

DAFTAR PUSTAKA

- [1] D. Almaghaslah and A. Alsayari, “The effects of the 2019 novel coronavirus disease (COVID-19) outbreak on academic staff members: A case study of a pharmacy school in Saudi Arabia,” *Risk Manag. Healthc. Policy*, vol. 13, pp. 795–802, 2020, doi: 10.2147/RMHP.S260918.
- [2] D. I. Susanti and J. Y. Prameswari, “Adaptasi Blended Learning di Masa Pandemi COVID-19 untuk Pembelajaran Bahasa Inggris di Sekolah Dasar,” *Ling. Susastra*, vol. 1, no. 2, pp. 50–61, 2020, doi: 10.24036/ls.v1i2.8.
- [3] N. Nuari, “Perancangan Aplikasi Layanan Mobile Informasi Administrasi Akademik Berbasis Android Menggunakan Webservice (Studi Kasus Reg. B Universitas Tanjungpura),” *J. Sist. dan Teknol. Inf.*, vol. 1, pp. 1–7, 2014.
- [4] C. I. Maican, A. M. Cazan, R. C. Lixandroiu, and L. Dovleac, “A study on academic staff personality and technology acceptance: The case of communication and collaboration applications,” *Comput. Educ.*, vol. 128, no. March 2018, pp. 113–131, 2019, doi: 10.1016/j.compedu.2018.09.010.
- [5] C. Yen and M. C. Chiang, “Trust Me, If You Can: A Study On The Factors That Influence Consumers’ Purchase Intention Triggered By Chatbots Based On Brain Image Evidence And Self-Reported assessments,” *Behav. Inf. Technol.*, vol. 0, no. 0, pp. 1–18, 2020, doi: 10.1080/0144929X.2020.1743362.
- [6] A. K. Wardhana, R. Ferdiana, and I. Hidayah, “Empathetic Chatbot Enhancement and Development: A Literature Review,” *AIMS 2021 - Int. Conf. Artif. Intell. Mechatronics Syst.*, 2021, doi: 10.1109/AIMS52415.2021.9466027.
- [7] E. Adamopoulou and L. Moussiades, “Chatbots: History, technology, and applications,” *Mach. Learn. with Appl.*, vol. 2, no. July, p. 100006, 2020, doi: 10.1016/j.mlwa.2020.100006.
- [8] P. B. Brandtzaeg and A. Følstad, “Why people use chatbots,” *Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics)*, vol. 10673 LNCS, pp. 377–392, 2017, doi: 10.1007/978-3-319-

70284-1_30.

- [9] A. Paiva, I. Leite, H. Boukricha, and I. Wachsmuth, “Empathy in virtual agents and robots: A survey,” *ACM Trans. Interact. Intell. Syst.*, vol. 7, no. 3, 2017, doi: 10.1145/2912150.
- [10] M. de Gennaro, E. G. Krumhuber, and G. Lucas, “Effectiveness of an Empathic Chatbot in Combating Adverse Effects of Social Exclusion on Mood,” *Front. Psychol.*, vol. 10, no. January, pp. 1–14, 2020, doi: 10.3389/fpsyg.2019.03061.
- [11] S. Ondas, M. Pleva, and D. Hladek, “How chatbots can be involved in the education process,” *ICETA 2019 - 17th IEEE Int. Conf. Emerg. eLearning Technol. Appl. Proc.*, pp. 575–580, 2019, doi: 10.1109/ICETA48886.2019.9040095.
- [12] A. H. T. Tan, B. Muskat, and R. Johns, “The role of empathy in the service experience,” *J. Serv. Theory Pract.*, vol. 29, no. 2, pp. 142–164, 2019, doi: 10.1108/JSTP-10-2018-0221.
- [13] E. Go and S. S. Sundar, “Humanizing chatbots: The effects of visual, identity and conversational cues on humanness perceptions,” *Comput. Human Behav.*, vol. 97, no. January, pp. 304–316, 2019, doi: 10.1016/j.chb.2019.01.020.
- [14] C. Pelau, D. C. Dabija, and I. Ene, “What makes an AI device human-like? The role of interaction quality, empathy and perceived psychological anthropomorphic characteristics in the acceptance of artificial intelligence in the service industry,” *Comput. Human Behav.*, vol. 122, no. February, p. 106855, 2021, doi: 10.1016/j.chb.2021.106855.
- [15] A. M. Seeger, J. Pfeiffer, and A. Heinzl, “Texting with humanlike conversational agents: Designing for anthropomorphism,” *J. Assoc. Inf. Syst.*, vol. 22, no. 4, pp. 931–967, 2021, doi: 10.17705/1jais.00685.
- [16] M. Dibitonto, K. Leszczynska, F. Tazzi, and C. M. Medaglia, “Chatbot in a campus environment: Design of lisa, a virtual assistant to help students in their university life,” *Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics)*, vol. 10903 LNCS, pp. 103–116, 2018, doi:

10.1007/978-3-319-91250-9_9.

- [17] C. Jarvis, "Fiction, empathy and lifelong learning," *Int. J. Lifelong Educ.*, vol. 31, no. 6, pp. 743–758, 2012, doi: 10.1080/02601370.2012.713036.
- [18] G. McAllister and J. J. Irvine, "The role of Empathy in Teaching Culturally Diverse Students: A Qualitative Study of Teachers' Beliefs," *J. Teach. Educ.*, vol. 53, no. 5, pp. 433–443, 2002, doi: 10.1177/002248702237397.
- [19] A. Edwards, "Researching pedagogy: A sociocultural agenda," *Pedagog. Cult. Soc.*, vol. 9, no. 2, pp. 161–186, 2001, doi: 10.1080/14681360100200111.
- [20] M. Ashfaq, J. Yun, S. Yu, and S. M. C. Loureiro, "I, Chatbot: Modeling the determinants of users' satisfaction and continuance intention of AI-powered service agents," *Telemat. Informatics*, vol. 54, no. July, p. 101473, 2020, doi: 10.1016/j.tele.2020.101473.
- [21] O. N. Yalcin and S. Dipaola, "A computational model of empathy for interactive agents," *Biol. Inspired Cogn. Archit.*, vol. 26, no. June, pp. 20–25, 2018, doi: 10.1016/j.bica.2018.07.010.
- [22] M. H. Huang and R. T. Rust, "Artificial Intelligence in Service," *J. Serv. Res.*, vol. 21, no. 2, pp. 155–172, 2018, doi: 10.1177/1094670517752459.
- [23] M. Asada, "Development of artificial empathy," *Neurosci. Res.*, vol. 90, pp. 41–50, 2015, doi: 10.1016/j.neures.2014.12.002.
- [24] N. Yoon and H. K. Lee, "Ai recommendation service acceptance: assessing the effects of perceived empathy and need for cognition," *J. Theor. Appl. Electron. Commer. Res.*, vol. 16, no. 5, pp. 1912–1928, 2021, doi: 10.3390/jtaer16050107.
- [25] P. Wright and J. McCarthy, "Empathy and experience in HCI," *Conf. Hum. Factors Comput. Syst. - Proc.*, pp. 637–646, 2008, doi: 10.1145/1357054.1357156.
- [26] Ö. N. Yalçın, "Empathy framework for embodied conversational agents," *Cogn. Syst. Res.*, vol. 59, pp. 123–132, 2020, doi: 10.1016/j.cogsys.2019.09.016.
- [27] B. Liu and S. S. Sundar, "Should Machines Express Sympathy and Empathy? Experiments with a Health Advice Chatbot," *Cyberpsychology, Behav. Soc.*

- Netw.*, vol. 21, no. 10, pp. 625–636, 2018, doi: 10.1089/cyber.2018.0110.
- [28] S. Hussain and G. Athula, “Extending A Conventional Chatbot Knowledge Base To External Knowledge Source And Introducing User Based Sessions For Diabetes Education,” *Proc. - 32nd IEEE Int. Conf. Adv. Inf. Netw. Appl. Work. WAINA 2018*, vol. 2018-Janua, pp. 698–703, 2018, doi: 10.1109/WAINA.2018.00170.
- [29] U. Arsenijevic and M. Jovic, “Artificial Intelligence Marketing: Chatbots,” *Proc. - 2019 Int. Conf. Artif. Intell. Appl. Innov. IC-AIAI 2019*, pp. 19–22, 2019, doi: 10.1109/IC-AIAI48757.2019.00010.
- [30] B. Setiaji and F. W. Wibowo, “Chatbot Using a Knowledge in Database: Human-to-Machine Conversation Modeling,” *Proc. - Int. Conf. Intell. Syst. Model. Simulation, ISMS*, vol. 0, pp. 72–77, 2016, doi: 10.1109/ISMS.2016.53.
- [31] A.-M. Seeger, J. Pfeiffer, and A. Heinzl, “Association for Information Systems AIS Electronic Library (AISeL) When Do We Need a Human? Anthropomorphic Design and Trustworthiness of Conversational Agents When Do We Need a Human? Anthropomorphic Design and Trustworthiness of Conversational Agents,” *SIGHCI*, 2017, [Online]. Available: <http://aisel.aisnet.org/sighci2017%0Ahttp://aisel.aisnet.org/sighci2017/15>.
- [32] J. Weizenbaum, “ELIZA—A Computer Program For the Study of Natural Language Communication Between Man And Machine,” *Commun. ACM*, vol. 26, no. 1, pp. 23–28, 1983, doi: 10.1145/357980.357991.
- [33] H. N. Io and C. B. Lee, “Chatbots and conversational agents: A bibliometric analysis,” *IEEE Int. Conf. Ind. Eng. Eng. Manag.*, vol. 2017-Decem, pp. 215–219, 2018, doi: 10.1109/IEEM.2017.8289883.
- [34] A. Mawani and L. Nderu, “Towards an Online Empathy Assisted Counselling Web Application,” *EAI Endorsed Trans. Context. Syst. Appl.*, vol. 7, no. 22, p. 167792, 2020, doi: 10.4108/eai.23-12-2020.167792.
- [35] J. D. S. Oliveira, D. B. Espindola, R. Barwaldt, L. M. I. Ribeiro, and M. Pias, “IBM Watson Application as FAQ Assistant about Moodle,” *Proc. - Front.*

- Educ. Conf. FIE*, vol. 2019-Octob, 2019, doi: 10.1109/FIE43999.2019.9028667.
- [36] K. Ralston, Y. Chen, H. Isah, and F. Zulkernine, “A voice interactive multilingual student support system using IBM watson,” *Proc. - 18th IEEE Int. Conf. Mach. Learn. Appl. ICMLA 2019*, pp. 1924–1929, 2019, doi: 10.1109/ICMLA.2019.00309.
- [37] S. Memeti and S. Pillana, “PAPA: A parallel programming assistant powered by IBM Watson cognitive computing technology,” *J. Comput. Sci.*, vol. 26, pp. 275–284, 2018, doi: 10.1016/j.jocs.2018.01.001.
- [38] C. Crollic, F. Thomaz, R. Hadi, and A. T. Stephen, “Blame the Bot: Anthropomorphism and Anger in Customer–Chatbot Interactions,” *J. Mark.*, vol. 86, no. 1, pp. 132–148, 2022, doi: 10.1177/00222429211045687.
- [39] M. Adam, M. Wessel, and A. Benlian, “AI-based chatbots in customer service and their effects on user compliance,” *Electron. Mark.*, vol. 31, no. 2, pp. 427–445, 2021, doi: 10.1007/s12525-020-00414-7.
- [40] R. Roy and V. Naidoo, “Enhancing chatbot effectiveness: The role of anthropomorphic conversational styles and time orientation,” *J. Bus. Res.*, vol. 126, no. October 2019, pp. 23–34, 2021, doi: 10.1016/j.jbusres.2020.12.051.
- [41] J. Brooke, “SUS: A Retrospective,” *J. Usability Stud.*, vol. 8, no. 2, pp. 29–40, 2013.
- [42] A. Bangor, P. Kortum, and J. Miller, “Determining what individual SUS scores mean: Adding an adjective rating scale,” *J. usability Stud.*, vol. 4, no. 3, pp. 114–123, 2009, [Online]. Available: http://66.39.39.113/upa_publications/jus/2009may/JUS_Bangor_May2009.pdf.
- [43] N. Harrati, I. Bouchrika, A. Tari, and A. Ladjailia, “Exploring user satisfaction for e-learning systems via usage-based metrics and system usability scale analysis,” *Comput. Human Behav.*, vol. 61, pp. 463–471, 2016, doi: 10.1016/j.chb.2016.03.051.
- [44] C. Bartneck, D. Kulić, E. Croft, and S. Zoghbi, “Measurement instruments for the anthropomorphism, animacy, likeability, perceived intelligence, and

- perceived safety of robots,” *Int. J. Soc. Robot.*, vol. 1, no. 1, pp. 71–81, 2009, doi: 10.1007/s12369-008-0001-3.
- [45] M. Skjuve and P. B. Brandzaeg, *Measuring user experience in chatbots: An approach to interpersonal communication competence*, vol. 11551 LNCS. Springer International Publishing, 2019.
- [46] L. Charrier, A. Rieger, A. Galdeano, A. Cordier, M. Lefort, and S. Hassas, “The RoPE Scale: A Measure of How Empathic a Robot is Perceived,” *ACM/IEEE Int. Conf. Human-Robot Interact.*, vol. 2019-March, pp. 656–657, 2019, doi: 10.1109/HRI.2019.8673082.
- [47] J. Brooke and Redhatch, “A Quick and Dirty Usability Scale,” *Iron Steel Technol.*, 1995, doi: 10.5948/upo9781614440260.011.
- [48] I. P. Luritawaty, “Upaya Meningkatkan Kemampuan Komunikasi Matematis Melalui Metode Diskusi Berbantuan Microsoft Office Excel,” *Mosharafa J. Pendidik. Mat.*, vol. 5, no. 3, pp. 213–222, 2018, doi: 10.31980/mosharafa.v5i3.277.
- [49] H. B. M. and D. R. Whitney, “On a Test of Whether one of Two Random Variables is Stochastically Larger than the Other Author (s): H . B . Mann and D . R . Whitney Source : The Annals of Mathematical Statistics , Vol . 18 , No . 1 (Mar . , 1947), pp . 50-60 Published by : Institute,” *Ann. Math. Stat.*, vol. 18, no. 1, pp. 50–60, 1947.
- [50] Oktaviani M A and Hari Basuki Notobroto, “Perbandingan Tingkat Konsistensi Normalitas Distribusi Metode Kolmogorov-Smirnov, Lilliefors, Shapiro-Wilk, dan Skewness-Kurtosis,” *J. Biometrika dan Kependud.*, vol. 3, no. 2, pp. 127–135, 2014.
- [51] A. Prasetyo, “Management Analysis Journal Pengaruh Kualitas Pelayanan dan harga terhadap Kepuasan Pelanggan,” *Manag. Anal. J.*, vol. 1, no. 4, pp. 1–8, 2012, [Online]. Available: <http://journal.unnes.ac.id/sju/index.php/maj>.
- [52] T. Sriwidadi, “Penggunaan Uji Mann-Whitney pada Analisis Pengaruh Pelatihan Wiraniaga dalam Penjualan Produk Baru,” *Binus Bus. Rev.*, vol. 2, no.

- 2, p. 751, 2011, doi: 10.21512/bbr.v2i2.1221.
- [53] A. Muddimer, S. C. Peres, and S. McLellan, “The Effect of Experience on System Usability Scale Ratings,” *J. Usability Stud.*, vol. 7, no. 2, pp. 56–67, 2012, [Online]. Available: <https://uxpajournal.org/the-effect-of-experience-on-system-usability-scale-ratings/>.
- [54] J. R. Lewis, “The System Usability Scale: Past, Present, and Future,” *Int. J. Hum. Comput. Interact.*, vol. 34, no. 7, pp. 577–590, 2018, doi: 10.1080/10447318.2018.1455307.
- [55] N. Svenningsson and M. Faraon, “Artificial Intelligence in Conversational Agents: A Study of Factors Related to Perceived Humanness in Chatbots,” *ACM Int. Conf. Proceeding Ser.*, pp. 151–161, 2019, doi: 10.1145/3375959.3375973.
- [56] R. Sutoyo, A. Chowanda, A. Kurniati, and R. Wongso, “Designing An Emotionally Realistic Chatbot Framework To Enhance Its Believability With AIML And Information States,” *Procedia Comput. Sci.*, vol. 157, pp. 621–628, 2019, doi: 10.1016/j.procs.2019.08.226.