Overall, through exploratory data analysis of both datasets, we gained insights into some particular user consumption behaviours as well as patterns such as seasonal variations. It is hoped that this banking transaction data will be used as a driver to translate the value of the data into enhanced business value and improved customer experience [1].

Research conducted by Khudoyorova and Khusainov has shown that advanced analytics facilitates a deeper understanding of customer preferences and behaviours, which not only helps in risk management, but also in personalising customer interactions. This tailored approach can significantly increase customer satisfaction and loyalty, which in turn can enhance financial performance [2]. As an example, in the second dataset, we analysed the top 5 third party merchants favoured by 5 different spend level groups in the EDA section, where the very low group would not spend at Sports Direct and Topshop, which was considered an important insight that differed from the other groups. Ideally, this could be reported to banks and merchants and help them optimise their marketing strategies.

图表, 条形图

描述已自动生成

Future research could further explore behavioural differences between consumers in different regions or containing more background information, and examine how these differences affect banks' product design and marketing strategies. This will help banks to more accurately meet the needs of different customers and also identify new market opportunities.

[1] M. Hasan, A. Hoque, and T. Le, "Big Data-Driven Banking Operations: Opportunities, Challenges, and Data Security Perspectives," FinTech, vol. 2, pp. 484–509, Jul. 2023. doi: 10.3390/fintech2030028.

[2] F. Khudoyorova and F. Khusainov, "Big Data Analytics in Financial Services: Opportunities and Challenges," in Excellencia: International Multi-Disciplinary Journal of Education, vol. 02, no. 04, 2024.