C. User Satisfaction

In this research, evaluating user satisfaction is crucial, and this assessment relies on a questionnaire. We employed two types of questions in this survey: 1) a first-stage questionnaire, and 2) a second-stage questionnaire. Taking reference from research conducted and tested by Baizal [6], we structured the questions around six key characteristics essential for analysis in this study. These include perceived recommendation quality (PRQ), perceived efficiency (PE), trust (TR), informativeness (INF), ease of use (ETU), and clarity (EOU). The questionnaire design is influenced by prior work, ensuring a comprehensive and well-tested approach to evaluating user satisfaction in the context of the study as explained in Table V.

TABLE V. EXPLANATION OF QUESTIONS

ID	Factor	Question
Q1	PE	It is not difficult to find information on the camera
Q2	INF	I can locate a camera that appeals to me
Q3	TR	In the future, plan to purchase the camera that I selected using this application
Q4	TR	One day, I will buy the camera I chose from this app
Q5	ETU	I find it challenging to find a camera that suits my liking
Q6	ETU	While using this system, I did not encounter any difficulties
Q7	EOU	The options presented by the application for questions and answers are clear and simple to comprehend
Q8	EOU	I can understand the questions given by the app easily
Q9	PRQ	I like the interactions in this app

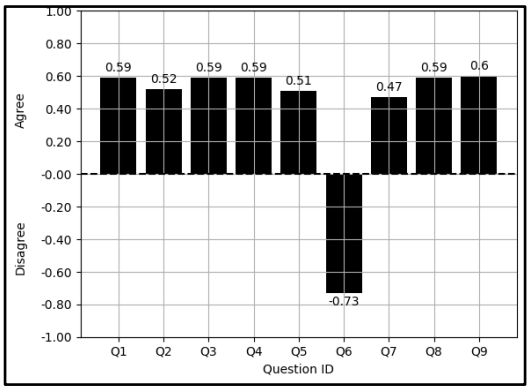

Fig. 9. Results of the user experience survey

Based on Fig. 9, ID Q6 scores a minus, most users disagree with this statement, but the results are positive for the other IDs, indicating agreement. This shows promising results for the six factors asked about PE, INF, EOU, PRQ, TR, and ETU.

V. CONCLUSION

Based on the research results, Collaborative Filtering, which selects data from users with similar characteristics, demonstrated a high level of accuracy with a small average value (MAE) of 0.572. The system's performance evaluation and user satisfaction analysis revealed an impressive overall accuracy of 88.17%. Questionnaire data indicated users' high satisfaction across the six studied aspects: Ease of Understanding (EOU), Perceived Recommendation Quality (PRQ), Perceived Efficiency (PE), Informativeness (INF), Trust (TR), and Ease of Use (ETU). These findings underscore the system's success in providing relevant recommendations and efficient user interactions. Looking ahead, future work could explore enhancements to further improve accuracy, explore additional user preferences, or integrate emerging technologies for an even more comprehensive and user-friendly recommender system.

References

[1] M. P. Estu Miyarso, “Peran penting sinematografi dalam pendidikan pada era teknologi informasi & komunikasi,” Pap. Knowl. . Towar. a Media Hist. Doc., vol. 7, no. 2, pp. 107–15, 2014.

[2] E. A. Topp, M. Stenmark, A. Ganslandt, A. Svensson, M. Haage, and J. Malec, “Ontology-based knowledge representation for increased skill reusability in industrial robots,” IEEE Int. Conf. Intell. Robot. Syst., pp. 5672–5678, 2018, doi: 10.1109/IROS.2018.8593566.

[3] Z. K. A. Baizal, D. H. Widyantoro, and N. U. Maulidevi, “Computational model for generating interactions in conversational recommender system based on product functional requirements,” Data Knowl. Eng., vol. 128, no. February, p. 101813, 2020, doi: 10.1016/j.datak.2020.101813.

[4] F. U. D. Laseno and B. Hendradjaya, “Knowledge-based filtering recommender system to propose design elements of serious game,” Proc. Int. Conf. Electr. Eng. Informatics, vol. 2019-July, no. July, pp. 158–163, 2019, doi: 10.1109/ICEEI47359.2019.8988797.

[5] B. Bouihi and M. Bahaj, “Ontology and rule-based recommender system for e-learning applications,” Int. J. Emerg. Technol. Learn., vol. 14, no. 15, pp. 4–13, 2019, doi: 10.3991/ijet.v14i15.10566.

[6] Z. K. Abdurahman Baizal, Y. R. Murti, and Adiwijaya, “Evaluating functional requirements-based compound critiquing on conversational recommender system,” 2017 5th Int. Conf. Inf. Commun. Technol. ICoIC7 2017, vol. 0, no. c, 2017, doi: 10.1109/ICoICT.2017.8074656.

[7] R. A. Rachman and Z. K. A. Baizal, “Ontology-based conversational recommender system for recommending camera,” Resti, vol. 1, no. 1, pp. 19–25, 2017.

[8] S. Subbotin, O. Gladkova, and A. Parkhomenko, “Knowledge-based recommendation system for embedded systems platform-oriented design,” Int. Sci. Tech. Conf. Comput. Sci. Inf. Technol., vol. 1, pp. 368–373, 2018, doi: 10.1109/STC-CSIT.2018.8526659.

[9] Y. Sun and Y. Zhang, “Conversational recommender system,” 41st Int. ACM SIGIR Conf. Res. Dev. Inf. Retrieval, SIGIR 2018, pp. 235–244, 2018, doi: 10.1145/3209978.3210002.

[10] M. Guia, R. R. Silva, and J. Bernardino, “A hybrid ontology-based recommendation system in e-commerce,” Algorithms, vol. 12, no. 11, pp. 1–19, 2019, doi: 10.3390/a12110239.

[11] A. Iswari, N. M. S., Wella, W., & Rusli, “Product recommendation for e-commerce system based on ontology,” Int. Conf. Creat. Bus. Smart Sustain. Growth, CreBUS 2019, vol. 1, no. August, pp. 105–109, 2019, doi: 10.1109/CREBUS.2019.8840063.

[12] P. Sharma and L. Yadav, “Movie recommendation system using item based collaborative filtering,” no. 4, pp. 8–12, 2020.

[13] Y. Koren and R. Bell, “Advances in collaborative filtering - recommender systems handbook,” Recomm. Syst. Handb., pp. 145–186, 2021, [Online]. Available: http://www.springerlink.com/index/10.1007/978-0-387-85820-3

[14] A. H. Ritdrix, P. W. Wirawan, and U. Diponegoro, “Sistem rekomendasi buku menggunakan metode item-based collaborative,” vol. 9, pp. 24–32.