2.1 Keywords Used & Keyword Statistics

Table W2.1 depicts the keywords (search queries) for which the experimental groups in the IT service sector field study produced content, including keyword statistics and descriptive statistics for the ranking performance of the revised machine content in the search engine. The basic keyword statistics reported in Table W2.1 include the average monthly search volume that serves as an indicator of how many users on average search for the keyword per month, the paid keyword competition to capture SEA competition that is provided by the search engine, and the keyword length to account for how many sub-words constitute the keyword. Our company partner selected the keywords used in the experiment based on its standard procedure for keyword selection (i.e., based on monthly search volume, competition, fit with the firm and keyword strategy), with a preference in favor of keywords with lower search volume in the long tail as part of their keyword strategy. The selected keywords are similar in terms of keyword statistics (competition, search volume, keyword length), and the company did not have any prior search engine ranking history for any of the keywords that they provided to us.

Table W2.1: Keywords for IT Service Field Experiment

	Descriptives								
Keyword	Avg. monthly search volume	Competition	Competition index	Keyword length	Mean revised machine ranking	Median revised machine ranking	SD revised machine ranking	IQR revised machine ranking	% of days revised machine was in ranking
IT procurement	10	low	4	2	11.65	8	7.68	10	90.70
IT support and services	10	low	3	4	15.61	15	6.54	5	97.21
global IT support	10	_	_	3	15.03	14	5.11	3	72.09
IT assessment	10	low	0	2	21.58	22	5.87	6	87.91
IT consulting services	10	-	-	3	18.22	17	7.43	5	66.05
IT maintenance	10	-	-	2	13.66	12	8.11	11	99.07
IT service maintenance	0	-	-	3	3.19	2	3.25	2	99.07
IT service support	10	low	0	3	10.74	10	2.82	4	99.07
IT service continuity	10	-	-	3	21.57	19	6.47	9	92.56
IT support business	10	-	-	3	51.60	52	14.29	26	39.53
Small business IT support services	0	-	-	5	94.75	50	79.96	129	64.19
IT support costs for small business	0	-	-	6	14.21	13	3.96	6	99.07
IT maintenance support	0	-	-	3	4.11	2	3.86	6	99.07
IT maturity assessment	10	low	29	3	22.67	22.5	7.10	9.75	97.67
IT procurement services	10	-	-	3	3.23	3	1.11	2	99.07
IT procurement process	10	-	-	3	30.18	19	22.22	21	99.07
IT solution delivery	10	low	0	3	2.47	1	2.21	2	90.70
IT strategy consulting	10	-	-	3	28.25	26	9.24	5	98.14
IT consulting software	10	high	100	3	15.70	15	5.16	8	75.35

Entries that display "-" mean that the search engine keyword tool did not provide specific information.

Appendix References

Baayen RH, Shafaei-Bajestan E (2019) Analyzing linguistic data: A practical introduction to statistics. Package 'languageR'. Version 1.5.0. *CRAN*. Accessed May 20, 2019, https://cran.r-project.org/web/packages/languageR/languageR.pdf

Benoit K, Watanabe K, Wang H, Nulty P, Obeng A, Müller S, Matsuo A, (2018) "quanteda: An R package for the quantitative analysis of textual data." *Journal of Open Source Software*. 3(30). https://doi.org/10.21105/joss.00774

Berger J, Sherman G, Ungar L (2020b) TextAnalyzer. Accessed November 11, 2020, http://textanalyzer.org

Bronnenberg BJ, Kim JB, Mela CF (2016) Zooming in on choice: How do consumers search for cameras online? *Marketing Science*. 35(5):693-712.

Danaher PJ, Mullarkey GW, Essegaier S (2006) Factors affecting website visit duration: A cross-domain analysis. *Journal of Marketing Research*. 43(2):182-194.

Edelman B, Zhenyu L (2016) Design of search engine services: Channel interdependence in search engine results. *Journal of Marketing Research*. 53(6):881-900.

Flanigan, AJ, Metzger, MJ (2007) The role of site features, user attribtues, and information verification behaviors on the perceived credibility of web-based information. *New Media & Society*. 9(2):319-342. https://doi.org/10.1177/1461444807075015

Jerath K, Ma L, Park YH (2014) Consumer click behavior at a search engine: The role of keyword popularity. *Journal of Marketing Research*. 51(4):480-486.

Kamoen N, Holleman B, Bergh H (2013) Positive, negative, and bipolar questions: The effect of question polarity on ratings of text readability. *Survey Research Methods*. 7(3):181-189.

Liu J, Toubia O (2018) A semantic approach for estimating consumer content preferences from online search queries. *Marketing Science*. 37(6):930-952.

Maechler M, Rousseeuw P, Croux C, Todorov V, Ruckstuhl A, Salibian-Barrera M, Verbeke T, Koller M, Conceicao ELT, Palma MA (2020) Basic robust statistics. Package 'robustbase'. Version 0.93-6. *CRAN*. Accessed May 20, 2020, https://cran.r-project.org/web/packages/robustbase/robustbase.pdf

Pennebaker JW, Booth RJ, Boyd RL, Francis ME (2015) Linguistic inquiry and word count: LIWC2015. Austin, TX: Pennebaker Conglomerates. Accessed November 1, 2020, www.LIWC.net.

Pitler E, Nenkova A (2008) Revisiting Readability: A unified framework for predicting text quality. *Proceedings of the 2008 Conference on Empirical Methods in Natural Language Processing*. 186-195.

Radford A, Narasimhan K, Salimans T, Sutskever I (2018) Improving language understanding by generative pre-training. OpenAI.

Roberts C (2010) Correlations among variables in message and messenger credibility scales. *American Behavioral Scientist*. 54(1):43-56.

Rocklage MD, Rucker DD, Nordgren LF (2018) Persuasion, emotion and language: the intent to persuade transforms language via emotionality. *Psychological Science*. 29(5):749-760.

Vaswani A, Shazeer N, Parmar N, Uszkoreit J, Jones L, Gomze AN, Kaiser L, Polosukhin I (2017) Attention is all you need. *31st Conference on Neural Information Processing Systems* (NIPS 2017). 1-15.