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**THE MEDIATING ROLE OF DIGITAL FINANCIAL INCLUSION IN  
ENHANCING FINANCIAL WELL-BEING AMONG B40 HOUSEHOLDS IN  
MALAYSIA.**

**By**

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**UUM**  
**Universiti Utara Malaysia**

**Thesis Submitted to  
Othman Yeop Abdullah Graduate School of Business  
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In Fulfilment of the Requirement for the Degree of Doctor of Philosophy**



**Kolej Perniagaan**  
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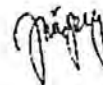
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## ABSTRACT

Malaysia has set ambitious goals to achieve high-income country by 2030, with financial well-being one of the key aspects of this transformation. Enhancing financial well-being is essential, as it directly impacts the stability and resilience of households. Despite this, persistent financial disparities among B40 households continue to challenge national efforts toward inclusive economic development. This issue is particularly significant for low-income populations with limited retirement savings. This study examines the financial well-being of B40 households by investigating the relationships among financial services infrastructure, financial service providers, financial capability, digital financial literacy, and trust. Additionally, the study explores the mediating role of digital financial inclusion in these relationships. The research framework is grounded in three theoretical foundations: systems theory, Schumpeter's theory of innovation, and vulnerable group theory. This quantitative study employed purposive and quota sampling methods, targeting B40 households in Malaysia. A total of 324 valid responses were collected for analysis. The proposed model was tested using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings indicate that financial service providers, financial capability, and trust have a positive influence on financial well-being. In contrast, financial services infrastructure and digital financial literacy do not exhibit a direct effect on financial well-being. Additionally, digital financial inclusion is positively associated with financial well-being. The results demonstrate that financial services infrastructure, financial service providers, financial capability, digital financial literacy, and trust are positively associated with digital financial inclusion. Furthermore, each of these five factors indirectly influences financial well-being through digital financial inclusion. Therefore, digital financial inclusion serves as a complementary mediator in the relationships among financial service providers, financial capability, trust, and financial well-being. Additionally, digital financial inclusion functions as an indirect-only mediator between financial services infrastructure, digital financial literacy, and financial well-being. The study offers practical implications for policymakers, highlighting the importance of strengthening digital financial ecosystems, fostering trust, and investing in tailored digital financial literacy programs for B40 households. From a theoretical perspective, the study enriches the understanding of financial well-being by integrating multidisciplinary frameworks and provides actionable insights for financial service providers seeking to effectively engage B40 households.

**Keywords:** Financial well-being, B40 households, Digital financial inclusion, Digital financial literacy, trust

## Abstrak

Malaysia telah menetapkan matlamat yang bercita-cita untuk mencapai status negara yang berpendapatan tinggi menjelang tahun 2030, dengan kesejahteraan kewangan sebagai salah satu aspek utama dalam transformasi ini. Peningkatan kesejahteraan kewangan adalah penting kerana ia memberi kesan secara langsung terhadap kestabilan dan daya taha nisi rumah. Walau bagaimanapun, ketidaksamarataan kewangan yang berterusan dalam kalangan isi rumah B40 terus mencabar usaha nasional ke arah pembangunan ekonomi yang inklusif. Isu ini amat signifikan bagi golongan berpendapatan rendah (B40) yang mempunyai simpanan persaraan yang terhad. Kajian ini menumpukan perhatian terhadap kesejahteraan kewangan isi rumah B40 dengan meneliti hubungan antara infrastruktur perkhidmatan kewangan, penyedia perkhidmatan kewangan, keupayaan kewangan, literasi kewangan digital dan kepercayaan, serta peranan penyertaan kewangan digital sebagai pengantara dalam hubungan tersebut. Rangka kerja kajian ini berasaskan tiga landasan teori utama, iaitu Teori Sistem, Teori Schumpeter dan Teori Kumpulan Rentan. Kajian ini menggunakan pendekatan kuantitatif dengan kaedah pensampelan bertujuan dan kuota, melibatkan isi rumah B40 di Malaysia. Sebanyak 324 respons telah diperoleh dan dianalisis. Model kajian diuji menggunakan Kaedah Pemodelan Persamaan Struktur Kuasa Dua Terkecil (PLS-SEM). Hasil kajian menunjukkan bahawa penyedia perkhidmatan kewangan, keupayaan kewangan, dan kepercayaan mempunyai hubungan langsung yang positif dengan kesejahteraan kewangan. Sebaliknya, infrastruktur perkhidmatan kewangan dan literasi kewangan digital tidak menunjukkan kesan langsung terhadap kesejahteraan kewangan. Walau bagaimanapun, penyertaan kewangan digital didapati mempunyai hubungan positif dengan kesejahteraan kewangan dan berperanan sebagai pengantara dalam hubungan yang dikaji. Secara khusus, penyertaan kewangan digital berperanan sebagai perantara pelengkap dalam hubungan antara penyedia perkhidmatan kewangan, keupayaan kewangan, kepercayaan, dan kesejahteraan kewangan. Ia juga bertindak sebagai perantara tidak langsung antara infrastruktur perkhidmatan kewangan serta literasi kewangan digital dengan kesejahteraan kewangan. Kajian ini memberikan implikasi praktikal kepada penggubal dasar, termasuk keperluan untuk memperkukuh ekosistem kewangan digital, membina kepercayaan, serta melaksanakan program literasi kewangan digital yang disesuaikan dengan keperluan golongan B40. Dari sudut teori, kajian ini memperkukuh pemahaman tentang kesejahteraan kewangan melalui pendekatan rentas disiplin dan menyumbang kepada strategi penyedia perkhidmatan kewangan dalam mendekati kumpulan B40 dengan lebih berkesan.

**Kata Kunci:** Kesejahteraan kewangan, Isi rumah B40, Keterangkuman kewangan digital, literasi kewangan digital, kepercayaan

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## LIST OF ABBREVIATIONS

Abbreviation	Description of Abbreviation
AFI	Alliance for Financial Inclusion
AKPK	Agensi Kaunseling dan Pengurusan Kredit
ALTC	Association of Labuan Trust Companies
AVE	Average Variance Extracted
B40	Bottom 40%
BIT	The Behavioural Insights Team
BNM	Bank Negara Malaysia
CA	Cronbach Alpha
CB-SEM	Covariance-based Structural Equation Modelling
CCA	Composite Confirmatory Analysis
CFPB	Consumer Financial Protection Bureau
CMB	Common Method Bias
CR	Composite Reliability
DFI	Digital Financial Inclusion
DFL	Digital Financial Literacy
DFS	Digital Financial Service
DNB	Digital Nasional Berhad
DV	Dependent Variable
F <sup>2</sup>	Effect Size
FC	Financial Capability
Fintech	Financial Technology
FSI	Financial Services Infrastructure

FSP	Financial Services Providers
FWB	Financial Well-being
FWBI	Financial Well-being Index
HTMT	Heterotrait-Monotrait Ratio of Correlations
IT	Information Technology
KEMAS	Jabatan Kemajuan Masyarakat
LM	Linear Model
M40	Middle 40%
MyDIGITAL	Malaysia Digital
PCI LL	The lower percentile of the confidence interval
PCI UL	The upper percentile of the confidence interval
PeKa40	Skim Peduli Kesihatan untuk Kumpulan B40
PIDM	Perbadanan Insurans Deposit Malaysia
PLS-SEM	Partial Least Squares Structural Equation Modelling
Q <sup>2</sup>	Predictive Relavance
R <sup>2</sup>	Coefficient of Determination
RMSE	Root Mean Square Error
SDGS	Sustainable Development Goals
SEM	Structural Equation Modelling
SPSS	Statistical Package for the Social Sciences
T20	Top 20%
TRU	Trust
UN	United Nations
VIF	Variance Inflator Factor

# CHAPTER 1 INTRODUCTION

## 1.0 Introduction

This chapter begins by providing the background of the study, outlining the research rationale, and highlighting the vulnerability of low-income households to higher poverty risks. It also explains how using digital financial services can improve digital financial inclusion and ultimately enhance their financial well-being. The following section presents the problem statement, identifies the research questions and objectives, and discusses the significance of this research. This chapter also concludes the organisations in the thesis for the following chapters.

## 1.1 Background of the Study

Malaysia's ambition to achieve high-income status by 2030 highlights the necessity of improving the financial well-being of its citizens. Financial well-being is crucial for enhancing quality of life and boosting national productivity. It directly affects individuals' ability to manage their financial obligations, navigate economic challenges, and pursue long-term financial goals. The Consumer Financial Protection Bureau (2015) defines financial well-being as an individual's capacity to handle daily and monthly expenses, remain resilient in the face of financial setbacks, and realise future aspirations. Similarly, Bank Negara Malaysia (2022a) describes it as fulfilling financial commitments, maintaining resilience during economic hardships, achieving future financial objectives, and making informed decisions that improve overall quality of life. This concept encompasses financial stability and capability, influencing job performance, health, and emotional security (Mokhtar & Husniyah, 2017).

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## APPENDIX QUESTIONNAIRE

### Section A: Demographic

1. Age:  18-24  25-34  35-44  45-54  55-64  65 and above
2. Gender:  Male  Female
3. Race:  Malay  Chinese  Indian  Others:
4. Occupation:  Private  Government  Self-employed  Retired  
 unemployed  Others:
5. Monthly Household Income:  
 Below RM500  RM501- RM1,500  RM1,501- RM2,500  RM2,501- RM3,500  
 RM3,501- RM4,500  RM4,501- RM5,250
6. Highest Education Level:  
 No formal education  Primary School  Secondary School  
 Diploma  Bachelor's degree  Master's Degree/ PhD  Professional
7. Marital Status:  Single  Married  Divorced  Single Parent
8. Residence Area:  Urban  Rural
9. State: \_\_\_\_\_

Guide To Answer the Questionnaire				
Please cross (x) to indicate your response according to how strongly you agree or disagree with the statements, ranging from 1 = strongly disagree to 5 = strongly agree				
1	2	3	4	5
Strongly Disagree				Strongly Agree

**Section B: Financial Services Infrastructure**

		1	2	3	4	5
FSI1	I have a device (laptop, smartphone, tablet) to access the digital financial account.					
FSI2	My living area has a stable internet connection.					
FSI3	I can afford to buy data or subscribe internet line.					
FSI4	Opening an account through mobile banking/ online banking/ e-wallet is easy.					
FSI5	Applying a loan through mobile banking/ online banking/ e-wallet is easy.					
FSI6	Transferring/receiving money through DuitNow/ QRPay is easy.					

**Section C: Financial Services Provider**

		1	2	3	4	5
FSP1	Financial services providers deliver necessary information about products and services.					
FSP2	Financial services providers offer financial products and services through online banking/mobile banking/e-wallet that meet my needs.					
FSP3	Financial services providers charge lower lending rates than informal financial services (main kutu/ Ah Long/ Biaohui/ illegal pawnshop).					
FSP4	It is convenient to use financial services providers services through online banking/ mobile banking/ e-wallet.					

**Section D: Financial Capability**

		1	2	3	4	5
FC1	I spend money according to my budget.					
FC2	I save in a savings account/ tabung first before spending.					
FC3	I plan my finances for retirement.					
FC4	I will save when I have excess money.					
FC5	I will invest in an investment/ business when I have excess money.					
FC6	I pay my loan instalments on time.					

### Section E: Digital Financial Literacy

		1	2	3	4	5
DFL1	I aware the security of a website (https sites, safety logo or certificates) before making online transactions.					
DFL2	I know the benefits of using mobile banking/online banking/e-wallet.					
DFL3	I know how to open an online banking/ mobile banking/ e-wallet menu, find the menu options, initiate a transaction, and complete a transaction successfully.					
DFL4	I have an experience to transfer/receive money by using mobile banking/online banking/e-wallet.					
DFL5	I know how to correct an error or reverse or cancel a transaction successfully when doing online banking/mobile banking/e-wallet transactions.					

### Section F: Trust

		1	2	3	4	5
TRU1	Financial services providers are a trustworthy source for accessing digital financial services.					
TRU2	I feel safe when using digital financial services.					
TRU3	Online banking/ mobile banking/ e-wallet is trustworthy.					
TRU4	I am confident using online banking/ mobile banking/ e-wallet for my financial transactions.					

### Section G: Digital Financial Inclusion

		1	2	3	4	5
DFI1	I access banking services using Internet banking/ mobile banking/e-wallet.					
DFI2	I can borrow money from Internet/mobile banking/e-wallet.					
DFI3	I can pay via the internet/ mobile banking/ e-wallet.					
DFI4	I can buy an insurance plan through Internet/mobile banking/ e-wallet.					
DFI5	I can invest with internet/mobile banking/ e-wallet.					
DFI6	I use the internet/mobile banking/ e-wallet at least once a month.					

**Section H: Financial Well-being**

		1	2	3	4	5
FWB1	I can create wealth by accessing financial services.					
FWB2	I can meet my family's financial commitments.					
FWB3	My living standards have improved with the financial services.					
FWB4	My income always covers my living costs.					
FWB5	I do not need to borrow to buy essential goods.					

