Open vs. Closed: Did the Frontier Labs Bet on the Wrong Horse? A Kimi K3 Case Study

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Abstract

Kimi K3, an open-weight model from Moonshot AI released one day before this evaluation, ranked first in overall subjective preference among six models on a document-writing task, ahead of flagship models from OpenAI and Anthropic. The task required each model to produce an audience-ready written brief from a source research paper, a deliverable representative of the work performed by marketing, operations, sales, and similar business functions, in contrast to the coding and agentic tasks that dominate current model benchmarks. Kimi K3 led the subjective ranking despite passing a deterministic factual gate on only 2 of 4 outputs and fabricating one statistic. Its launch was widely interpreted as evidence that open-weight models are approaching capability previously confined to a small number of frontier laboratories. The present study examines one narrow component of that claim: whether Kimi K3's subjective preference advantage reflects superior factual reliability or a judge preference for stylistic polish. Six models were evaluated across four source documents using a two-layer pipeline consisting of a deterministic provenance check and a Bradley–Terry aggregation of 240 pairwise judgments from two independent judge models. Only two of the six models, GPT-5.6 Sol and Gemma 4 31B, produced zero fabricated numeric claims across all four documents. Kimi K3 fabricated a statistic that an unrelated model, Grok 4.5, independently fabricated in the identical value on the same source document. Inter-judge agreement on evidence fidelity was 20.0%, substantially below agreement on writing quality (58.3%) and audience fit (65.0%). These results indicate that subjective LLM-as-judge scoring, even when aggregated across independent judge families, is a weak and inconsistent proxy for factual reliability, and that a deterministic gate applied prior to subjective review remains necessary irrespective of the capability of the model under evaluation.

1 Introduction

Kimi K3 was released on July 16, 2026. Moonshot AI, the Beijing-based laboratory that developed it, described it as the largest open-weight model released to date, and independent benchmarking within hours placed it ahead of flagship models from both Anthropic and OpenAI on several public leaderboards. Coverage of the release treated it as further confirmation that open-weight models are approaching frontier capability

that had been concentrated in a small number of laboratories over the preceding two years. This paper reports run_st_04, an evaluation completed one day after that release, and addresses a narrower question than the public leaderboards: whether Kimi K3's advantage in preference comparisons derives from factual accuracy or from qualities of the prose itself.

LLM-as-judge evaluation has become a standard method for scoring model output at scale. It is inexpensive relative to human review and correlates reasonably well with human preference on style and tone. It does not, however, reliably measure whether the content under review is accurate. Run_st_04 is the fourth iteration of an evaluation harness constructed to separate these two properties by scoring the same outputs through two independent layers: a deterministic layer that verifies numeric claims against the source text, and a subjective layer in which independent LLM judges score pairwise preference. Six models were evaluated: GPT-5.6 Sol (OpenAI), Claude Fable 5 (Anthropic), Grok 4.5 (xAI), Gemma 4 31B (Google), Qwen3.6-35B-A3B (Alibaba), and Kimi K3 (Moonshot AI). At the time the run was recorded, Kimi K3 had been publicly available for approximately 24 hours. Moonshot had committed to releasing its weights under the license used for the prior Kimi K2 line, although the downloadable checkpoint had not yet been published. The results therefore evaluate Kimi K3 within one day of release, on identical terms to five models with established deployment histories.

This study does not argue that LLM judges are without value, nor that a rapidly released open-weight model cannot also be factually reliable. As reported below, the judges detected factual differences when instructed to evaluate that dimension in isolation. The aim is instead to quantify the extent to which a general preference verdict is driven by prose quality rather than accuracy, and the extent to which independent judges agree with one another when the two properties are separated.

A further motivation concerns task selection. The public benchmarks and arena leaderboards driving coverage of the Kimi K3 release predominantly measure coding and agentic tool use: repository-level software engineering, terminal tasks, browser automation, and frontend generation. These are legitimate measurements, but they describe a narrow segment of professional language model use. Practitioners producing incentive compensation training briefs, campaign copy, field communications, quarterly summaries, and internal memoranda are engaged in a different activity: converting a source document into a shorter, audience-appropriate piece of writing in which factual accuracy carries consequences comparable to those in software deployment. Run_st_04 was designed around that activity. Each model read a source research document and produced a written brief from it. The corpus and scoring pipeline described below were constructed for this category of work, which corresponds more closely to the daily output of marketing, operations, sales, and similar business functions than to any coding benchmark.

2 Methodology

2.1 Corpus and models

The full harness corpus comprises six source documents, all research papers. Four (doc_001, doc_002, doc_003, and doc_006) were used in this run; the remaining two (doc_004 and doc_005) are reserved as contamination-probe controls and were excluded. For each source document, the task assigned to every model was to produce a written brief summarizing the paper's content for a non-specialist reader, the category of de-

liverable a marketing, operations, or sales function would commission from a research paper. Six models generated one output per document: Gemma 4 31B (BF16, served via WandB), GPT-5.6 Sol (OpenAI, with one document served via Azure), Claude Fable 5 (Amazon Bedrock), Grok 4.5 (xAI), Kimi K3 (Moonshot AI), and Qwen3.6-35B-A3B (fp8, AkashML), yielding 24 model outputs. Kimi K3 had been publicly available for approximately 24 hours when the run was recorded; Moonshot had committed to open weights under the license used for the prior Kimi K2 line, though the downloadable checkpoint had not yet been published.

2.2 Deterministic layer

Each output was parsed for every numeric token (raw counts, percentages, and years) and compared against the numeric tokens present in the corresponding source document. A number appearing in the output but absent from the source was classified as invented; a number present in the source but absent from the output was classified as dropped. Outputs were additionally screened against a banned-vocabulary list of marketing filler terms (for example, "robust," "landscape," and "paradigm") and a length constraint. An output passed the gate only if it contained zero invented numbers, zero banned-vocabulary hits, and satisfied the length requirement.

2.3 Subjective layer

Two independent judge models, identified here by their harness identifiers kimi_k2t and terra, scored every pairwise combination of the six models on each document. Six models yield 15 unique pairs. Each pair was presented to each judge twice, once in each position order, to permit measurement of positional bias. Four dimensions were scored per comparison: writing quality, evidence fidelity, audience fit, and an overall verdict, with ties permitted. This design produced 15 pairs $\times$ 2 orderings $\times$ 2 judges $\times$ 4 documents, or 240 judgment rows.

Verdicts were aggregated into Bradley–Terry strength scores using Minorization–Maximization iteration, normalized to a geometric mean of 1.0. Ninety-five percent confidence intervals were obtained from a clustered bootstrap resampled at the document level over 1,000 iterations to account for within-document correlation.

3 Results

3.1 Deterministic outcomes

Table 1 presents the deterministic record. GPT-5.6 Sol and Gemma 4 31B were the only models with a 100% gate pass rate and zero invented numbers. The remaining four models, including Kimi K3, failed the gate on 2 of 4 documents each.

Not all gate failures resulted from fabrication. Qwen3.6-35B invented no numbers in any document; both of its failures were banned-vocabulary hits ("robust" on one document; "landscape" and "paradigm" on another). Claude Fable 5's two failures divided evenly between one invented number ("100%," doc_001) and one banned-vocabulary hit ("robust," doc_006). Table 2 lists every invented number recorded in the run, with its source document.

Table 1: Deterministic layer results by model, aggregated across 4 documents

Model	Gate pass	Invented	Banned	Em dashes	Avg. words
GPT-5.6 Sol	4/4	0	0	2	971.2
Gemma 4 31B	4/4	0	0	11	580.8
Qwen3.6-35B	2/4	0	3	2	836.8
Kimi K3	2/4	1	1	54	938.2
Claude Fable 5	2/4	1	1	62	983.2
Grok 4.5	2/4	3	1	28	874.0

Table 2: Invented numeric claims recorded in run_st_04

Model	Document	Source numbers present	Invented value(s)
Claude Fable 5	doc_001	18	100%
Kimi K3	doc_003	138	50%
Grok 4.5	doc_003	138	18, 40%, 50%

Two features of these results merit attention. First, doc_003 is the densest source document in the corpus, containing 138 distinct numeric tokens, and it is the only document on which fabrication occurred more than once. Second, Kimi K3 and Grok 4.5 independently invented the identical figure, 50%, on that document. Convergence by two unrelated model families on an identical fabricated value from the same source text is difficult to reconcile with independent random hallucination and suggests that some feature of the source material invited a specific, plausible, but unsupported inference.

3.2 Output length

Gate pass rate alone does not fully characterize Gemma 4 31B's behavior. As Table 1 shows, its mean output length was 580.8 words, approximately 40% shorter than GPT-5.6 Sol's 971.2 words, despite both models achieving a perfect deterministic record. Gemma's four outputs ranged from 284 to 881 words, and none met the harness length target, although length was not itself a gate failure criterion in this run. A model producing less text has fewer opportunities to introduce an incorrect number; it also supplies less material on which judges can base scores for writing quality and audience fit, both of which reward development and detail in addition to correctness.

3.3 Subjective judge rankings

Table 3 presents the overall Bradley–Terry ranking. Kimi K3, one day after release, finished first with a strength of 3.345, approximately 2.2 times the second-place model (Claude Fable 5, 1.504) and approximately 14.4 times the last-place model (Qwen3.6-35B, 0.232). Kimi K3 outranked both GPT-5.6 Sol and Claude Fable 5 on overall preference while carrying a fabricated statistic and a 50% gate failure rate from the deterministic layer.

Decomposition of the overall verdict into its component dimensions accounts for this result. On writing quality (Table 4), Kimi K3 leads at 3.816, and the 95% confidence interval on the log difference against Claude Fable 5 ([-1.413, -0.361]) excludes zero. On

Table 3: Overall Bradley–Terry ranking (subjective, both judges combined)

Rank	Model	BT strength	95% CI (log)
1	Kimi K3	3.345	[1.065, 1.689]
2	Claude Fable 5	1.504	[-0.087, 1.152]
3	GPT-5.6 Sol	1.363	[0.024, 0.964]
4	Grok 4.5	1.178	[-0.173, 0.539]
5	Gemma 4 31B	0.533	[-1.855, 0.384]
6	Qwen3.6-35B	0.232	[-2.820, -0.673]

evidence fidelity (Table 5), the ranking inverts: GPT-5.6 Sol leads at 1.792, consistent with its perfect deterministic record, with Kimi K3 second at 1.596. Claude Fable 5, second overall, falls to fourth on evidence fidelity, and Gemma 4 31B, fifth overall, rises to third.

Table 4: Bradley–Terry ranking, writing quality dimension

Rank	Model	BT strength	95% CI (log)
1	Kimi K3	3.816	[1.145, 1.767]
2	Claude Fable 5	1.730	[-0.039, 1.346]
3	GPT-5.6 Sol	1.601	[0.125, 1.098]
4	Grok 4.5	0.991	[-0.285, 0.434]
5	Gemma 4 31B	0.416	[-1.898, 0.042]
6	Qwen3.6-35B	0.230	[-3.107, -0.612]

Table 5: Bradley–Terry ranking, evidence fidelity dimension

Rank	Model	BT strength	95% CI (log)
1	GPT-5.6 Sol	1.792	[0.430, 0.965]
2	Kimi K3	1.596	[0.171, 1.034]
3	Gemma 4 31B	0.959	[-1.221, 0.697]
4	Claude Fable 5	0.898	[-0.756, 0.511]
5	Grok 4.5	0.879	[-0.786, 0.867]
6	Qwen3.6-35B	0.461	[-1.203, -0.357]

On audience fit (Table 6), the ranking again follows writing quality rather than evidence fidelity, with Kimi K3 first at 4.339 and Qwen3.6-35B last at 0.200.

3.4 Judge reliability

Judges were permitted to declare a tie on every dimension, and their use of that option varied sharply by dimension. Across all 240 judgment rows, evidence fidelity was scored a tie 86 times (35.8%), while writing quality was scored a tie 4 times (1.7%). The judges expressed confident preferences on prose quality while declining, in more than a third of cases, to commit to a verdict on factual accuracy.

Table 6: Bradley–Terry ranking, audience fit dimension

Rank	Model	BT strength	95% CI (log)
1	Kimi K3	4.339	[1.081, 4.594]
2	Claude Fable 5	1.710	[0.047, 3.925]
3	Grok 4.5	1.622	[0.146, 4.032]
4	GPT-5.6 Sol	1.019	[-0.571, 3.388]
5	Gemma 4 31B	0.408	[-1.839, 3.163]
6	Qwen3.6-35B	0.200	[-19.168, -0.464]

Two further reliability checks were computed directly from the raw judgment data. The first is positional self-consistency: whether, for a given judge, document, and model pair, the verdict is unchanged when the same two outputs are presented in the opposite order. The second is inter-judge agreement: whether, for a given document and model pair, the two independent judges reach the same majority verdict. Table 7 reports both measures, with ties excluded from the consistency calculation and treated as a distinct outcome class in the agreement calculation.

Table 7: Judge reliability by dimension

Dimension	Tie rate	Positional consistency	Inter-judge agreement
Writing quality	1.7%	75.9%	58.3%
Evidence fidelity	35.8%	84.8%	20.0%
Audience fit	0.0%	80.0%	65.0%
Overall	0.0%	75.9%	51.7%

Inter-judge agreement on evidence fidelity, the dimension most closely aligned with factual accuracy, is the lowest of the four at 20.0%, substantially below writing quality (58.3%) and audience fit (65.0%). The two judges agreed more readily on which output read better than on which output was more accurate. Positional consistency on evidence fidelity appears comparatively high at 84.8%, but this figure is inflated by the tie rate: a tie in both orderings counts toward consistency under this measure, and ties constituted 35.8% of all evidence fidelity verdicts.

4 Discussion

4.1 The Kimi K3 result in context

The prevailing interpretation of Kimi K3's release, repeated across independent coverage within a day, was that the open-weight ecosystem had produced a model near the frontier and that the gap to established laboratories was closing faster than anticipated. Run_st_04 reproduces the corresponding preference ranking and adds resolution to it: Kimi K3 outranked both Claude Fable 5 and GPT-5.6 Sol on the overall verdict, by a margin statistically distinguishable from zero against Fable 5, within 24 hours of its own release.

That finding is consistent with rapid maturation of the open-weight ecosystem. It is not, however, evidence that Kimi K3's output can be accepted without verification.

The same run that placed Kimi K3 first overall recorded a fabricated statistic in one of its four outputs and gate failures on two. When judges scored evidence fidelity rather than overall impression, Kimi K3 fell to second, behind GPT-5.6 Sol. Capability, release velocity, and factual reliability are distinct properties; the present evaluation bears only on the third.

4.2 Divergence between the deterministic and subjective layers

The two models with perfect factual records, GPT-5.6 Sol and Gemma 4 31B, finished third and fifth overall. The model carrying a fabricated statistic and a 50% gate failure rate finished first, by a wide margin.

When the judges were directed to evaluate evidence fidelity in isolation, the ranking corrected: GPT-5.6 Sol moved to first, with Kimi K3 second. The judges were therefore not insensitive to factual quality in principle. The difficulty lies in the overall verdict, which is the output most evaluation pipelines use for accept-or-reject decisions and which is dominated by writing quality and audience fit, dimensions that track prose fluency far more closely than accuracy. Em-dash frequency offers one observable marker of that fluency: Claude Fable 5 and Kimi K3, the two highest-scoring models on writing quality, used 62 and 54 em dashes respectively across four documents, against 2 for GPT-5.6 Sol. This is a correlation rather than a demonstrated mechanism and should be read as one proxy among several.

4.3 Inter-judge agreement

The most consequential reliability finding concerns agreement between the two judges. On evidence fidelity, they reached the same verdict in only 20% of cases, below their agreement on writing quality (58.3%) and audience fit (65.0%). A single judge verdict on evidence fidelity is therefore not merely weakly correlated with deterministic ground truth; it is not reliably reproduced by a second, independent judge examining the same pair of outputs. Any pipeline that treats one judge call as a factual quality signal inherits this instability.

4.4 Output length as a confound

Gemma 4 31B's clean factual record accompanied output that averaged approximately 40% fewer words than the two highest-scoring models on writing quality. The present data cannot distinguish between judges penalizing brevity as such and judges appropriately penalizing underdeveloped output. The distinction is material for any deployment strategy that pursues shorter output as a hallucination mitigation: shorter output was not scored as safer by the subjective layer, even where it was demonstrably safer at the deterministic gate.

5 Conclusion

Kimi K3 finished first in the overall subjective ranking one day after its public release, ahead of established models from OpenAI and Anthropic. That outcome is consistent with the broader pattern of a maturing open-weight ecosystem narrowing the capability gap, and it warrants attention on those terms. It is not a factual reliability result. The

same evaluation recorded a fabricated statistic in one of Kimi K3's four outputs and gate failures on two, and when judges scored factual fidelity in isolation, Kimi K3 fell behind GPT-5.6 Sol. The judges detected the factual gap when directed to it but agreed with one another on that dimension in only 20% of cases. Deterministic provenance checking is accordingly not an optional supplement to LLM-as-judge scoring; on this data, it is the only signal in the pipeline that is consistent with itself, and the only signal that identified Kimi K3's fabricated statistic before the subjective layer accepted it. The implication is sharpest for the business functions on which this task was modeled. A marketing or sales team publishing a brief derived from a source document has no test suite or agent trace against which to verify the work; it has prose that either matches its source or does not, and this evaluation indicates that a subjective reading of that prose is insufficient to make the distinction.