10x–15x executive tails — are fully loaded and overlap with the other three categories, so they are not stacked on top of this flat multiple; doing so would double-count. Seniority cost differences therefore flow through `salary_r` and `impactLeverage_r`, not a per-level bad-hire multiple.

Stakes — `freqMult` : daily 1.0 · weekly 0.55 · monthly 0.25 · bi-yearly 0.08. Situation/audience weights (max or weighted mean of selected, × `freqMult`):

Q7 situation	rev	delay	Q9 audience	rev	delay
Negotiations	1.0	0.3	Clients	1.0	0.2
Conferences	0.6	0.3	Customers	0.8	0.2
Presentations	0.4	0.6	Partners	0.7	0.3
Meetings	0.2	1.0	Managers	0.1	0.8
Phone calls	0.3	0.7	Overseas colleagues	0.2	1.0
Conv. w/ foreign mgr	0.2	0.9			

`Q11bump_c` ≈ 1.15 on the matching category when admitted; 1.0 otherwise.

6. Loss-category routing & the spoken-English decomposition

- **Category 1 (Lost deals/revenue)** fires only when Q7 includes negotiations/conferences/presentations **or** Q9 includes clients/customers/partners. Gated by `clientFacingShare`.
- **Category 2 (Delays/rework)** fires from meetings/presentations/calls/foreign-manager situations and internal audiences (managers/overseas colleagues).
- **Categories 3 & 4** always contribute when a role is selected.

The decomposition (bucket 4) — turning a generic statistic into a spoken-English one:

```
miscommCost_spoken = poorCommCostPerEmployee
                    × shareCommsInEnglish      (HK firms w/ intl exposure)
                    × shareSpokenVsWritten
                    × shareAttributableToProficiency
```

All four factors carry low/expected/high values; the full workings appear in the evidence base. This decomposition is what prevents over-claiming with all-language, all-channel figures.

7. Worked example (illustrative)

Mid-size HK professional-services firm, 201–500 staff, assessing spoken English only at interview, by HR, on a subjective "gut feel", confidence 2/5; hiring ~20 senior managers/yr who negotiate with clients daily; admits past project delays.

1. $D = \text{clamp}(0.15 \times 0.70[\text{interview}] \times 1.25[\text{HR}] \times 1.40[\text{subjective}] \times 1.15[\text{conf2}], .03, .90) \approx 0.21$
2. $\text{prevalence_senior} = \text{clamp}(0.35 \times 1.6[\text{prof-services criticality}], .05, .60) = 0.56 \rightarrow q = 0.56 \times 0.21 \approx 0.118$; $\text{weakHires} = 20 \times 0.56 \times 0.21 \approx 2.4/\text{yr}$
3. Mis-hire ($\approx 2.4 \times \text{salary } 1.1\text{M} \times 1.0 \times 0.5$), lost-deals (VA/worker $0.5\text{M} \times 0.40 \times 0.15$, daily client negotiations $\rightarrow$ high `stakesRev`), delays (admitted $\rightarrow \times 1.15$), drag $\rightarrow$ summed across the senior-manager population (stock $\approx 330 \times 0.10 = 33$) and the hiring flow.
4. Output: a central HK\$ figure with a dampened low–high band and the four-way breakdown (the live calculator returns $\approx$ HK\$2M expected for this profile).

The HTML calculator computes this live for any answer combination.

8. Assumptions & limitations

- **The three "combining" multipliers carry the most uncertainty.** `spokenDepShare`, `lossUplift`, and decomposition factor (iii) `shareAttributableToProficiency` are judgment bands proxied from global, all-communication surveys — no Hong Kong study measures spoken-English-specific loss, and factor (iii) is explicitly *unverifiable*. They should be treated as tunable, not as facts.
- **Industry criticality weights are a constructed index.** Only the *ordering* is evidence-backed (aviation's ICAO Level-4 spoken-English mandate is the cleanest hard support); the exact weights are a structured prior.
- **Per-band client-facing shares are modelling extrapolations**, not measured HK data; only the approximately 40% economy-wide English-critical baseline and the 7.8 FX peg are high-confidence here. "Client-facing" (broad,

including Cantonese-serving frontline) is wider than "spoken-business-English-critical"; `spokenDepShare` is what discounts for that gap.

- Other **structural weights** (leak factors, stakes, leverage, `englishShare`, `dragPct`) are calibrated judgment, anchored to the cited consequence statistics but not directly sourced.
- **Role stock** is inferred from company size via a standard org pyramid; a respondent's real distribution may differ.
- Many dollar/multiplier inputs (bad-hire cost, consequence rates) are **US/global proxies** ported to HK; several pre-date 2020, and the one comprehensive HK workplace-language survey (Bacon-Shone/HKU) is based on approximately 2012–13 fieldwork.
- Ranges are **dampened bands** (partial-independence envelope, Section 4), not statistical confidence intervals; real outcomes cluster near "expected".
- The model estimates **expected** loss across a population; it is not a prediction for any single hire.
- Generic communication-cost figures are **decomposed** to the spoken-English slice (Section 6) to avoid over-statement; the cleanest spoken-specific anchor is EF EPI Hong Kong's speaking sub-score of **494 ("Low" band)**.

9. Qualitative anchors (from two real HK buyer conversations)

These conversations are used for narrative grounding only; companies are referred to by industry, never by name.

- **A HK diversified conglomerate group (HR team)**. This group assesses spoken English *only* in the interview, via informal conversation, with no measurable standard — described by the team as "just a feel ... not very objective." The team conceded that they are not confident they can accurately assess a senior candidate's spoken English. When asked whether weak senior English had ever caused a real problem, the response was "it's a bit hard [to say]" — indicating no downstream visibility, which is consistent with the hidden-cost thesis. The team also noted that AI-written CVs have removed their ability to judge English from documents.
- **A HK financial-services (pension/trust) firm (VP & First VP, HR)**. This firm is in a transformation and expansion phase, pursuing top-tier talent. It assesses English in interviews, or relies on agencies that label candidates "fluent" — a signal that "has proven unreliable," because line managers and HR later find the candidates are not, causing real operational difficulty. The root causes named by the firm were "no shared standard" and "no fair test." Senior roles use English daily or weekly with clients and partners; presentation, conversation, and unscripted agility all matter, and the requirement is rising as expansion brings more multinational clients.

Both conversations independently confirm the model's spine: assessment is subjective or outsourced and unreliable, senior roles carry the highest stakes, and the downstream cost is real but invisible.