Journal of Infrastructure, Policy and Development 2025, 9(1), 9636.
https://doi.org/10.24294/jipd9636

Article

The linkage of government assistance programs towards digital and financial well-being of small household income families in Urban Area: Lesson from COVID-19 pandemic

Abdullah Sallehhuddin Abdullah Salim[1], Norzarina Md Yatim[2,*], Al Mansor Abu Said[3]

[1] Faculty of Accountancy and Management, Universiti Tunku Abdul Rahman, Bandar Sungai Long, Cheras 43000, Malaysia
[2] Faculty of Management, Multimedia University, Persiaran Multimedia, Cyberjaya 63100, Malaysia
[3] Faculty of Business, Multimedia University, Jalan Ayer Keroh Lama, Ayer Keroh 75450, Malaysia
*** Corresponding author:** Norzarina Md Yatim, norzarina.yatim@mmu.edu.my

CITATION

Salim ASA, Yatim NM, Said AMA. (2025). The linkage of government assistance programs towards digital and financial well-being of small household income families in Urban Area: Lesson from COVID-19 pandemic. Journal of Infrastructure, Policy and Development. 9(1): 9636. https://doi.org/10.24294/jipd9636

ARTICLE INFO

Received: 15 October 2024
Accepted: 3 December 2024
Available online: 5 February 2025

Abstract: The COVID-19 pandemic and the Movement Control Order (MCO) have had a negative impact on the financial well-being and digital well-being of B40 or small household income families in urban areas. In responding to the crisis, the government had launched multiple assistance programs to assist the group. Hence, the study intends to examine the relationship of government assistance towards digital and financial well-being of the group. Utilizing survey, the study involved 417 respondents living at the Public Housing Project (PPR) residential areas in Kuala Lumpur—the capital of Malaysia. The data was analyzed using Smart PLS and the key findings were (1) government assistance programs significantly affect the digital well-being and financial well-being of B40 urban families. However, there is no significant relationship between financial well-being and digital well-being. Besides, the Importance-Performance Analysis (IPA) indicated that the importance of government assistance programs towards digital well-being performance is higher than financial well-being. The assistance programs offered by the government plays essential role to ease the digital and financial constraints of B40 urban families during a difficult time. Reforms to the government assistance programs, the empowerment of digital aid packages, and the enhancement of social security net initiatives for B40 urban families are necessary to enhance the group's preparedness and resilience in the face of new shocks in the future.

Keywords: digital well-being; financial well-being; government assistance; COVID-19 pandemic; urban area; small household income families

1. Introduction

The pandemic COVID-19 has led to unprecedented Malaysia's economy shutting down or scaling back in a nationwide effort to stop transmission of the evil coronavirus. Worryingly, one segment of the population that is perhaps more prone to the downward economic effects of the pandemic is the urban poor—those with the lowest earnings, the fewest financial resources, the most lacking digital devices, coupled with living in high-density areas and overcrowded flats which surge the risk of infections. In Malaysia, the rapid surge in COVID-19 cases following a community outbreak linked to a religious mass gathering in Kuala Lumpur necessitated the implementation of the country's first nationwide lockdown measures, referred to as the Movement Control Order (MCO), which commenced on 18 March 2020. The pandemic COVID-19 driven Movement Control Order (MCO) caused more pressure on the already distressed B40 urban families, particularly those living in high-rise flats, known as Projek Perumahan Rakyat (PPR) area. PPR residents are low-income families living

in high rise flats largely through resettlement from squatters. However, there is a particular gap in the evidence on the impact of COVID-19 on low-income or B40 Malaysian urban families' digital and financial well-being. Additionally, little is yet known whether existing relief packages by government are adequate to offer sufficient assistance to B40 urban families; later, ensuring a vigorous and wide-ranging build back better process and enhancing the preparedness of the vulnerable groups for future shock or crisis.

Megat Muzafar and Kunasekaran (2020) underlined that past shocks or crises have disproportionately hurt the working poor, and it seems that the COVID-19 outbreak is not an exception. The government has ordered the rakyat to stay at home and discouraged them from going out except to perform necessary tasks and errands. Meanwhile, companies adopted the 'work-from-home' policies to reduce unnecessary travelling. However, these protective measures might have overlooked one thing—the poor urban workers whose work either requires physical presence and cannot be performed remotely, or provides a much-needed income where not working means not having enough money to put food on the table. Contrary to white-collar workers, working from home is not an option for some of the households in the PPRs as their work requires them to be physically present, e.g., lorry drivers, restaurant workers, and grocery store clerks. The nature of these jobs requires them to interact with others almost daily which increases their rate of contracting the disease – and subsequently spreading it.

In a related analysis, Abdul Hamid and Khalidi (2020) expressed concern on the potential impact of pandemic COVID-19 towards unequal learning, particularly among B40 families. The first major issue is the availability of appropriate devices to support online learning. In fact, the in-house survey by the Ministry of Education (MoE) at the early stage of MCO revealed that 37% of students do not have right devices, and 6% to 9% of students own a personal computer and/or a tablet. In some responses, even if a household has a personal computer, it will be shared by several children attending online classes. As the pandemic hit family economy, many households particularly those who turn unemployed experience financial constraints to prepare the devices and internet data for online learning, and for some families the priority are to ensure purchase of food than getting a digital device. Besides, the survey of MoE revealed that 46% of parents or students own a smartphone. Hence, school works and learning materials must be delivered through smartphone, and some smartphones are not able to provide high level online learning experience due to limited technical features. In addition, through smartphone, parents and students have a difficulty to distinguish formal classroom communication against informal communication; therefore, some families are not able to keep track in monitoring children learning development and progress.

Hence, this article highlights how the COVID-19 compelled MCO could impact families' well-being in PPRs and the challenges that they may face during these trying times financially and digitally. The possibility of MCO extension and future shock would cause these B40 urban families to be worse-off, if prompt actions are not being taken. Furthermore, this article offers more inclusive and comprehensive measures, as the government, authorities, and regulators would benefit from soliciting the input of PPR residents, associations and community leaders, as to measure the stimulus and

relief packages would most benefit them and put national resources or state budget allocations to their best use. Therefore, this article aims to meet three research objectives namely (1) to examine the relationship of government assistance and financial well-being of B40 urban families, (2) to evaluate the relationship of government assistance and digital well-being of B40 urban families, and (3) to assess the linkages between financial well-being and digital well-being of B40 urban families.

2. Literature review

2.1. Impact of COVID-19 pandemic and MCO on financial well-being of urban B40

Financial well-being is defined as an individual's capacity to effectively manage their current financial circumstances and ongoing financial obligations. It encompasses a sense of security regarding present and future financial matters, along with the financial capability to make choices that enable them to enjoy life (Bureau, 2017). The International Labour Organisation (ILO) Report by Lim (2020) highlighted B40 households as one of the vulnerable communities in the surge of pandemic COVID-19 in Malaysia. The ILO's 2020 report elaborated that majority of approximately 2.8 million B40 households are low-skilled workers in informal job sector who are more probably to lose their income and causing financial hardship. Malaysian Institute of Economic Review (MIER) 2020 estimated that around two-thirds of job losses will fall on low skilled workers. In addition, living in overcrowded living conditions like PPR, unable the residents to practice social distancing, coupled with illiteracy and often not able to work from home, make them in a greater risk (Lim, 2020).

The predicament of B40 urban families' financial well-being due to COVID-19 pandemic is further elaborated by the survey of the DOSM in 2020. The survey showed half of those self-employed reported to be out of work, while up to a third said their income dropped by more than 90%. The results exposed alarming concerns that the vulnerable households are experiencing income shocks. Moreover, the survey disclosed that half of them have savings enough only to last two weeks, while only 28% said they had enough to last two months. In addition, the survey indicated that the average expenditure on household consumption during the MCO decreases by 48%. Additionally, Jusoh et al. (2020) highlighted that during the COVID-19 pandemic, households spending was influenced by income shocks, and not by financial wealth shocks. Moreover, mostly affected by the income shock were self-employed group. Furthermore, Jusoh et al. (2020) also underlined that Malaysia's unemployment rate rises to 5 percent in April 2020. Therefore, it is concluded that the B40 group are facing the highest risk of unemployment and their job opportunities will be severely curtailed by the contraction of the job market, and with their comparatively lower incomes, many will struggle to feed their families.

Moreover, Megat Muzafar and Kunasekaran (2020) highlighted the concern of the Malaysian Institute of Economic Research (MIER) that the continuation or prolong of MCO shall result in some 2.4 million people losing their jobs, where 67% of the layoffs will be unskilled workers. Besides, Megat Muzafar and Kunasekaran (2020)

found that 59% of the head of households in PPRs attained education up to secondary level, while around 7% of them have never attended school. Having a lower education level means that their options for work are limited to low-skilled type of work such as jobs in the retail industry (KRI, 2018). Additionally, 3.8% of the head of PPR households are temporary or part-time workers, making them further dispensable in light of the current economic uncertainty. Furthermore, approximately 20% of households in PPR are self-employed and/or earn income through their small businesses (Megat Muzafar and Kunasekaran, 2020). However, the outbreak has now led to these businesses having to either scale back or close shop, cutting these households off from one of their main sources of income. Additionally, Megat Muzafar and Kunasekaran (2020) also discovered that a considerable proportion of PPR households work in informal employment such as petty traders, tailors, and freelancers. Therefore, these employees lack the social security that formal workers enjoy such as paid leave, Employees Provident Fund (EPF) and Social Security Protection (SOCSO) coverage (Sazali and Gen, 2019). Consequently, this also means that they are not sufficiently covered by social protection measures introduced by the government (such as allowing RM500 monthly EPF withdrawals).

2.2. Impact of COVID-19 pandemic and MCO on digital well-being of urban B40

Burr et al. (2020) defines digital well-being as the impact of digital technologies on what it means to live a life that is good for a human being in an information society. The UNIFEF and UNFPA's 2020 report informed that to make things worse, not all PPR residents have reliable access to the internet and rely on public internet centres like the Community Internet Centre or Pusat Internet Komuniti (PIK). PIK provides collective internet access in rural and remote areas as well as to communities residing in low-cost housing in urban areas, which are usually built within the PPR complex. However, not all PPR housing areas have the PIK. Therefore, they are less able to perform tasks remotely such as performing work from home or even participating in online learning. On coping with digital demand during the outbreak of COVID-19, the UNICEF and UNFPA (2020) mentioned the PPR households experience of insufficient devices to go around between children, as many residents do not have personal computers, rely on mobile phones of adults, and increase the internet data cost among parents. Furthermore, parents may not be able to adequately supervise when children are using the devices due to limited resources, time, and knowledge.

A conceptual analysis by Zainol et al. (2020) elaborated the challenge of online learning to B40 parents in Malaysia. The challenges consisted of usage, value, and risk barriers. Usage barrier relates to the innovations that are inconsistent with the way ordinary people work, practice, or habits (Borraz-Mora et al., 2017). The pandemic COVID-19 has forced the face-to-face learning to be replaced by online learning in order to enforce physical distance, and cut the transmission of the lethal virus. However, for B40 households, the shift of learning method caused difficulties in terms of device availability and internet access. For families that have more than one child learning online, they must share or to take turns in order to use gadget like mobile phone, and sometimes they do not have sufficient internet data to access online

learning. Besides, parents are untrained on online learning or reluctant to embrace online learning; hence, making learning via digital platform more constraints. In addition, parents do not have enough time and knowledge to support children's online learning due to burden of working from home situation. On value barrier, majority of B40 parents do not obtaining satisfactory experience and perceive of not receiving value enhancement by adopting online learning. Some of the reasons include lack of affordability to purchase sufficient internet data or right devices to support online learning. In addition, in certain places, online learning was limited by geographical factor. In certain situation, despite devices and internet access were provided; however, the internet speed was lagging. On risk barrier, Chen et al. (2018) referred the concept as an awareness of the uncertainty and unpredictability that exist in any innovation, might cause them to postpone the adoption pending and in-depth insight into the innovation. Some B40 parents are worried that the online learning may lead their children to riskier activities such as misuse of internet, security issue, and privacy threat.

Besides, a systematic literature review was carried out by Mseleku (2020) on e-learning and e-teaching in the era of COVID-19 pandemic. The study systematically reviewed 85 related articles around the globe from 16 reputable databases. The results of this literature review are therefore grouped into four themes (1) higher education institutions response to COVID-19 and lockdown, (2) online versus offline learning, (3) challenges for online teaching and learning, and (4) COVID-19 induced opportunities. The theme of challenges for online teaching and learning revealed further findings such as the inability to access or use the online learning and teaching tools; difficulties to adjust particularly for students living in rural areas and those from low-income families; and associated stress, depression and anxiety. In a related study, Iivani et al. (2020) commented the impact of pandemic COVID-19 on the basic education of young generation. The discussion highlighted the existing digital gap in the society in terms of devices accessibility, connection, and affordability which impose risks for greater divide.

Moreover, Mohamed et al. (2021) examined the level of digital literacy among children of B40 income earners. The study involved children from three PPR residential areas namely PPR Kota Damansara, PPR Desa Rejang, and PPR Sungai Bonus. In total, 308 respondents were involved. The study measured digital literacy based on the three existing frameworks namely (1) Digital Kids Asia Pacific (DKAP) Framework for Education by UNESCO (2019), (2) DIGCOMP: A framework for developing and understanding digital competence in Europe (Ferrari, 2013), and (3) Shanti Balraj Babboo's Digital Literacy in Malaysia (2013). The study revealed three key findings, which are (1) Children of PPR have limited ways to access digital devices and the internet. While some may have access, however, the children do not use it productively, (2) The children have the basic skills to operate and manage digital devices but are not technically able to productively exploit digital media hence they have minimal digital literacy, and (3) The children that have access to the Pusat Internet Komuniti (PIK) do not have better literacy when compared with their peers who do not have the access.

Apart from education issues, Hamdan et al. (2021) also delved into the challenges of the COVID-19 and PKP pandemics on micro and small entrepreneurs. Using

qualitative methods, the researchers interviewed six women micro and small entrepreneurs who participated in microcredit schemes available in Malaysia. The study found that the women micro and small entrepreneurs faced financial and operational challenges during the pandemic and the implementation of PKP. Specifically, for the operational aspect, the main challenge faced by the respondents is to use digital platforms to continue business activities such as promotions and sales. The study also clarified the need for regulators and microcredit scheme operators to conduct more training to build the capacity and skills of respondents to master the digital platform, and in preparation for future shocks.

2.3. Government assistance program during COVID-19 pandemic

Throughout the COVID-19 pandemic and Movement Control Order (MCO), the government has introduced eight stimulus packages and assistance programmes to ease the people's burden. The stimulus packages and assistance programmes are (1) PRIHATIN (Prihatin Rakyat Economic Stimulus Package, (2) PRIHATIN TAMBAHAN (Langkah Tambahan Bagi Pakej Rangsangan Ekonomi Prihatin Rakyat), (3) PENJANA (Pelan Jana Semula Ekonomi Negara), (4) KITA PRIHATIN (Prihatin Supplementary Initiative Package, (5) PERMAI (Pakej Bantuan Perlindungan Ekonomi dan Rakyat Malaysia), (6) PEMERKASA (Program Strategik Memperkasa Rakyat dan Ekonomi), (7) PEMERKASA TAMBAHAN (Program Strategik Memperkasa Rakyat dan Ekonomi Tambahan), and the last assistance programme, (8) PEMULIH (Pakej Perlindungan Rakyat dan Pemulihan Ekonomi).

According to Hasan et al. (2022), the MCO has crippled the country's economy to some extent and has had a huge negative impact on the income of Malaysians. The government assistance program had allowed the money withdrawal initiatives of the Employees' Provident Fund (EPF) such as *i*-Lestari and *i*-Sinar. Accordingly, 93.2% of EPF members who make withdrawals have an income of less than RM4000. This means that most low-income workers need more financial help due to the lack of savings to cover the cost of living during the pandemic. Most members who withdraw their retirement savings use those savings to cover daily expenses, repay debts or loans and cover the cost of children's education during the pandemic. Besides, the increased use of digital platform services as well as the difficulty of finding a job has encouraged more young generations to venture into gig and freelance work during the pandemic, especially among B40 youth. This trend is a worrying trend because it impacts the development of skilled labor since most gig jobs require low skills, and do not have social protection.

In addition, Ibhrim et al. (2022) reported that the COVID-19 pandemic has worsened the situation of B40 families in urban areas in terms of living standards due to job loss and income decline. In addition, B40 families in urban areas also face challenges from the educational aspect, especially to provide devices and internet access to support the learning and teaching process from home or online. Furthermore, targeted aid by the government is seen as insufficient to deal with the impact of the COVID-19 pandemic. Besides, the level of lifestyle of B40 who live in the city of low-cost flat housing is among those who are affected and do not have enough savings and

are burdened with debt and the cost of living in the city during COVID-19 (Tajudin et al., 2021).

According to Ibrahim and Othman (2022), government assistance programs like free 1GB internet connection, and the one-off Bantuan Khas Covid (BKC) did not address the digital challenges or digital poverty experienced the B40 families, including those staying in urban area. The families continued to experience knowledge, physical, social and economic challenges; hence hindering the group to obtain conducive learning environment especially for the children. For B40 families, money could only enough for daily needs; hence, struggle with the crisis to provide their children with sophisticated gadget needs to support online learning. Situation had worsened, if the family breadwinners were out of employment due to shutdown of businesses or cut of disposal income. Therefore, for families with such problems, it is seen that they will be affected to provide the best needs for their children in terms of gadget needs, data purchase or Internet and so on. Daily necessities are their priority instead of channeling the money to study needs. The hardships of life experienced by the community in these two categories necessarily face financial problems and further impact the need for students to study as a result of parents who do not have a stable financial economy

Based on Mohd Tarip et al. (2021), before the COVID-19 pandemic, the average B40 family received assistance from the government. The assistance has helped the B40 family live a life that is generally considered satisfactory. Accordingly, various allocations and incentives have been announced by the government to reduce the burden or crisis impact of the COVID-19 pandemic, especially for the B40 group. The incentives that have been announced by the government are mostly comprehensive, however there are some benefits that can be seen that need to be improved especially for the B40 group in a targeted manner.

3. Research method

3.1. Research design and data collection

The research design of this study is cross-sectional and quantitative approach. The research framework of the study is presented in the following **Figure 1**.

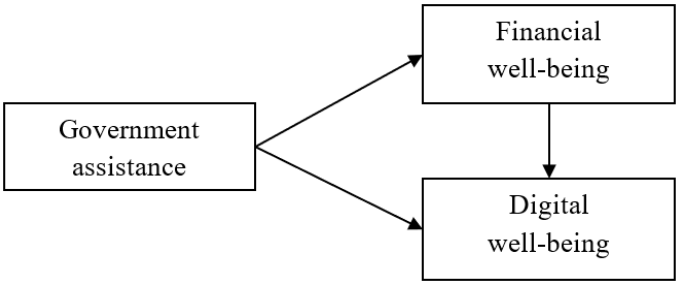

Figure 1. Research framework.

The population designated for this study consists of family living in PPR area in the Federal Territory of Kuala Lumpur. According to the National Housing Department or Jabatan Perumahan Negara (JPN) 2017's report, there are 26 PPR residential areas in Kuala Lumpur with a total of 32,762 unit of family. The PPR

initiative is a government program for the resettlement of urban pioneers for those who are qualified as well as meet the housing requirements for low-income groups or called B40. The study decides to adopt stratified random sampling technique. From its name, the technique involves a process of stratification or segregation, followed by random selection of respondents from each stratum (Sekaran, 2000). In addition, stratified random sampling technique "guarantees representativeness of different strata within a sample" (Neuman, 2007, p. 153). According to Krejcie and Morgan (1970), the recommended sample size for 32,762 subjects in the population is 380. The data collection procedure is adapted from the study of Mohamed et al. (2021).

3.2. Development of questionnaire

This study adopts established principles for questionnaire design, focusing on question content, sequence, wording, and length as recommended by Neuman (2007) and Sekaran (2000). The questionnaire excludes double-barrelled, ambiguous, threatening, and sensitive questions. Additionally, slang, abbreviations, overlapping response categories, sensitive or leading questions, jargon, and negative or reverse wording are avoided to ensure clarity and reliability. All questions are complete, and the questionnaire is provided in both Bahasa Malaysia and English to ensure accessibility.

The design also emphasizes appropriate scaling, as highlighted by Neuman (2007), with dual purposes: conceptualizing and operationalizing constructs and quantitatively measuring variables for hypothesis testing. Two types of scales are employed: nominal and interval. Nominal scales capture demographic data such as age, gender, household income, family type, and housing type. However, as Malhotra (1988) notes, nominal scales cannot explain order or distance; thus, they primarily describe respondents' profiles and assess the impact of socio-demographic variables.

The interval scale is used for other questions and enables measurement of distances between response points, supporting robust analysis. A Likert scale, treated as an interval scale based on Malhotra (1988) and others, is adopted. Previous studies on financial and digital well-being, including Abdul Rahim et al. (2021) and Mohamed et al. (2021), also utilize Likert scales, reinforcing its applicability. Based on previous studies, comments by four appointed experts, along with feedback from the LPPKN Research Grants Technical Committee following the pilot study carried out, the final survey has four parts—Part A (socio-demographic attributes), Part B (financial well-being with 10 indicators), Part C (digital well-being with 20 indicators) and Part D (government assistance with 8 indicators). The final survey form will use a 5-point Likert scale. The 5-point Likert scale for this final survey form consists of responses 1 = strongly disagree, 2 = disagree, 3 = somewhat agree, 4 = agree, and 5 = strongly agree.

3.3. Data analysis technique

For the final data analysis, this study used SPSS and Smart PLS. The analysis techniques carried out are descriptive analysis, measurement model test, structural model test, and importance-performance map analysis. on financial well-being, digital well-being and government assistance.

4. Findings and discussion

4.1. Respondents' profile

The final analysis contained feedback from 417 respondents. **Figure 2** shows the profile of respondents. About 146 respondents or 35 percent work in the private sector, followed by 55 respondents or 13.2 percent self-employed, 45 respondents or 10.8 are civil servants, 34 respondents or 8.2 percent run businesses, 26 respondents or 6.2 percent are freelancers, 15 respondents or 3.6 percent of workers in the gig economy sector. While 96 respondents or 23 percent are unemployed.

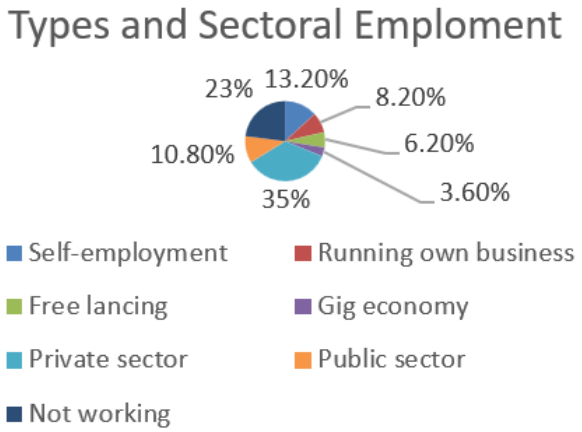

Figure 2. Respondent's types and sectoral employment.

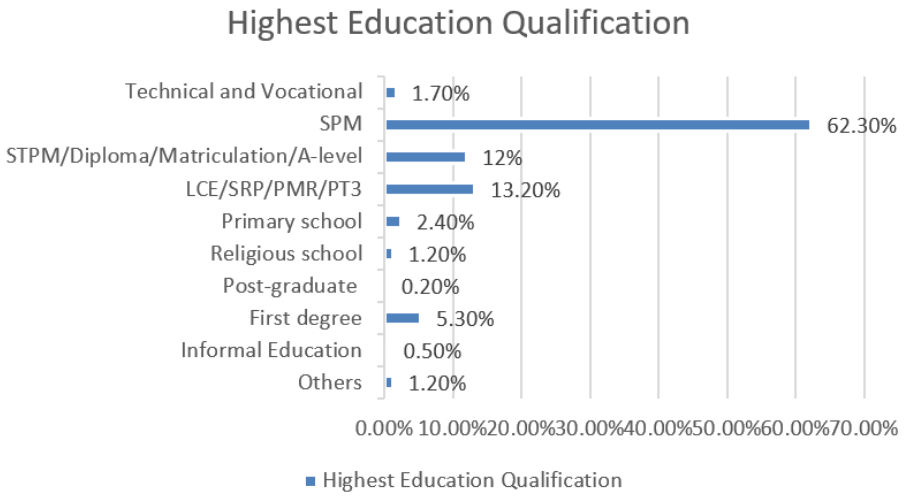

Figure 3. Highest academic qualifications.

Additionally, depicted in **Figure 3** the highest academic qualifications of respondents. 260 respondents or 62.3 percent have passed the Malaysian Certificate of Education (SPM). There were 55 respondents or 13.2 percent graduated up to Form 3 or equivalent. There are also 50 respondents or 12 percent who have passed Sijil Tinggi Pelajaran Malaysia (STPM) or equivalent. While 23 respondents or 5.5 percent have at least a first degree. There is also a small number of respondents who attend religious school like *tahfiz* and *pondok*, and technical and vocational training.

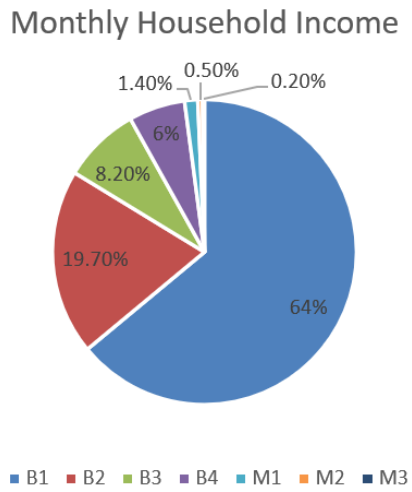

Figure 4. Monthly household income.

Furthermore, 267 respondents or 64 percent are group B1 with a monthly household income of less than RM 2500. The income scale is based on the Household Income and Basic Amenities Survey Report 2022 by Department of Statistics Malaysia. There are 82 respondents or 19.7 percent in group B2 with a monthly household income between RM 2501 to RM 3169, followed by group B3 with a monthly household income between RM 3170 to RM 3969 for a total of 34 people or 8.2 percent and group B4 with a monthly household income between RM 3970 to RM 4849 for a total of 25 people or 6 percent. There are 9 respondents or 2.1 percent who belong to the M40 group with monthly household income exceeding RM 4850. Besides, 308 respondents or 73.9 percent rent residential units in PPR. **Figure 4** illustrates the monthly household income of the respondents.

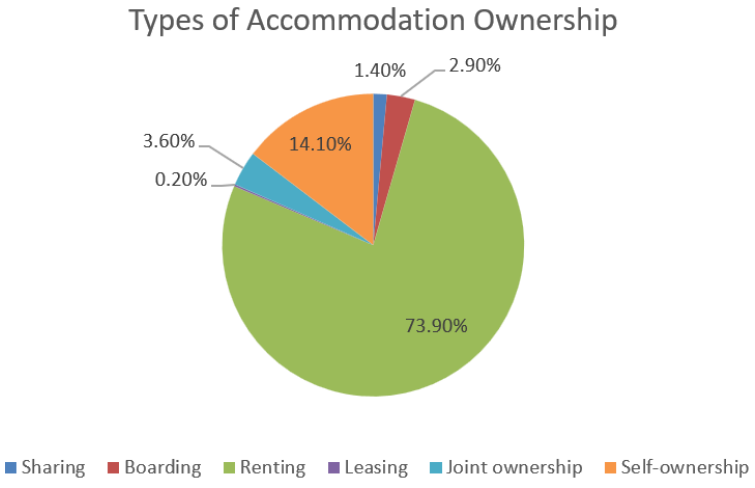

Figure 5. Types of accommodation ownership.

Based on **Figure 5**, 59 respondents or 14.1 percent with own ownership, 15 respondents or 3.6 percent with joint ownership. There are 12 respondents or 2.9 percent with a boarding status, as well as 16 respondents or 3.8 percent still borrowing.

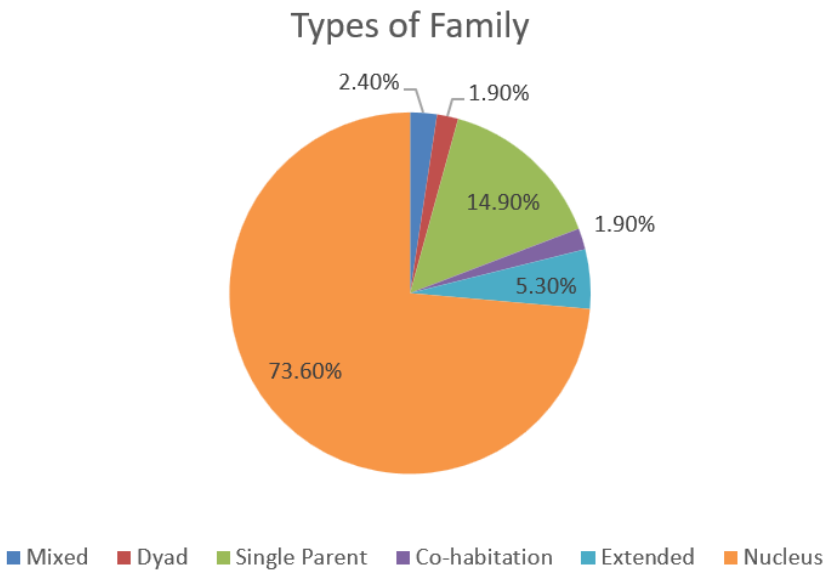

Figure 6. Types of Family.

Next, **Figure 6** depicts types of family, with 307 respondents or 73.6 percent with nuclear family status (a family consisting of father, mother, and children only). Followed by 62 respondents or 14.9 percent with the status of a single parent family (a family that has one of either the mother or the father and a child. This may be due to divorce or even death) and 22 respondents or 5.3 percent with the status of an extended family (a family consisting of several generations for example grandfathers, relatives and cousins also live together).

4.2. Common method bias

A one-factor Harman test using exploratory factor analysis was performed, comprising all three constructs—financial well-being, digital well-being and government assistance to determine if there were any issues in relation to common method bias. If the first factor accounts for over 50% of variance, it would be a clear indication of common method bias (Podsakoff et al., 2003). The results of factor analysis show that the first factor accounted for 34.3% of the variance and the other two factors accounted for 14.8% and 6.9% of the variance, respectively. Therefore, we conclude that common method bias was not a problem in the present study.

4.3. Assessment of measurement model

This research evaluates construct validity by calculating both convergent and discriminant validity. Convergent validity ensures that different instruments measuring the same concept yield highly correlated results (Sekaran and Bougie, 2016). It provides evidence for construct validity, emphasizing that constructs expected to be related are indeed correlated. In this study, convergent validity was assessed through indicator reliability and Average Variance Extracted (AVE).

Cronbach's Alpha was used to measure internal consistency, with a threshold of 0.7 and above indicating reliability (Sekaran, 2000). However, a score above 0.5 is also considered acceptable in certain contexts (Ramayah et al., 2018). The study's constructs demonstrated Cronbach's Alpha values ranging from 0.916 to 0.951,

reflecting strong reliability (Nunnally and Bernstein, 1994). Despite its utility, Cronbach's Alpha has limitations, including the assumption that all indicators are equally associated with the construct (Werts et al., 1974). Additionally, it tends to underestimate reliability and is sensitive to the number of items (Hair et al., 2017).

To address these limitations, composite reliability was also calculated. Composite reliability, often referred to as omega reliability (McNeish, 2018) or construct reliability (Gefen et al., 2000), accounts for indicator loadings, making it a more robust measure. Values between 0.70 and 0.90 are considered acceptable, with values exceeding 0.90 potentially indicating redundancy (Hair et al., 2017). Composite reliability for this study, calculated using SmartPLS, showed values above 0.70 for all constructs, including government assistance (0.962), financial well-being (0.931), and digital well-being (0.962).

AVE assesses the variance captured by a construct relative to measurement error. A satisfactory AVE value of ≥ 0.50 indicates that a construct explains at least 50% of its indicators' variance (Fornell and Larcker, 1981). Constructs in this study achieved AVE values above 0.50, ensuring valid measures.

Indicator reliability evaluates the consistency of variables with their intended measures. Reflective indicators' loadings were assessed, with a recommended threshold of ≥ 0.708 (Hair et al., 2010). While loadings between 0.40 and 0.70 are considered for elimination if they improve composite reliability, all loadings in this study exceeded 0.708. This signifies that latent variables explained at least 50% of the indicators' variance.

The measurement model, assessed using SmartPLS, demonstrated satisfactory values for composite reliability, AVE, and indicator reliability across all constructs. **Table 1** outlines the results for CR, AVE, and loadings, confirming the model's validity and reliability. Consequently, it can be concluded that the constructs and measurement indicators in this study are robust, supporting the reliability and validity of the research model.

Table 1. Assessment of convergent validity.

Domain	Indicators	Loading	Cronbach Alpha	rho_A	Composite Realibility	AVE
Financial Well-Being	Indicator 1	0.743	0.916	0.964	0.931	0.658
	Indicator 2	0.737				
	Indicator 4	0.833				
	Indicator 4	0.813				
	Indicator 5	0.786				
	Indicator 6	0.719				
	Indicator 9	0.858				
	Indicator 10	0.865				

Table 1. (*Continued*).

Domain	Indicators	Loading	Cronbach Alpha	rho_A	Composite Realibility	AVE
	Indicator 10	0.835				
	Indicator 11	0.787				
	Indicator 12	0.881				
	Indicator 13	0.885				
Digital Well-Being	Indicator 14	0.900	0.945	0.948	0.952	0.643
	Indicator 15	0.755				
	Indicator 16	0.798				
	Indicator 17	0.864				
	Indicator 18	0.774				
	Indicator 4	0.896				
	Indicator 5	0.933				
Government Assistance	Indicator 6	0.930	0.951	0.953	0.962	0.837
	Indicator 7	0.910				
	Indicator 8	0.904				

Discriminant validity is the extent to which indicators differentiate across constructs or evaluate different concepts by investigating the correlations between the measures of potentially overlapping (Ramayah et al., 2018). It is the degree to which a construct is in fact different from the other constructs (Taylor and Geldenhuys, 2019). In other words, discriminant validity examines whether the constructs under investigation that are supposed to be unrelated, in fact, unrelated and distinct from one another. For this study, there are two types of criteria that are available to measure discriminant validity, namely Fornell and Larcker's criterion, and Heterotrait-Monotrait ration of correlations (HTMT).

Fornell and Larcker (1981) suggested that the construct's AVE should be greater than the square correlation between the construct and all other variables, or the square root of AVE on the diagonal should be greater than the correlation on the offdiagonal. In simpler words, a latent variable should elucidate and explain better the variance on its own indicators, compared to the variance of other latent variables. According to the findings in **Table 2**, all of three variables or constructs have achieved satisfactory result for Fornell and Larcker's Criterion. This indicates the square root of AVE of each construct is larger than the correlation with the other constructs. Thus, discriminant result is achieved.

Table 2. Summary of fornell-lacker's criterion.

	Financial Well-Being	Digital Well-Being	Government Assistance
Financial Well-Being	0.811		
Digital Well-Being	0.143	0.802	
Government Assistance	0.263	0.541	0.915

There are criticisms on the application of Fornell and Larcker's Criterion (1981) to identify and detect discriminant validity. For this reason Henseler et al. (2015)

proposed an alternative method called "Heterotrait-Monotrait Ratio of Correlations (HTMT), which is the ratio of correlations within the constructs to correlations between the constructs. There are two methods to apply HTMT approach to measure discriminant validity. First and foremost, a HTMT value higher than 0.85 (HTMT0.85) (Kline, 2015) or HTMT value higher than 0.90 (HTMT0.90) (Gold et al., 2001) indicates there is an issue of discriminant validity. Second, when HTMT approach is used as a statistical test and the confidence interval of HTMT values for the structural paths contain the value of 1, this shows that there is a lack of discriminant validity (Henseler et al., 2015). In contrast, if the value of 1 falls outside the interval's range, it can be said that the two constructs are empirically different. In a nutshell, when 90% bootstrap confidence interval of HTMT does not contain the value of 1, discriminant validity is established (Ramayah et al., 2018). Discriminant validity with the HTMT criterion suggested by Henseler et al. (2015) was assessed. The stricter criterion for HTMT values is that it should be ≤ 0.85 (Kline, 2015) and the lenient criterion is that it should be ≤ 0.90 (Gold et al., 2001). Based on the findings in **Table 3**, all the values fulfil the criterion of HTMT0.85 and HTMT0.90. All the HTMT values were less than the stricter criterion of ≤ 0.85 and it can be concluded that the respondents understood that the three variables or constructs are different, thus discriminant validity has been ascertained. In brief, both convergent and discriminant validity test have shown that the measurement items in this research study are both reliable and valid.

Table 3. Summary of heterotrait-monotrait ratio of correlations (HTMT).

	Financial Well-Being	**Digital Well-Being**	**Government Assistance**
Financial Well-Being			
Digital Well-Being	0.133		
Government Assistance	0.257	0.559	

4.4. Assessment of structural model

After satisfying prerequisites of measurement model analysis, assessment of the structural model is proceed. Evaluation of structural model is necessary to determine the capability of the model in predicting one or more target constructs. (Hair et al., 2017). Assessment of structural model to examine collinearity issues Collinearity must first be assessed before examining the structural relationships to ensure it does not bias the regression results. The VIF values are used as the rule of thumb to assess collinearity issue. Specifically, a VIF value of 5 or higher indicates potential collinearity problem among predictor constructs (Hair et al., 2011). A stricter criterion is suggested by Diamantopoulos and Siguaw (2006) where a VIF value of 3.3 or higher indicates a potential collinearity issue as collinearity issue can also take place at lower VIF. Ideally, a VIF value should be close to 3 and below (Hair et al., 2019). In this study, the VIF results for each variable or construct is between 1.000 to 1.075; hence it does not enherit collinearity issue.

Then, it is essential for researchers to determine the statistical significance and relevance. PLS-SEM does not presume data normality (Joo and Koo, 2017) and the tvalues will be inflated or deflated which will lead to Type 1 error if the data is not normal (Ramayah et al., 2018). Hence, bootstrapping procedure is necessary to be

conducted. Bootstrapping involves repeatedly taking samples from the original sample with replacement and then calculating relevant statistic on each resample (Hindley, 2017). Bootstrapping is necessary for hypothesis testing to find out the standard errors which subsequently give approximate *t*-values for significance testing of the structural path. After assessing the statistical significance of indicators' loadings, it is essential to observe the path coefficients which represent the hypothesized relationships that associated to the constructs. The path coefficient ranges from −1 to +1, where coefficient closer to −1 showing strong negative relationships while closer to +1 representing strong positive relationships. Path coefficient should be at least at the significance level of 0.05 (Hair et al., 2017) and the critical values for different significance levels are presented in **Table 4**. Meanwhile, **Figure 7** exhibits the path coefficient diagram of the variables or constructs in the study. The results indicate that the coefficient of government assistance to digital well-being is 0.541 and the relationship is significant at 0.00 level. The coefficient of government assistance to financial well-being is 0.263 and the relationship is significant at 0.00 level. Hence, the government assistance was directly significant in influecing the respondents' digital well-being and financial well-being during the pandemic COVID-19 and MCO. However, the coefficient of digital well-being to financial well-being is merely 0.001 and the relationship is also not significant.

Table 4. Summary of path coefficent and significance.

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	*p* Values
Financial Well-Being → Digital Well-Being	0.001	0.001	0.049	0.011	0.99
Government Assistance → Digital Well-Being	0.541	0.542	0.045	11.926	0.00
Government Assistance → Financial Well-Being	0.263	0.27	0.048	5.513	0.00

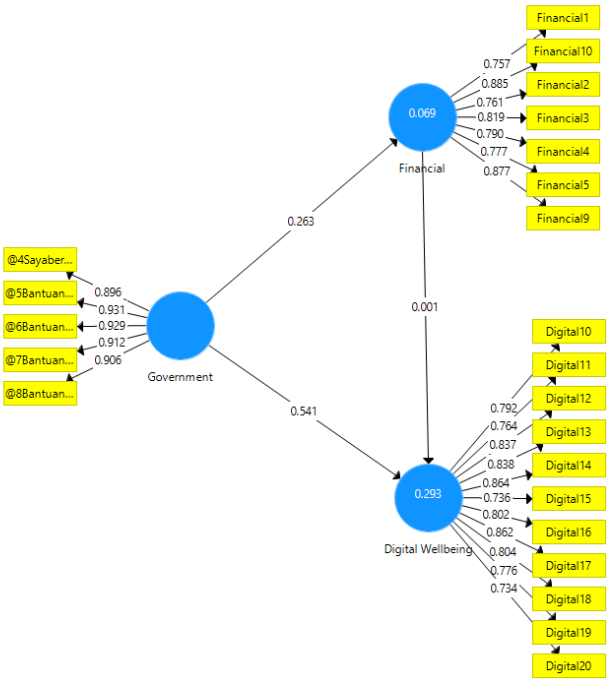

Figure 7. Path coefficient and coefficient determination diagram.

4.5. Coefficient determination (R^2)

The R^2 value is explained through the overall variance of the dependent variable or endogenous variables that could be explained by independent variables (Nakagawa et al., 2017). Values of R^2 range from 0 to 1, where greater values signifying a greater predictive accuracy and explanatory power (Hair et al., 2019).Therefore, a higher R^2 value indicates that the ability to indicate on a larger structured mode. If the R^2 value that is above 0.67, it can be considered large value, 0.33 and above can be considered medium and if the value is less than 0.19, it can be considered as low. In obtaining the R^2 value, this research exploits the functions of SmartPLS Algorithm and SmartPLS Bootstrapping in gaining the t-statistical value. Bootstrapping is a technique that tests the significance of estimated path coefficient where subsamples are created from the original data set in estimating the PLS path model typically up to 5000.

This research model consists of a dependent variable which is known as the exogenous variable which is Digital Wellbeing. The results show that the R^2 value for Digital Wellbeing is 0.293 which means that 29.3 per cent of the total model accounts the amount of variance in the observed independent variable. Other results of value which consist of Financial is 0.07, indicating that 7 percent of the total model accounts the amount of variance in the observed independent variable

4.6. Blindfolding test (predictive relevance (Q^2)

Predictive Relevance (Q^2) method can be implemented using Stone-Geisser's method. It is the dominant measurement method in determining the degree of predictability of the associated model. If the Q^2 value is greater than 0, it indicates that the exogenous construct is suitable in making a prediction on the endogenous construct. The Q^2 values indicates that the range is between 0.039 to 0.177. The results show that all Q^2 value is above 0 and it shows that for this study, all endogenous construct is in accordance with the prediction. Therefore, the overall prediction level of this study is accepted.

4.7. Effect size (f^2)

There is another important measurement in testing the structured model which is effect size (f^2). The f^2 value indicates the degree of impact between exogenous constructs on endogenous constructs. According to Ramayah et al. (2018), the guidance is given in assessing the impact of f^2 values are; if the value is less than 0.02, it can be considered as small, 0.15 and above is medium and 0.35 can be considered as large. In addition to the hypothesis testing, f^2 test has been conducted using SmartPLS algorithm procedure. The findings on SmartPLS algorithm found that the effect size of government assistance to digital well-being or f^2 is 0.386 and is considered as large. The f^2 is 0.075 or the effect size of government assistance to financial well-being is considered as small.

4.8. Importance-performance map analysis

The study also carried out the importance-performance map analysis (IPMA) or also called importance-performance matrix, impact-performance map, or priority map analysis. The IPMA is a useful analysis approach in PLS-SEM that extends the

standard results reporting of path coefficient estimates by adding a dimension that considers the average values of the variable scores. More precisely, the IPMA contrasts the total effects, representing the independent variables' importance in shaping a certain dependent variables, with the average scores indicating the performance (Fornell et al., 1996; Martilla and James, 1977; Slack, 1994). The goal is to identify independent variables that have a relatively high importance for the dependent variable (i.e., those that have a strong total effect), but also have a relatively low performance (i.e., low average scores). Besides, IPMA may be used to improve the robustness of the results, as demonstrated by Ringle and Sarstedt (2016).

In the analysis, the importance-performance map shows that the government assistance has a relatively high performance of 58.233. In comparison with the financial well-being with the score 27.894, which is below average. Therefore, a one-unit increase in government assistance's performance, would increase the digital well-being by 0.521 points. Hence, when policy makers and regulators aim at increasing the performance of the digital well-being, the first priority should be to improve the performance of indicators captured by government assistance, as this construct has the highest (above average) importance, and the highest performance. Aspects related to financial well-being follows as a second priority.

Overall, the empirical analysis shows that government assistance is important for improving the digital well-being and financial well-being of urban B40 families. The government's role through initiatives or programs carried out by ministries, departments or agencies is very important and significant in efforts to improve the socioeconomics of the urban B40 group from a digital and financial aspect in coping with the impact of the COVID-19 pandemic and movement control orders as well as in the phases of socioeconomic recovery and redevelopment of the group. The findings of this study related to the significant role of government aid are in line with the findings and conclusions of researchers such as Hasan et al. (2022), Ibrahim and Othman (2022), Ibrahim et al. (2022), Izhar et al. (2021), KRI (2021), Mohd Tarip et al. (2021) and UNICEF and UNFPA (2020). While in the context of improving the well-being of B40 families who live in PPR areas in cities, the call for a more active government role has been emphasized by researchers such as Awang Besar et al. (2018), Mohd Salleh and Ahmad Latiffi (2021), Tajudin and Awang Besar (2021), and Zawawi et al. (2019).

The findings about family financial well-being also provided additional perspective. A study by Barrafrem et al. (2020) examined the impact of pandemic Covid-19 on household financial well-being in Sweden and England. The study revealed that in general, families are optimistic that the household economy is better than the country and global economy. Besides, the pessimistic overview about families' financial well-being is driven by financial ignorant behaviour.

Systematic, focused, and planned distribution of aid by the government can not only improve the digital well-being and financial well-being of urban B40 families, but will even be able to restore the well-being of the family institutions of the group in question, which is in the process of recovery after struggling with the COVID-19 pandemic and movement control orders, resulting in various effects or negative impacts, as voiced by Othman (2021).

5. Limitations, recommendations, contributions and conclusions

5.1. Limitations of the study

There are several limitations inherited in this study:

- First, this study is cross-sectional. Then the feedback received from the respondents is influenced by the situation or condition when the data collection process ends. It is possible that some responses were formed by the perception of major events that happen at the national level.
- Besides, the respondents involved families living in the PPR area in the Federal Territory of Kuala Lumpur. There is another public housing area called Perumahan Awam (PA) which is not involved in this survey.
- Then, this study excluded other B40 vulnerable groups in urban areas such as people with disabilities, traditional village residents, homeless groups, hawkers, and small traders.

5.2. Recommendation for management, public policy, research, academia

As a result of this study, several recommendations were made for the purpose of improving policies and practices. These recommendations are as follows:

1) The rebranding of government aid programs starts with data transparency

Efforts to ensure financial stability and well-being as well as digital well-being of urban B40 families through the rebranding of government assistance schemes should begin with data transparency. Currently there is no comprehensive database related to the urban B40 family, even similar data or information is managed by various agencies and government bodies such as Pusat Pungutan Zakat (PPZ), Islamic Religios Council of Federal Territory of Kuala Lumpur, Kuala Lumpur City Hall, National Housing Department, District Education Office, State Education Department, Ministry of Education, the Employees' Provident Fund, the Social Security Organization, Welfare Department, Economic Planning Unit, Prime Minister's Department, Inland Revenue Board and the Ministry of Finance. In order to materialise transparent aid distributions, the authorities must speed up the process of whitening and empowering related data, to enable government aid schemes to be carried out in a targeted, focused, and systematic manner.

2) Offering a comprehensive digital empowerment package

For strengthening of digital well-being to face future surprises, the B40 urban family digital empowerment program can be started by offering a comprehensive package covering digital gadgets or devices together with an affordable package to access the internet along with modules to build competency or digital skills. Currently, efforts or digital assistance are not comprehensive. Moreover, Lim (2020) in the ILO report highlighted that investing and leveraging in the digital economy is a must in order to prepare the vulnerable communities for future similar shock or crisis.

3) Reform of social protection and security programs

Next, in order to build resilience and ensure the financial well-being of urban B40 families in order to deal with future challenges, efforts to reform social security and protection programs are strengthened. It is appropriate for a form of law enforcement or affirmation to be introduced to obligate Employees Provident Fund (EPF)

contributions and employment protection or employment insurance under Social Security Organization (SOCSO) covering workers in the informal sector, hawkers and small traders, freelancers, workers in the gig economy sector etc. *p*-hailing and *e*-hailing) which is synonymous with the urban B40 family.

4) Future research

For future studies, a longitudinal study to comprehensively assess the impacts of the COVID-19 pandemic and the MCO on urban B40 families, as well as the mitigation that needs to be done to deal with these impacts. Besides, future comparative study may involve other B40 vulnerable groups in urban area or urban B40 groups in other states.

5.3. Contributions

For the first contribution, the analysis found that the relationship of government assistance towards financial well-being is positively significant. Secondly, the study found that the relationship of government assistance towards digital well-being is positively significant. However, the examination found that the relationship of financial well-being and digital well-being is not significant. Nevertheless, the extended analysis of IPMA reveals the higher importance of government assistance than financial well-being towards digital well-being of B40 family in urban area in dealing with health and economic crisis. Hence, the study contributes by solidifying the essential of government programs to alleviate the well-being of small household income families in urban area financially and digitally in the context of emerging economies.

Malaysia's experience in ensuring financial well-being and digital well-being during the COVID-19 pandemic offers valuable lessons to the international community, particularly for countries seeking to mitigate the impact of crises while fostering resilience. In the context of financial well-being, a multi-pronged approach targeting direct cash aid, employment protection, and debt relief can effectively support financial well-being during crises. Besides, in ensuring inclusivity, especially for marginalized groups, the international communities or government shall enhance the reach and equity of financial relief efforts or engaging public-private partnerships for the swift deployment of financial assistance. In addition, offering and designing of conditional or unconditional cash transfer programs as crisis relief measures is essential for balancing immediate needs with long-term financial sustainability. Meanwhile, in the context of digital well-being, investing in digital infrastructure and equitable access ensures that vulnerable groups can participate in remote education and work. Additionally, promoting digital financial tools helps integrate underserved populations into the formal economy and enhances financial resilience. Moreover, a robust e-government framework supports service continuity during disruptions and builds trust in digital solutions, as well as fostering digital literacy empowers individuals to leverage technology for education, work, and entrepreneurship, particularly among vulnerable and marginalized groups.

Malaysia's dual focus on financial and digital well-being during the COVID-19 pandemic provides a roadmap for other nations. By combining financial aid with digital access and skills, Malaysia not only addressed immediate needs but also laid

the groundwork for long-term resilience. These strategies highlight the importance of inclusivity, adaptability, and digital transformation in managing crises and ensuring sustainable recovery.

6. Conclusions

This study has explained that the COVID-19 pandemic and MCO have clearly affected the urban B40 family in terms of financial well-being and digital well-being. Although there is government assistance to reduce the negative impact, the crisis highlights the challenges related to preparedness for future shock. Looking from a more positive point of view, borrowing the statement of the Chief of Staff of the White House during the Obama presidency who later became the Mayor of Chicago, Rahm Emanuel—"Never let a serious crisis go to waste", became a guideline and encouragement to various policy makers, government agencies and authorities, various stake holders and all citizens to redraw a social protection policy, system and mechanism that includes aspects of better financial well-being and digital well-being, which is more inclusive, more equitable, and more sustainable.

Author contributions: Conceptualization, ASAS and NMY; methodology, AMAS; software, AMAS; validation, ASAS, NMY, and AMAS; formal analysis, AMAS; investigation, ASAS; resources, ASAS and NMY; writing—original draft preparation, ASAS; writing—review and editing, ASAS and NMY; visualization, NMY; supervision, ASAS; project administration, NMY; funding acquisition, NMY. All authors have read and agreed to the published version of the manuscript.

Acknowledgments: The team acknowledges and expresses gratitude for the assistance of research funding from the Malaysian's National Population dan Family Development Board (NPFDB) towards the completion of the research.

Conflict of interest: The authors declare no conflict of interest.

References

Abdul Hamid, H., & Khalidi, J. R. (2020). COVID-19 and unequal learning. Kuala Lumpur, Malaysia: Khazanah Research Institute.

Alarcón, D., & Sánchez, J. A. (2015). Assessing convergent and discriminant validity in the ADHD-R IV rating scale: User-written commands for Average Variance Extracted (AVE), Composite Reliability (CR), and Heterotrait-Monotrait ratio of correlations (HTMT). In: Proceedings of the Spanish STATA Meeting; 2015; Madrid, Spain.

Awang Besar, J., Ali, M., Yew, V. W. C., et al. (2018). Socioeconomic and political impacts of the Subang Valley Public Housing Program, Selangor (Indonesian). Akademika, 88(1), 181–192. https://journalarticle.ukm.my/12584/1/23660-69403-1-PB.pdf

Baboo, S. B. (2013). Media literacy in the lifeworlds of Malaysian children. Global Studies of Childhood, 3(1), 72–85. https://doi.org/10.2304/gsch.2013.3.1.

Bakhsh, M., Mahmood, A., Sangi, N. A., et al. (2019). M-Learning Acceptance Among Faculty and Students in Pakistan. Structural Equation Modeling Approaches to E-Service Adoption, 187–221. https://doi.org/10.4018/978-1-5225-8015-7.ch011

Borraz-Mora, J., Bordonaba-Juste, V., & Polo-Redondo, Y. (2017). Functional barriers to the adoption of electronic banking: The moderating effect of gender. Revista de Economia Aplicada, 25(75), 87-107. https://www.redalyc.org/pdf/969/96954075004.pdf

Bureau, C. F. P. (2017). What is a payday loan. June.

Burr, C., Taddeo, M., & Floridi, L. (2020). The Ethics of Digital Well-Being: A Thematic Review. Science and Engineering Ethics, 26(4), 2313–2343. https://doi.org/10.1007/s11948-020-00175-8

Chen, H. S., Tsai, B. K., & Hsieh, C. M. (2018). The Effects of Perceived Barriers on Innovation Resistance of Hydrogen-Electric Motorcycles. Sustainability, 10(6), 1933. https://doi.org/10.3390/su10061933

Diamantopoulos, A., & Siguaw, J. A. (2006). Formative Versus Reflective Indicators in Organizational Measure Development: A Comparison and Empirical Illustration. British Journal of Management, 17(4), 263–282. Portico. https://doi.org/10.1111/j.1467-8551.2006.00500.x

Ferrari, A. (2013). DIGCOMP: A framework for developing and understanding digital competence in Europe. Luxembourg: Publications Office of the European Union.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Journal of Marketing Research, 18(1), 39–50. https://doi.org/10.1177/002224378101800104

Fornell, C., Johnson, M. D., Anderson, E. W., et al. (1996), The American customer satisfaction index: nature, purpose, and findings. Journal of Marketing, 60(4), 7–18. https://doi.org/10.1177/002224299606000403

Ganjouei, F. A., Hamid, A. B., & Sukati, I. (2018). Supply chain integration in Iranian pistachio industry: Intrapreneurship, information technology and firm performance perspective. Singapore: Partridge Publishing Singapore.

Gefen, D., Straub, D., & Boudreau, M. C. (2000). Structural Equation Modeling and Regression: Guidelines for Research Practice. Communications of the Association for Information Systems, 4. https://doi.org/10.17705/1cais.00407

Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge Management: An Organizational Capabilities Perspective. Journal of Management Information Systems, 18(1), 185–214. https://doi.org/10.1080/07421222.2001.11045669

Hair, J. F., Babin, B. J., & Krey, N. (2017). Covariance-Based Structural Equation Modeling in the Journal of Advertising: Review and Recommendations. Journal of Advertising, 46(1), 163–177. https://doi.org/10.1080/00913367.2017.1281777

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis: A global perspective, 7th ed. Harlow, Essex: Pearson Education Limited.

Hair, J. F., Hult, T. M., Ringle, C., & Sarstedt, M. (2017). A primer on partial least square structural equation modeling (PLS-SEM), 2nd ed. Thousand Oaks, CA: Sage Publications.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. Journal of Marketing Theory and Practice, 19(2), 139–152. https://doi.org/10.2753/mtp1069-6679190202

Hair, J. F., Risher, J. J., Sarstedt, M., et al. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24. https://doi.org/10.1108/ebr-11-2018-0203

Hamdan, N. H., Kassim, S., & Lai, P. C. (2021). The COVID-19 pandemic crisis on micro-enterpreneurs in Malaysia: Impact and mitigation approach. Journal of Global Business and Social Entrepreneurship, 7(20), 52–64. http://www.gbse.my/V7%20NO.20%20(JANUARY%202021)/Paper-263-.pdf

Hasan, A., Jamalolail, F. N., Abd Rahman, A., et al. (2022). The Effect of COVID-19 Pandemic on Malaysia's Economic Trajectory (Indonesian). International Journal of Interdisciplinary and Strategic Studies, 3(4), 206–216. https://doi.org/10.47548/ijistra.2022.55

Henseler, J., Ringle, C. M., & Sarstedt, M. (2014). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Hindley, D. (2017). Claims Reserving in General Insurance. Cambridge University Press. https://doi.org/10.1017/9781139924696

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. Strategic Management Journal, 20(2), 195–204. https://doi.org/10.1002/(SICI)1097-0266(199902)20:2<195::AID-SMJ13>3.0.CO;2-7

Ibhrim, Z., Muda, Z., Zur Raffar, I. N., et al. (2022). The Impact of the COVID-19 Pandemic on the Economic Welfare of B40 House Contents: A Pioneering Study (Indonesian). International Journal of Accounting, Finance and Business, 7(39), 39–52. https://academicinspired.com/ijafb/article/view/397

Ibrahim, N. S. S., & Othman, N. (2022). The Factor of Digital Poverty among Students on Learning Achievement during the Covid-19 Pandemic (Indonesian). Malaysian Journal of Social Sciences and Humanities (MJSSH), 7(8), e001653. https://doi.org/10.47405/mjssh.v7i8.1653

Iivari, N., Sharma, S., & Ventä-Olkkonen, L. (2020). Digital transformation of everyday life—How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care? International Journal of Information Management, 55, 102183. https://doi.org/10.1016/j.ijinfomgt.2020.102183

Izhar, M. F., Abd Rahman, I., & Aziz, A. (2021). COVID-19 Pandemic: The Malaysian Government's Approach in Managing National Security. International Journal of Law, Government and Communication, 6(26), 23–38. https://doi.org/10.35631/ijlgc.626003

Jabatan Perumahan Negara (2017). Community welfare assessment of Public Housing Program (PPR) (Indonesian). Laporan Kajian. Putrajaya, Malaysia: Kementerian Perumahan dan Kerajaan Tempatan

Joo, S., & Koo, J. (2017). Effects of congruence and reliability of a cause alliance campaign on consumer responses toward a sport brand and a sponsoring brand: A strutured abstract. In: Proceedings of the 2016 Academy of Marketing Science (AMS) Annual Conference; 2017; Bayreuth, Germany.

Jusoh, N., Abd Samad, K., Nik Mohd Masdek, N.R., et al. (2020). Does income shock during COVID-19 make any difference on consumption among Malaysian household. International Journal of Academic Research in Economics and Management Sciences, 9(3), 21–30. http://dx.doi.org/10.6007/IJAREMS/v9-i3/8007

Khazanah Research Insitute (KRI). (2021). Riding out the storm: Toward social protection affordability in Malaysia (Indonesian). Kuala Lumpur, Malaysia: KRI.

Khazanah Research Institute (KRI). (2018). The State of Households 2018: Different Realities. Kuala Lumpur: Khazanah Research Institute.

Kline, R. B. (2015). Principles and practice of structural equation modeling, 4th ed. New York: Guilford Publications.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30(1), 607–710. https://doi.org/10.1177/001316447003000308

Lim, L. L. (2020). The socioeconomic impacts of COVID-19 in Malaysia: Policy review and guidance for protecting the most vulnerable and supporting enterprises. Kuala Lumpur, Malaysia: International Labour Organisation (ILO).

Martilla, J. A., & James, J. C. (1977). Importance-Performance Analysis. Journal of Marketing, 41(1), 77–79. https://doi.org/10.1177/002224297704100112

McNeish, D. (2018). Thanks coefficient alpha, we'll take it from here. Psychological Methods, 23(3), 412–433. https://doi.org/10.1037/met0000144

Megat Muzafar, P. M., & Kunasekaran, T. (2020). The impact of COVID-19 on the urban poor: three major threats—money, food and living conditions. Kuala Lumpurm Malaysia: Khazanah Research Institute.

Mohamed, S., Wok, S., Wan Ghazali, W. N., & Mohd Nasir, N. S. (2021). Investigating the level of digital literacy among children of B40 income earners: Focusing on children living in the Pusat Perumahan Rakyat (PPR). Research Report. Cyberjaya, Selangor: Suruhanjaya Komunikasi dan Multimedia Malaysia (SKMM)

Mohd Salleh, N. A. S., & Ahmad Latiffi, A. (2021). Study of residents' satisfaction with the quality of public housing program (PPR) housing (Indonesian). Research in Management of Technology and Business, 2(2), 685–698. https://publisher.uthm.edu.my/periodicals/index.php/rmtb/article/view/5002

Mohd Tarip, M. H. D., Said, M. M., Mohd Ramli, R., et al. (2021). Impak pandemik COVID-19 terhadap golongan B40. Journal of Social Sciences and Humanities, 18(8), 54–65. https://doi.org/10.17576/akad-2023-9303-04

Mseleku, Z. (2020). A Literature Review of E-Learning and E-Teaching in the Era of COVID-19 Pandemic. International Journal of Innovative Science and Research Technology, 5(10), 588–597. https://ijisrt.com/assets/upload/files/IJISRT20OCT430.pdf

Nakagawa, S., Johnson, P. C. D., & Schielzeth, H. (2017). The coefficient of determinationR2and intra-class correlation coefficient from generalized linear mixed-effects models revisited and expanded. Journal of The Royal Society Interface, 14(134), 20170213. https://doi.org/10.1098/rsif.2017.0213

Neuman, W. L. (2007). Basics of social research: Qualitative and quantitative approaches. Boston, MA: Pearson Allyn and Bacon.

Nunally, J., & Bernstein, I. (1994). Psychometric theory. New York: McGraw Hill.

Othman, K. (2021). Cabaran and the impact of the COVID-19 pandemic on family institutions in Malaysia (Indonesian). International Journal for Studies on Children, Women, Elderly and Disabled, 14(12), 187-196. http://dx.doi.org/10.6007/IJARBSS/v14-i1/18828

Padilla, M. A., & Divers, J. (2015). A Comparison of Composite Reliability Estimators. Educational and Psychological Measurement, 76(3), 436–453. https://doi.org/10.1177/0013164415593776

Ramayah, T., Cheah, J., Chuah, F., et al. (2018). Partial least squares structural equation modeling (PLS-SEM) using SmartPLS 3.0. Kuala Lumpur: Pearson Malaysia Sdn Bhd.

Ringle, C. M., & Sarstedt, M. (2016). Gain more insight from your PLS-SEM results. Industrial Management & Data Systems, 116(9), 1865–1886. https://doi.org/10.1108/imds-10-2015-0449

Sazali, N. T., & Gen, T. Z. (2019). The demise of formal employment?—A literature update on informality. Kuala Lumpur, Malaysia: Khazanah Research Institute.

Sekaran, U. (2000). Research methods for business: A skill-building approach. New York, NY: John Wiley & Sons.

Sekaran, U., & Bougie, R. (2016). Research methods for business: A skill building approach. Chichester, West Sussex: John Wiley & Sons.

Sijtsma, K. (2009). On the Use, the Misuse, and the Very Limited Usefulness of Cronbach's Alpha. Psychometrika, 74(1), 107–120. https://doi.org/10.1007/s11336-008-9101-0

Slack, N. (1994). The Importance-Performance Matrix as a Determinant of Improvement Priority. International Journal of Operations & Production Management, 14(5), 59–75. https://doi.org/10.1108/01443579410056803

Tajudin, N., & Awang Besar, J. (2021). Community perceptions of the welfare foundation during the pandemic among vulnerable communities in Kota Damansara, Selangor (Indonesian). Jurnal Wacana Sarjana, 5(5), 1–15. https://spaj.ukm.my/jws/index.php/jws/article/view/439

United Nations Childrens' Fund, Malaysia (UNICEF) and the United Nations Population Fund (UNFPA). (2020). Families on the edge. Kuala Lumpur, Malaysia: zawa and UNFPA.

United Nations Educational, Scientific and Cultural Organization (UNESCO). (2019). Digital Kids Asia-Pacific: Insights into children's digital citizenship. Bangkok, Thailand: UNESCO.

Urbach, N., & Ahlemann, F. (2010). Structural equation modeling in information systems research using partial least squares. Journal of Information Technology Theory and Application, 11(2), 5–40. https://aisel.aisnet.org/jitta/vol11/iss2/2

Werts, C. E., Linn, R. L., & Joreskog, K. G. (1974). Intraclass reliability estimates: Testing structural assumptions. Educational and Psychological Measurement, 34(1), 25–33. https://doi.org/10.1177/001316447403400104

Zainol, S. S., Mohd Hussin, S., Othman, M. S., & Mohd Zahari, N. H. (2021). Challenges of online learning faced by the B40 income parents in Malaysia. International Journal of Education and Pedagogy, 3(2), 45–52. https://myjms.mohe.gov.my/index.php/ijeap/article/view/13767

Zawawi, A., Azizan, I. S., Muhamad Hakimi, I. N., et al. (2019). Case study: Socio-economics of the residents of projek perumahan rakyat (PPR) Paya Nahu, Sungai Petani, Kedah (Indonesian). Voice of Academia, 15(3), 505-8. https://ir.uitm.edu.my/id/eprint/35265/