

Data-Driven Approaches to Financial Inclusion: The use of Cluster Analysis for Enhancing Newcomer Families' Financial Well-Being in Canada

Abstract

Financial inclusion describes the act of widening access to financial products and services to meet the needs of diverse people and businesses. In order to support vulnerable populations in achieving this goal, understanding their unique characteristics and financial situation is crucial. In this study, we present a data-driven approach to understanding the financial situation of immigrant families in Canada through three studies with the long-term goal of improving financial inclusion. By leveraging unsupervised machine learning, specifically hierarchical clustering and Partitioning Around Medoids (PAM) clustering, we analyse financial wellbeing survey data from the Financial Consumer Agency of Canada (FCAC) between 2019 and 2022 to identify distinct financial behaviour and spatial location patterns among immigrants. The presented analysis will build on our previous work in defining cluster-driven personas to allow policy makers to personalise financial inclusion support and interventions. We utilised these personas and their geospatial pattern to demonstrate their use in localised policy making, and identify vulnerable sub-population among the immigrant communities. In this presented study, we now statistically analyse differences in financial wellbeing between immigrant women and men, as well as between individuals at different stages in their life. Our findings include statistically significant differences between men and women in terms of both objective and subjective (perceived) measures, such as how COVID-19 affected their income and perceived level of stress and anxiety. At the same time, immigrant women differentiate themselves from non-immigrant women mostly in terms of their subjective perceived ability to cope financially. Implications from our study will be relevant for both policy makers as well as businesses for furthering their understanding of diverse populations and their associated risk factors. Through the discussion of our findings, we demonstrate that tailored, data-driven interventions can significantly enhance the financial literacy and wellbeing of immigrant families, contributing to broader financial inclusion goals in Canada.

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