

Exploring the Determinants of Personal Finance Difficulties by Machine Learning: Focus on Socio-Economic and Behavioural Changes Brought by COVID-19

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Abstract : Purpose: This research aims to explore how personal and environmental factors, especially the socio-economic changes and behavioral changes fostered by the COVID-19 outbreak pandemic, affect the financial vulnerability of a specific segment of people in financial distress. Innovative research methodology of machine learning will be applied to data collected from over 300 local individuals in Hong Kong seeking counseling or similar services in recent years. Results: First, machine learning has found that too much exposure to digital services and information on digitized services may lead to adverse effects on respondents' financial vulnerability. Second, the improvement in financial literacy level provides benefits to the financially vulnerable group, especially those respondents who have started with a lower level. Third, serious addiction to digital technology can lead to worsened debt servicing ability. Machine learning also has found a strong correlation between debt servicing situations and income-seeking behavior as well as spending behavior. In addition, if the vulnerable groups are able to make appropriate investments, they can reduce the probability of incurring financial distress. Finally, being too active in borrowing and repayment can result in a higher likelihood of over-indebtedness. Conclusion: Findings can be employed in formulating a better counseling strategy for professionals. Debt counseling services can be more preventive in nature. For example, according to the findings, with a low level of financial literacy, the respondents are prone to overspending and unable to react properly to the e-marketing promotion messages pop-up from digital services or even falling into financial/investment scams. In addition, people with low levels of financial knowledge will benefit from financial education. Therefore, financial education programs could include tech-savvy matters as special features.

Keywords : personal finance, digitization of the economy, COVID-19 pandemic, addiction to digital technology, financial vulnerability

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