

Journal of Wealth Management & Financial Planning



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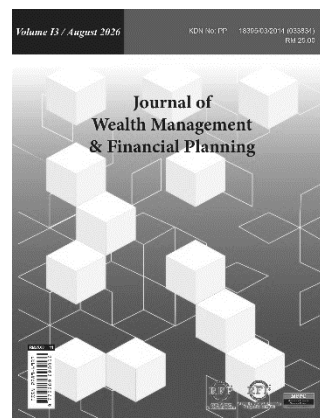
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Editor-in-Chief's Note

It is with great pleasure that I present to you the thirteen (13th) editions of the Journal of Wealth Management & Financial Planning (JWMFP). This edition marks another milestone for the journal as we continue to expand our editorial board and receive an increasing number of high-quality manuscripts. With these developments, we remain committed to ensuring that the journal adheres to the stringent standards required for MyCite and SCOPUS indexing.

This issue of JWMFP features a dynamic range of articles that offer valuable insights into the evolving landscape of wealth management and financial planning. Among the original research contributions, readers will find a comparative study of Malaysia's *Belanjawan* Reference Budget across 2019 and 2022–2023, as well as a bibliometric analysis tracing the evolution of financial literacy research in Asia from 2000 to 2023. Another significant piece examines legal awareness as a driver of estate planning intention among Malaysian Indians, while a conceptual framework explores Zakat in programmable economics and its implications for digital wealth and financial planning.

In our “News and Views” section, we highlight pressing issues in digital financial behavior. One article, *When Convenience Becomes Commitment*, addresses the risks of over-indebtedness and the need for stronger digital financial literacy in the context of Buy Now, Pay Later schemes. Complementing this is *When AI Starts Spending for Us*, which raises thought-provoking questions about the shift from financial literacy to delegation literacy in an era of artificial intelligence.

To conclude this edition, we are pleased to include two compelling book reviews. *A Date with Money* offers a reflective perspective on personal finance, while *Islamic Finance and Climate Agenda* explores the intersection of green sukuk innovation and sustainable halal value chains.

My heartfelt thanks go to all the contributors, authors, and reviewers whose efforts have made this edition possible. Together, we continue to elevate this publication to greater heights. I trust you will find value in this issue and, as always, I welcome your feedback and suggestions.

Until the next edition, enjoy the read!

Prof. Dr. Mohamad Fazli Sabri
Editor-in-Chief

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Comparing Belanjawanku/Malaysia Reference Budget 2019 and 2022–2023

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Abstract

Reference budgets provide a structured benchmark for household financial planning, but comparisons across editions require consistent household definitions, expenditure coverage and calculation procedures. This study compares Belanjawanku 2019 with Belanjawanku 2022/2023, focusing on published monthly budget estimates for the Klang Valley. A descriptive documentary approach is used to examine methodological differences, recalculate expenditure changes and compare household profiles. The analysis covers six household categories available in both editions and reports three additional categories separately for 2022/2023. Total monthly budgets, including savings where allocated, increased by 3.21% for single public-transport users, 4.42% for single car owners, 4.75% for married couples without children, 4.36% for married couples with one child, 4.08% for married couples with two children and 3.88% for senior couples. Food and housing account for much of the increase among working-age household categories, partly offset by lower transport allocations. In 2022/2023, the monthly budgets for single parents with one and two children were RM4,740 and RM5,650, respectively, while the budget for a senior single was RM2,520. These figures describe reference household types rather than expenditure trajectories of the same households over time. Edition-to-edition differences cannot be attributed solely to inflation, recession or the COVID-19 pandemic because basket specifications, pricing and household assumptions may also differ. The study clarifies the interpretation of Belanjawanku as a planning benchmark and highlights the need to adapt its assumptions to individual circumstances before assessing affordability or financial resilience.

Keywords: Belanjawanku; reference budget; household expenditure; financial planning; financial literacy; Malaysia

Introduction

Households must allocate limited financial resources across daily needs, debt commitments, savings and longer-term goals. These decisions become more difficult when income is uncertain or the costs of essential goods and services change. A reference budget can help households organise these competing demands by identifying the goods, services and financial allocations associated with a specified standard of living. Its usefulness depends on

understanding both the amounts presented and the assumptions underlying them.

Belanjawanku is an expenditure guide developed through collaboration between the Employees Provident Fund (EPF/KWSP) and the Social Wellbeing Research Centre (SWRC), Universiti Malaya. The first edition was launched in March 2019 and focused on the Klang Valley (EPF, 2019). The 2022/2023 edition provides estimates for the Klang Valley and 11 additional cities. Its budgets extend

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beyond basic consumption to include social participation, discretionary expenditure and savings for applicable household categories (SWRC, 2019, 2023). These are reference allocations for particular household circumstances, rather than universal spending limits or observed average expenditures for all Malaysians.

Comparing editions can reveal which published allocations have changed and how budget requirements differ across household types. However, a change in a reference budget is not automatically a measure of inflation. It may reflect revised prices, quantities, product choices, household definitions or estimation procedures. Similarly, differences between a single adult, a family with children and a senior couple do not demonstrate how the spending of one household evolves over its lifetime. Maintaining these distinctions is necessary if the guide is to support sound financial advice.

This study addresses two research questions. First, how do the coverage, construction and published expenditure estimates of Belanjawanku 2019 and 2022/2023 differ? Second, how do the monthly reference budgets vary across single adults, married couples, single parents and seniors in the Klang Valley? The contribution is a transparent comparison of published estimates, with consistent treatment of savings, unavailable observations and percentage changes. The analysis is deliberately historical; it does not present the 2022/2023 figures as current expenditure recommendations.

Literature Review

Household Finance and Financial Literacy

Household finance examines interconnected decisions about consumption, saving, borrowing, insurance, housing and retirement. Gomes et al. (2021) emphasise the complexity and heterogeneity of these decisions, including the role of financial knowledge and the social environment. A household budget

therefore needs to be interpreted alongside income security, family responsibilities, existing assets and access to financial services. Similar expenditure totals may be associated with very different financial positions.

Financial literacy provides knowledge and skills relevant to managing these choices. Lusardi (2019) documents widespread gaps in understanding basic financial concepts and explains their implications for financial decision-making. A reference budget can translate some of these concepts into a practical discussion of spending priorities and future commitments. Nevertheless, providing a budget guide and demonstrating that it improves financial literacy are separate tasks. The present study assesses the guide's published estimates; it does not evaluate changes in users' knowledge or behaviour.

Financial Vulnerability and Resilience

Financial vulnerability concerns a household's difficulty meeting commitments or absorbing adverse events. Malaysian survey evidence associates vulnerability with financial and socioeconomic characteristics, including income, marital status, age and education (Daud et al., 2019). This perspective cautions against attributing financial hardship solely to poor budgeting. Income constraints and household responsibilities can limit the choices available even when individuals understand the principles of financial management.

Financial resilience also extends beyond a single measure of savings or debt. Salignac et al. (2019) conceptualise resilience through economic resources, access to financial products and services, financial knowledge and behaviour, and social capital. Reference budgets can inform an assessment of expenditure needs, but they do not directly measure these wider resources. Establishing resilience requires information about the household's ability to respond to disruptions, as well as its routine monthly spending.

Reference Budgets and Comparability

Reference budgets specify the resources needed for participation in a particular social and institutional setting. Penne et al. (2020) examine their use in assessing minimum-income adequacy, including the relevance of public services. Mäkinen (2021) demonstrates that reference budgets constructed for similar household types can nevertheless differ because of their information bases, selection criteria and pricing methods. These studies support examining the construction of a budget alongside its numerical totals.

For Belanjawanku, this implies that common category labels are only the starting point for comparison. Housing may represent a room rental, a mortgage-related allocation or another valuation convention; childcare depends on children's ages and care arrangements; and transport depends on assumed vehicle ownership and travel needs. Consequently, the present analysis reports differences in published reference allocations while explicitly limiting claims about price changes, affordability and household behaviour.

Data and Methodology

Research Design and Source Selection

The study uses a descriptive documentary comparison of two SWRC reports: Belanjawanku

2019: Reference Budget for Malaysians and Belanjawanku 2022/2023: Expenditure Guide for Malaysians. The 2019 values are taken from Table 15, "Reference Budget Estimates with Savings" (p. 39). The later values are taken from the Klang Valley rows of Tables 12–20 (pp. 57–65). These locations provide an explicit and reproducible basis for the numerical comparison. The original report tables, rather than secondary summaries, determine the values used here.

The geographical comparison is restricted to the Klang Valley, which appears in both editions. The additional cities in the later report are excluded from the numerical time comparison, preventing a change in the regional composition of the dataset from driving the reported differences. This restriction does not establish that all underlying price-survey locations or household assumptions are identical. The study neither collects new household observations nor reanalyses the original survey microdata.

Nine household categories are presented in the later edition, of which six have corresponding estimates in the 2019 report (Table 1). Single parents with one or two children and senior singles are reported as 2022/2023 profiles only. Their absence from the selected 2019 tables is treated as unavailable information, not as zero expenditure. No edition-to-edition percentage change is calculated for these categories.

Table 1

Household coverage in the two editions

Household category	2019	2022/2023	Two-edition comparison
Single: public transport	Available	Available	Yes
Single: car owner	Available	Available	Yes
Married: no children	Available	Available	Yes
Married: one child	Available	Available	Yes
Married: two children	Available	Available	Yes
Single parent: one child	—	Available	No
Single parent: two children	—	Available	No
Senior single	—	Available	No
Senior couple	Available	Available	Yes

Sources: SWRC (2019), Table 15, p. 39; SWRC (2023), Tables 12–20, pp. 57–65. — = no corresponding estimate in the selected 2019 table. Senior couple, rather than senior single, is the comparable older-household category.

Harmonisation and Calculations

Eleven categories are retained: food and non-alcoholic beverages, housing, utilities, transport, personal care, healthcare, childcare, ad hoc expenses, social participation, discretionary expenses and savings. Where the 2019 report separates public and private transport, rental and mortgage-related housing, or childcare by age group, the applicable entries are combined to match these headings. Subtotals are excluded from the addition to avoid double counting. Each total is checked against the sum of its component allocations.

Savings are included consistently when a source table allocates them. Accordingly, the total is termed a monthly reference budget rather than consumption expenditure alone. Allocations reported as monthly averages, including annual or irregular expenses, remain on that basis. All amounts are nominal Malaysian ringgit (RM) per household per month, except that a single-person household naturally contains one person.

For each matched household category and budget component, the percentage difference is calculated as:

$$\begin{aligned} & \text{Percentage change} \\ &= \frac{2022/2023 \text{ amount} - 2019 \text{ amount}}{2019 \text{ amount}} \quad (1) \\ &\times 100 \end{aligned}$$

The same calculation is applied to total budgets. Changes are rounded to two decimal places and represent the full difference between the editions, not

annual growth rates. A percentage is not calculated when the 2019 amount is zero or unavailable; an em dash is used instead. A zero monetary allocation is retained where explicitly shown in the source. For comparisons between household types within 2022/2023, the denominator is stated in the accompanying discussion. No statistical significance tests are performed because the analysis concerns published benchmark amounts rather than a sample-based estimator with reported sampling uncertainty.

Methodological Comparability

Both reports use household consultation and price information to construct reference budgets. Their methodological descriptions also reflect the development and expansion of the project over several waves. The 2022/2023 report describes follow-up telephone interviews, an online survey and interactive questionnaires for locations where face-to-face discussions were constrained. These procedures are described as surveys, interviews and interactive questionnaires in the report (SWRC, 2023, Chapter 5). A broader geographical scope does not, by itself, establish superior statistical validity.

The main comparability considerations are summarised in Table 2. In particular, the reports do not supply the matched item-level prices and quantities needed here to hold the basket constant. The analysis can decompose the total monetary difference into contributions from expenditure categories, but it cannot separate a pure price effect from changes in quantities, quality or estimation conventions.

Table 2

Comparability considerations for interpreting budget differences

Dimension	2019 report	2022/2023 report	Treatment in this study
Geography	Klang Valley	Klang Valley and 11 cities	Use Klang Valley only
Household coverage	Six budget categories	Nine budget categories	Compare six; report three separately
Data collection	Focus groups, questionnaires and price information	Multi-wave consultation, surveys, interviews and price information	Do not pool respondents or rank validity
Children's ages	Profile text: younger child aged 4 or below; childcare table: below 6	Younger child: birth to 6; older child: 7–13	Treat age alignment as imperfect
Housing	Room rental or household-specific housing valuation	Room rental or household-specific housing valuation	Common label does not guarantee identical valuation
Transport	Profile-specific public/private transport	Profile-specific public/private transport	Keep single transport groups separate
Savings	Separate allocations included in Table 15 totals	Separate allocations included in household totals	Include consistently; distinguish from consumption
Basket specification	Published category estimates	Updated category estimates	No constant-basket price index estimated

Sources: SWRC (2019), Chapters 5–8; SWRC (2023), Chapters 5–9. The 2019 report's age descriptions are not fully uniform, so exact age equivalence is not assumed. Differences are interpreted as changes in published reference allocations.

Results and Discussion

Coverage and Household Assumptions

The later edition expands the range of locations and household categories for which budget estimates are available. Within its Klang Valley description, the named Selangor districts are Gombak, Hulu Langat, Petaling, Klang, Kuala Langat and Sepang; six districts, alongside Kuala Lumpur and Putrajaya. The expansion improves the range of reference profiles available to users, although this study does not compare budgets across the additional cities.

Household assumptions are central to interpreting the results. Working-age single adults rent a room, whereas family profiles use a dwelling-level housing allocation. Married couples are assumed to own a car and a motorcycle; the later report specifies a car without a motorcycle for single parents. The younger-child and older-child assumptions determine childcare provision. The later report's healthcare basket includes routine private general-practitioner and

dental visits (SWRC, 2023, pp. 27–28, 33–34, 64). These assumptions describe reference cases rather than the full range of household circumstances.

Single-Person Households

Table 3 shows that the monthly budget for a single public-transport user increased from RM1,870 in 2019 to RM1,930 in 2022/2023, a rise of RM60 or 3.21%. For a single car owner, it increased from RM2,490 to RM2,600, a rise of RM110 or 4.42%.

Both profiles have identical food and housing increases: food rises by RM60, from RM550 to RM610 (10.91%), and housing by RM70, from RM300 to RM370 (23.33%). Utilities decline by RM10 (10.00%) in each profile. Transport differs substantially: the allocation for public-transport users falls from RM200 to RM140 (30.00%), whereas that for car owners falls from RM770 to RM760 (1.30%). All other displayed allocations remain unchanged. Thus, the larger transport reduction offsets more of the food and housing increase for public-transport users.

Table 3

Monthly reference budgets for single adults in the Klang Valley (RM)

Budget component	Public transport 2019	Public transport 2022/2023	Change (%)	Car owner 2019	Car owner 2022/2023	Change (%)
Food and non-alcoholic beverages	550	610	+10.91	550	610	+10.91
Housing	300	370	+23.33	300	370	+23.33
Utilities	100	90	-10.00	100	90	-10.00
Transport	200	140	-30.00	770	760	-1.30
Personal care	70	70	0.00	70	70	0.00
Healthcare	30	30	0.00	30	30	0.00
Childcare	0	0	—	0	0	—
Ad hoc expenses	90	90	0.00	140	140	0.00
Social participation	150	150	0.00	150	150	0.00
Discretionary expenses	130	130	0.00	130	130	0.00
Savings	250	250	0.00	250	250	0.00
Total including savings	1,870	1,930	+3.21	2,490	2,600	+4.42

Sources: SWRC (2019), Table 15, p. 39; SWRC (2023), Tables 12–13, pp. 57–58. Changes recalculated from displayed amounts. — = percentage undefined because the baseline is zero; it does not indicate missing expenditure in this table.

Within 2022/2023, the car-owner budget exceeds the public-transport budget by RM670, or 34.72% of the public-transport total. This difference comprises RM620 in transport and RM50 in ad hoc expenses. It illustrates the budget implications of the two assumed transport arrangements, but it does not establish that every household could save RM670 by switching modes. Actual feasibility depends on service access, journey requirements and existing vehicle commitments.

Married-Couple Households

Table 4 presents married couples in three panels. For couples without children, the total rises from RM4,420 to RM4,630, an increase of RM210 or 4.75%. Food, housing and utilities increase by RM90, RM130 and RM20, respectively, while transport declines by RM30. Housing records the largest absolute increase. The remaining categories, including the RM400 savings allocation, are unchanged.

Table 4

Panel A. Monthly reference budget: married: no children (RM)

Budget component	2019	2022/2023	Change (%)
Food and non-alcoholic beverages	870	960	+10.34
Housing	870	1,000	+14.94
Utilities	290	310	+6.90
Transport	1,020	990	-2.94
Personal care	100	100	0.00
Healthcare	70	70	0.00
Childcare	0	0	—
Ad hoc expenses	300	300	0.00
Social participation	200	200	0.00
Discretionary expenses	300	300	0.00
Savings	400	400	0.00
Total including savings	4,420	4,630	+4.75

Sources: SWRC (2019), Table 15, p. 39; SWRC (2023), Table 14, p. 59. Changes recalculated. — = undefined percentage where the baseline allocation is zero.

For married couples with one child, the total increases from RM5,730 to RM5,980, or RM250 (4.36%). Food increases by 9.23%, housing by 14.94% and utilities by 6.67%. Transport declines by

2.91%, while discretionary expenditure rises by 2.63%. Childcare remains RM650 and savings remain RM400. Unchanged reference allocations do not

demonstrate unchanged market prices for every underlying item.

Table 4

Panel B. Monthly reference budget: married: one child (RM)

Budget component	2019	2022/2023	Change (%)
Food and non-alcoholic beverages	1,300	1,420	+9.23
Housing	870	1,000	+14.94
Utilities	300	320	+6.67
Transport	1,030	1,000	-2.91
Personal care	120	120	0.00
Healthcare	100	100	0.00
Childcare	650	650	0.00
Ad hoc expenses	340	340	0.00
Social participation	240	240	0.00
Discretionary expenses	380	390	+2.63
Savings	400	400	0.00
Total including savings	5,730	5,980	+4.36

Sources: SWRC (2019), Table 15, p. 39; SWRC (2023), Table 15, p. 60. Changes recalculated. — = undefined percentage where the baseline allocation is zero.

For married couples with two children, the total rises from RM6,620 to RM6,890, or RM270 (4.08%). Food, housing and utilities increase by 9.03%, 14.94% and 6.45%, respectively. Transport declines by 2.88%, and discretionary expenditure increases by 2.56%.

Childcare remains RM1,150. Although this household category has the largest absolute increase among the six matched profiles, its percentage increase is below that of married couples without children because its initial budget is larger.

Table 4

Panel C. Monthly reference budget: married: two children (RM)

Budget component	2019	2022/2023	Change (%)
Food and non-alcoholic beverages	1,550	1,690	+9.03
Housing	870	1,000	+14.94
Utilities	310	330	+6.45
Transport	1,040	1,010	-2.88
Personal care	140	140	0.00
Healthcare	120	120	0.00
Childcare	1,150	1,150	0.00
Ad hoc expenses	400	400	0.00
Social participation	250	250	0.00
Discretionary expenses	390	400	+2.56
Savings	400	400	0.00
Total including savings	6,620	6,890	+4.08

Sources: SWRC (2019), Table 15, p. 39; SWRC (2023), Table 16, p. 61. Changes recalculated. — = undefined percentage where the baseline allocation is zero.

The 2022/2023 budgets also illustrate differences across family configurations. The one-child couple profile exceeds the childless-couple profile by RM1,350 (29.16% of RM4,630). The two-child profile exceeds the one-child profile by RM910 (15.22% of RM5,980). These are comparisons between reference household types, not estimates of

the causal or lifetime cost of having a child. The selected ages, care arrangements and common housing allocation shape the differences.

Single-Parent Households

Table 5 reports single-parent profiles for 2022/2023 only. The monthly totals are RM4,740 for a single parent with one child and RM5,650 for a

single parent with two children. Both totals include RM250 in savings. The one-child profile includes RM650 in childcare. These values follow the original report's Tables 19 and 20, including their savings columns.

Table 5

Monthly reference budgets for single parents in the Klang Valley, 2022/2023 (RM)

Budget component	One child	Two children
Food and non-alcoholic beverages	1,060	1,330
Housing	1,000	1,000
Utilities	270	280
Transport	770	780
Personal care	90	110
Healthcare	60	80
Childcare	650	1,150
Ad hoc expenses	180	240
Social participation	190	200
Discretionary expenses	220	230
Savings	250	250
Total including savings	4,740	5,650

Source: SWRC (2023), Tables 19–20, pp. 64–65. No corresponding 2019 estimates are available in the selected source table, so no temporal percentage change is reported. The source allocates childcare of RM650 and RM1,150 and savings of RM250 to both profiles.

The two-child profile is RM910 higher, equivalent to 19.20% of the one-child budget. Childcare accounts for RM500 of this difference and food for RM270; together, they explain RM770, or 84.62%, of the displayed gap. Other increases occur in utilities, transport, personal care, healthcare, ad hoc expenses, social participation and discretionary expenses. Housing and savings are identical across the two profiles. Childcare and food account for most of the difference.

Single-parent budgets are lower than married-couple budgets with the same number of children. The one-child single-parent budget is RM1,240 below RM5,980, or 20.74% lower using the married-couple budget as the denominator. The two-child single-parent budget is also RM1,240 below the

corresponding married-couple budget of RM6,890, or 18.00% lower. These smaller totals do not establish greater affordability for single parents: the number and stability of income sources, transfers and caring responsibilities are not observed in this comparison.

Senior Households

Table 6 shows a monthly budget of RM2,520 for a senior single in 2022/2023. A corresponding 2019 estimate is unavailable, so no temporal change is calculated. For senior couples, the total increases from RM3,090 to RM3,210, a rise of RM120 or 3.88%. Food increases by RM80 (9.41%), healthcare by RM10 (7.69%) and discretionary expenses by RM40 (30.77%), while transport declines by RM10 (2.00%). The remaining allocations are unchanged.

Table 6

Monthly reference budgets for seniors in the Klang Valley (RM)

Budget component	Senior single 2019	Senior single 2022/2023	Senior couple 2019	Senior couple 2022/2023	Couple change (%)
Food and non-alcoholic beverages	—	610	850	930	+9.41
Housing	—	700	700	700	0.00
Utilities	—	150	290	290	0.00
Transport	—	490	500	490	-2.00
Personal care	—	60	90	90	0.00
Healthcare	—	70	130	140	+7.69
Childcare	—	0	0	0	—
Ad hoc expenses	—	140	230	230	0.00
Social participation	—	150	170	170	0.00
Discretionary expenses	—	150	130	170	+30.77
Savings	—	0	0	0	—
Total	—	2,520	3,090	3,210	+3.88

Sources: SWRC (2019), Table 15, p. 39; SWRC (2023), Tables 17–18, pp. 62–63. — in the senior-single 2019 column denotes unavailable estimates; — in the percentage column denotes a zero baseline. Childcare and savings are explicitly zero in the source profiles.

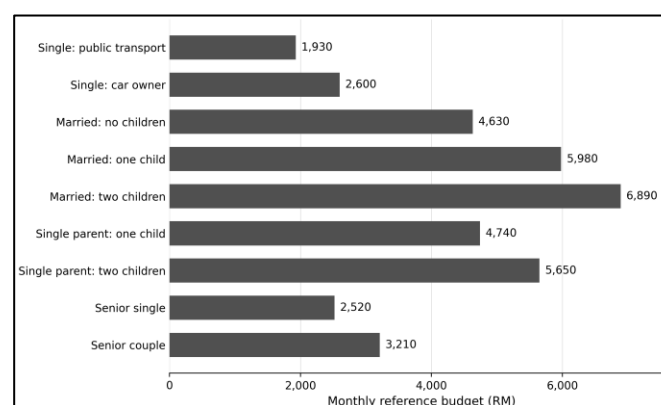
The senior-couple budget exceeds the senior-single budget by RM690, or 27.38%, in 2022/2023. Shared housing and transport allocations contribute to this difference being smaller than the cost of duplicating an entire single-person budget. Nevertheless, these reference cases do not capture all forms of disability, chronic illness, long-term care or family support. The zero savings allocation is a feature of the source estimates and should not be interpreted as evidence that older households have no need for liquidity or contingency planning.

Household Profiles and the Interpretation of Change

Figure 1 presents the 2022/2023 totals as a cross-sectional profile of household archetypes. Married couples with two children have the highest reference budget among the categories shown, while single public-transport users have the lowest. Senior households and single-parent households are separate profiles. The figure does not connect them as stages in a life-cycle trajectory because no household is followed over time.

Figure 1

Cross-sectional profile of monthly reference budgets by household type, Klang Valley, 2022/2023



Source: SWRC (2023), Tables 12–20, pp. 57–65; verified totals reproduced in Tables 3–6. Savings are included where allocated. Household types are illustrative reference categories, not sequential observations of the same household.

Across the six matched categories, nominal total increases range from 3.21% to 4.75%. Food allocations rise in every matched profile, while housing rises for working-age singles and married couples but remains unchanged for senior couples. Transport allocations decline in all six profiles. These component movements explain the arithmetic changes in totals. They do not, on their own, identify the economic mechanisms behind each revised allocation.

Inflation, changes in household needs and pandemic-related disruptions are possible contextual influences. However, neither their individual effects nor their relative contributions can be estimated using the published category totals alone. An unchanged allocation could coexist with different prices and quantities, while a higher allocation could reflect a revised housing or service assumption. This interpretation is consistent with the methodological sensitivity of reference budgets discussed by Mäkinen (2021). Consequently, the results should not be presented as a causal estimate of the pandemic's impact, a national cost-of-living index or evidence that households have become less financially literate.

Practical Implications, Limitations and Future Research

Implications for Financial Planning

The principal practical use of the comparison is to structure a discussion of household commitments. A planner can select the closest household profile, examine each expenditure category and replace reference values with the client's documented circumstances. Housing tenure, actual rent or mortgage payments, commuting arrangements, children's ages and health needs deserve particular attention. An expenditure level above the reference amount is not, by itself, evidence of overspending; necessary costs may differ from the assumed case.

Savings and consumption should be kept distinct when applying the totals. The displayed savings allocations are part of the budget requirement, while some housing values may reflect a valuation convention rather than a current cash payment. Actual cash-flow planning must therefore reconcile the guide with take-home income and payments already included elsewhere. Vehicle finance should not be counted again if it is already incorporated in transport, and insurance or annual charges should be checked against the discretionary and ad hoc categories before being added.

The household comparisons can support discussions about transport choices, care arrangements and family commitments. They cannot determine an individual household's ability to afford a car, support another child or retire. Those decisions require income, assets, liabilities, dependants and contingency needs. Moreover, because this is a historical comparison, practitioners should obtain an appropriately dated guide and current client information before using it for present-day advice.

For policymakers, reference budgets can inform discussion of income adequacy and access to services. They should be used alongside household-level evidence rather than treated as a single national threshold. Differences in public transport, housing and childcare access can affect the resources required to participate in society, consistent with the wider reference-budget literature (Penne et al., 2020). Assessing the adequacy of support therefore requires attention to both income and the availability of relevant services.

Limitations

The analysis is limited to two published editions and the Klang Valley. Retaining a common region reduces one comparability problem, but does not establish identical sampling locations, product specifications or household assumptions. Children's ages are not described uniformly across the reports, and housing valuations require careful interpretation. No matched item-level dataset is available in this study to separate changes in prices from changes in quantities, quality, service use or methodology.

The underlying fieldwork also predates the edition labels. Publication years should therefore not be interpreted as identical calendar-year observation windows for every component. The source reports describe evolving fieldwork procedures and do not provide a harmonised sample that can be treated as a longitudinal dataset. The recalculated percentages are descriptive differences in published nominal amounts,

without sampling-error estimates or tests of statistical significance.

The household profiles do not cover every combination of income, employment, disability, care needs or living arrangements. The analysis includes no household-level information on financial literacy, income adequacy, debt, assets or financial well-being. It cannot test whether users follow the guide, whether the recommended savings allocations are sufficient, or whether use of Belanjawanku improves resilience. Its findings also cannot be generalised to all regions of Malaysia.

Future Research

Future work could construct a matched database recording item descriptions, quantities, prices, outlets, pricing dates and replacement intervals for each household profile and edition. Repricing a fixed basket would help distinguish price movements from basket revisions. Sensitivity analysis could then show how alternative housing, transport, childcare and healthcare assumptions affect the totals. Clear version documentation would make edition-to-edition comparisons more reproducible.

Linking reference budgets to representative household surveys would allow researchers to estimate affordability gaps and examine how they vary by income, location and household circumstances. Panel data would be needed to investigate expenditure changes over the household life cycle. Separate evaluations of budget-guide users and suitable comparison groups could assess whether financial education and budgeting tools improve behaviour or resilience, rather than assuming such effects from the existence of a guide.

Conclusion

This study compares Belanjawanku 2019 and 2022/2023 using verified Klang Valley reference-budget tables. Monthly totals rise across all six

matched household categories, by 3.21%–4.75%. Food and housing are the main positive contributors for working-age profiles, partly offset by lower transport allocations. Senior couples record an increase of 3.88%. The later-edition totals for single parents with one and two children are RM4,740 and RM5,650, respectively, and the senior-single total is RM2,520. These three categories can be compared across household types within the later edition only.

Belanjawanku provides a useful structure for comparing expenditure needs under explicit household assumptions. Its interpretation must remain consistent with its design: the figures are reference allocations, the household profiles are cross-sectional, and edition differences combine potentially changing prices and assumptions. The comparison does not establish the causal effects of inflation, recession or COVID-19, nor does it measure actual household affordability. Its value for financial planning lies in making commitments and assumptions explicit, while supporting further assessment with household-specific evidence.

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Financial Literacy Research across Selected Affiliation Economies: A Bibliometric Analysis, 2000–2023

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Abstract

This study maps financial literacy research published during 2000–2023 using a Scopus corpus assembled through selected affiliation-country filters, predominantly in Asia. The reported August 2024 search identified 1,390 English-language articles associated with 3,358 distinct authors. Bibliometrix, Biblioshiny and VOSviewer were used for descriptive performance analysis, co-authorship mapping and keyword analysis, complemented by a narrative synthesis of ten highly cited papers. Publication output expanded markedly in the later years: 1,006 articles, or 72.37% of the corpus, were published during 2020–2023. India, Indonesia and Malaysia recorded the largest publication counts, while China recorded the highest total citations and citations per publication among the ten leading affiliation economies reported. The keyword displays indicate the continuing prominence of financial education, financial inclusion, financial knowledge and financial behaviour, alongside more recent attention to fintech, digital financial literacy and sustainability. These patterns concern scholarly production and visibility; they do not measure national financial literacy, establish changes in research quality or demonstrate the effectiveness of financial education. The synthesis connects the mapped literature to investment decisions, retirement preparation, financial help-seeking and household well-being. Interpretation is qualified by unequal citation exposure, incomplete documentation of counting and cleaning procedures, and the distinction between author affiliation and empirical study setting. The study provides a historical map of a selected research corpus and identifies priorities for more reproducible, geographically explicit and practice-relevant research.

Keywords: Financial literacy; financial education; bibliometric analysis; author affiliation; financial planning; Asia

Introduction

Financial literacy is relevant to decisions about saving, borrowing, investing and preparing for retirement. As households encounter a wider range of financial products and delivery channels, the ability to understand financial information becomes closely connected to financial planning. Financial literacy, however, should not be treated as interchangeable with financial education, financial inclusion or financial well-being. Literacy concerns knowledge and related

competencies; education is a process through which these can develop; inclusion concerns access and use; and well-being concerns outcomes. Their relationships are important empirical questions rather than definitional equivalences (Atkinson & Messy, 2012; Lusardi & Mitchell, 2014).

Asian financial systems provide an important context for this research. Differences in financial-market development, pension arrangements, household resources and institutional environments

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make it unlikely that a single educational approach will suit every population. The Global Findex Database highlights the relevance of financial access, digital payments and resilience to household financial lives (Demirgüç-Kunt et al., 2022). These issues motivate closer examination of the research available to inform financial capability programmes and professional financial planning.

Bibliometric analysis can describe how a literature develops, identify productive contributors and reveal connections among research topics. It cannot, by itself, determine whether financial education changes behaviour, whether a country's population is financially literate or whether a highly cited intervention is effective. Maintaining this distinction is particularly important when translating publication patterns into policy or practice.

Literature Positioning and Contribution

Existing reviews have examined the financial literacy literature and its relationship with financial behaviour. Goyal and Kumar (2021) combine systematic review and bibliometric analysis, while Ingale and Paluri (2022) examine financial literacy and financial behaviour bibliometrically. These studies provide a foundation for investigating a more narrowly defined affiliation-based corpus. The contribution of the present study is therefore a focused descriptive mapping and interpretation of selected research outputs, rather than a claim to have discovered the field or to provide the first comprehensive account of Asian financial literacy.

A regional perspective requires a clear definition of geography. An article written by an author affiliated with an Asian institution may study households outside Asia. Conversely, an empirical study conducted in Asia may be written entirely by authors based elsewhere. This study uses affiliation-based selection and does not systematically code study setting. Its findings consequently describe the selected publication network rather than all research conducted

in Asia. The affiliation list also contains Egypt, so the retained corpus is not described as an exclusively Asian sample.

The analysis contributes in three ways. First, it brings publication, citation, institutional and outlet patterns into a single descriptive account. Second, it distinguishes author productivity from observed collaboration and keyword prominence from evidence of temporal change. Third, it connects selected influential studies to financial planning questions while recognising differences in study populations, methods and outcomes. This provides a more cautious basis for identifying research priorities and possible applications.

Research Questions

RQ1. How did publication output and cumulative citation visibility vary across publication cohorts during 2000–2023?

RQ2. Which affiliation economies, institutions, journals and authors were most prominent in the reported corpus, and how do productivity and network measures differ?

RQ3. Which themes appear in the keyword maps, and what limited evidence do the time-specific displays provide about changing research attention?

RQ4. How do the selected highly cited papers relate to investment decisions, retirement planning, financial help-seeking and household financial well-being?

Methodology

Research Design and Scope

The study combines bibliometric performance analysis, science mapping and a narrative synthesis of selected articles. The unit of observation for publication analysis is the article. Author, affiliation

and keyword analyses describe attributes or relationships attached to those records. The narrative synthesis is interpretive: it is neither a systematic assessment of intervention effectiveness nor a meta-analysis of comparable effect sizes. This distinction follows the separation between performance analysis and science mapping discussed by Donthu et al. (2021).

The analysis is a historical snapshot. The source manuscript reports that data were retrieved in August 2024 for articles published from 2000 to 2023. The rankings and citation counts below refer to that reported extraction, not to current Scopus values. No updated database search or re-estimation from record-level data is claimed in this revision.

Database and Reported Search Strategy

Scopus was selected for its structured bibliographic metadata and coverage of relevant disciplines. Restricting the search to one database avoids the immediate need to reconcile different citation systems, but it also makes the results dependent on that database's coverage. Comparisons of bibliographic databases show that their journal coverage differs; a single-source corpus should therefore not be treated as exhaustive (Mongeon & Paul-Hus, 2016; Singh et al., 2021).

The source reports the following title–abstract–keyword search and document restrictions:

TITLE-ABS-KEY ("financial literacy" OR "financial education") AND PUBYEAR > 1999 AND PUBYEAR < 2024 AND LIMIT-TO (DOCTYPE, "ar") AND LIMIT-TO (LANGUAGE, "English")

This is the reported core expression, not a verified reproduction of the complete executed search. It omits the affiliation-country Boolean block. The exact search day, export format and any journal-source-type restriction are also not documented. Although the source describes the records as journal articles, the

displayed document-type restriction alone is not a separately reported journal-source filter. These details must be recovered from the original Scopus search history before the procedure can be described as fully reproducible.

The reported affiliation filters were India, Indonesia, Malaysia, China, Japan, Pakistan, South Korea, Turkey, Thailand, Hong Kong, Saudi Arabia, Taiwan, Vietnam, United Arab Emirates, Philippines, Bangladesh, Singapore, Iran, Jordan, Oman, Lebanon, Egypt, Sri Lanka, Qatar, Kazakhstan, Cambodia, Nepal, Iraq, Brunei Darussalam, Azerbaijan, Yemen, Uzbekistan, Mongolia, Bahrain, Macao and Armenia. These labels reproduce the supplied search description; they are not a newly validated geographic classification.

The search terms delimit a focused literature on financial literacy and financial education. Articles using only related expressions, such as financial capability or financial well-being, may be missed. Their appearance in the resulting keyword maps does not remove this search sensitivity: an excluded article cannot contribute to those maps. Broader searches would therefore be a sensitivity exercise rather than an interchangeable version of the present corpus.

Geographic Interpretation

Geography is operationalised through institutional affiliation, not author nationality, participant residence or the setting of an empirical study. The country/economy labels in the results retain the source coding, with Turkey displayed as Türkiye. Hong Kong is shown separately from China, as in the supplied table; Taiwan and Macao remain separately named in the reported filter list. This is a description of database categories and does not assert political status or establish whether the original export applied consistent aggregation rules.

The United Nations M49 classification places Egypt in Northern Africa and Türkiye and Cyprus in

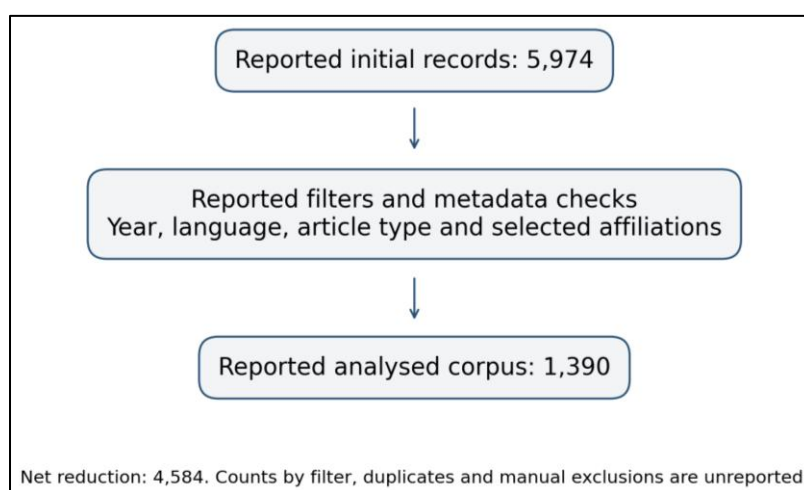
Western Asia (United Nations Statistics Division, n.d.). Egypt's inclusion and Cyprus's absence from the stated filter list prevent an unqualified claim of comprehensive Asian coverage. The current revision retains the reported corpus under a selected-affiliation framing. Producing an Asia-only corpus would require a documented classification rule, record-level screening and recalculation of all dependent tables and maps. Simply deleting Egypt from the written list would not correct the underlying sample.

The source reports 5,974 records before refinement and 1,390 records in the analysed corpus. The aggregate reduction is therefore 4,584 records. The available documentation does not allocate that reduction among publication year, language, document type, affiliation, duplicate removal, missing metadata or relevance screening. Figure 1 reports only the known totals and identifies the unreported stages; it should not be interpreted as a completed PRISMA screening audit.

Selection, Screening and Data Preparation

Figure 1

Reported search and selection flow



The stated eligibility criteria were publication during 2000–2023, English language, article document type, matching search terms and an association with the selected affiliation categories. The source also reports checking titles, abstracts, author keywords and other metadata for obvious false positives, and checking names and source titles for standardisation. It does not provide a screening log, exclusion decisions, disambiguation rules or a cleaning thesaurus. Consequently, the effects of manual screening and data cleaning cannot be independently reconstructed.

No full-text quality appraisal of the entire corpus is reported. Selection for bibliometric analysis is therefore not equivalent to a judgement that every

retained article provides reliable causal evidence. The narrative synthesis uses the ten articles listed in the source's highly cited-paper table and interprets their relevance without claiming a comprehensive appraisal of all 1,390 records.

Analytical Measures and Software

Bibliometrix and its Biblioshiny interface were used for descriptive summaries and topic displays; VOSviewer was used for network visualisation. Aria and Cuccurullo (2017) provide the methodological reference for Bibliometrix, and van Eck and Waltman (2010) provide the appropriate reference for VOSviewer. The exact R, Bibliometrix, Biblioshiny

and VOSviewer versions used for the original analysis remain unreported.

Publication counts describe output within the selected corpus. Cumulative citations describe visibility at the reported extraction date. Citations per publication are calculated as the relevant citation count divided by the associated publication count. These averages are not adjusted for article age, discipline or citation distribution. They should not be used to rank intrinsic research quality or infer declining influence from the lower averages of recent cohorts.

Table 1

Leading affiliation economies by reported publication count

Rank	Affiliation economy	Articles	Articles / 1,390 (%)	Citations	Citations/article
1	India	317	22.81	3046	9.61
2	Indonesia	234	16.83	1667	7.12
3	Malaysia	228	16.40	2625	11.51
4	China	212	15.25	4053	19.12
5	Japan	60	4.32	1092	18.20
6	Pakistan	54	3.88	681	12.61
7	South Korea	52	3.74	589	11.33
8	Türkiye	46	3.31	860	18.70
9	Thailand	40	2.88	537	13.43
10	Hong Kong	37	2.66	339	9.16

Source: supplied manuscript, Table 1; ratios recalculated. Counts are retained from the source and their attribution method is unverified. Percentages may be non-exclusive; they are not population shares or study-setting shares. Hong Kong is retained as a separate database category. Citation values are not age-normalised.

For co-authorship, the source reports a threshold of at least five publications and 31 qualifying authors. Total link strength measures an item's aggregate connection weight in the specified network; it is not a citation measure. A reported value of zero indicates no weighted links in that output, but does not establish that the author has never collaborated. Thresholding, network selection and identity resolution may affect the result. The source does not specify these settings sufficiently to resolve that distinction.

For keyword co-occurrence, the source reports 3,962 keywords, of which 282 met a minimum occurrence threshold of five, producing seven clusters. It does not clearly state whether the keyword universe contains author keywords, indexed keywords or both, or whether 3,962 refers to distinct terms before or after

Country/economy percentages in Table 1 are recalculated as the reported publication count divided by 1,390, multiplied by 100. This denominator does not establish the attribution rule. The original analysis does not state whether it used full counting, fractional counting, corresponding-author affiliation or another assignment method. If records are credited to more than one affiliation economy, the percentages are non-exclusive and need not sum to 100%. Institutional counts have the same limitation, and no fractional-counting sensitivity analysis is claimed.

cleaning. The displayed trend plot explicitly separates “financial behavior” and “financial behaviour”, indicating that spelling variants remain in at least that output. The network results are therefore interpreted as provisional descriptive displays, not as validated estimates of thematic structure.

The 2014–2018 and 2019–2023 maps are period-specific co-occurrence displays. Without a documented longitudinal theme-matching procedure, they are not treated as a formal thematic-transition analysis. Similarly, keyword density describes local concentration under a specified map and weighting scheme; low density alone does not identify a new or neglected research area. Temporal interpretation is restricted to the supplied period maps and trend-topic display.

Results

Corpus Profile and Publication Growth

The reported corpus contains 1,390 articles and 3,358 distinct authors. The source identifies 139 authors associated with single-authored articles and 3,219 authors associated with multi-authored articles. These are retained as reported author-category counts; they are not converted into counts of single- and multi-authored papers without the underlying records. The ratio of distinct authors to articles is 2.42, but this is not the mean number of co-authors per article because repeat authorships are not included in its numerator.

Table 2 reports the corpus profile. The annual citation rows in Table 3 sum to 16,758, whereas the printed source total is 16,753. The row-sum total implies 12.06 citations per article after rounding. These reconstructed values are explicitly distinguished from the unverified record-level total. The source's value of 0.50 “citations per article per year” is omitted because no exposure-adjusted formula or software definition is supplied; dividing a corpus average by the full 24-year period would not provide each article with its actual citation exposure.

Table 2

Corpus profile

Measure	Value
Publication period	2000–2023
Reported retrieval month	August 2024
Articles	1,390
Distinct authors	3,358
Authors of single-authored articles, as reported	139
Authors of multi-authored articles, as reported	3,219
Citations: sum of reported annual rows	16,758*
Citations per article: reconstructed from annual rows	12.06*
Articles / distinct authors	0.41
Distinct authors / articles	2.42

Source: supplied manuscript, Tables 2–3. *The source prints 16,753 citations and a mean of 12.05. The annual rows instead sum to 16,758, giving 12.06. Reconstructed values require confirmation against the raw export. Distinct-authors/articles is not mean team size. The undefined annualised citation metric is omitted.

Table 3

Publications and cumulative citations by publication year

Year	Articles	Citations	Citations/article
2000	1	5	5.00
2001	0	0	N/A
2002	0	0	N/A
2003	0	0	N/A
2004	0	0	N/A
2005	0	0	N/A
2006	0	0	N/A
2007	0	0	N/A
2008	0	0	N/A
2009	6	281	46.83
2010	3	103	34.33
2011	13	581	44.69
2012	14	339	24.21
2013	11	85	7.73
2014	23	892	38.78
2015	30	760	25.33
2016	40	824	20.60
2017	63	1215	19.29
2018	66	1017	15.41
2019	114	1704	14.95
2020	186	2971	15.97
2021	189	2622	13.87
2022	272	2141	7.87
2023	359	1218	3.39
Total	1390	16758	12.06

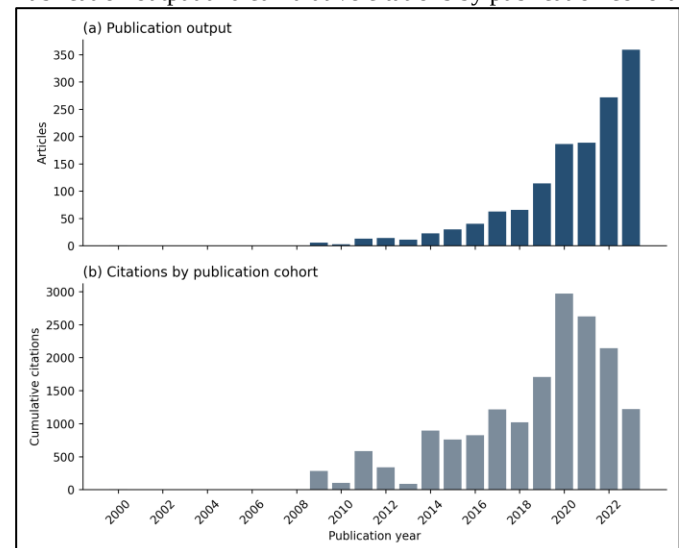
Source: supplied manuscript, Table 3. Citations refer to the reported August 2024 snapshot and are grouped by publication year, not the calendar year in which citations were received. Total citations and the overall mean are reconstructed from the displayed rows; see Table 2. N/A: no publications, so an average is undefined. Annual means are recalculated to two decimals.

Table 3 and Figure 2 show a pronounced expansion in publication output, particularly in later years, but not an uninterrupted increase. Output declined from six articles in 2009 to three in 2010 and from 14 in 2012 to 11 in 2013. It subsequently rose from 63 in 2017 to 114 in 2019, 186 in 2020, 272 in 2022 and 359 in 2023. The 2020–2023 cohorts contain 1,006 articles, representing 72.37% of the corpus. These figures establish concentration in recent publication years; they do not identify what caused that growth.

The single record reported for 2000 is the earliest observation in the selected corpus. It does not establish the first financial literacy publication in Asia, especially given the search's language, terminology, database and affiliation restrictions. No eligible articles are reported for 2001–2008. Citations per publication are undefined for those zero-publication years and are displayed as not applicable rather than zero.

Figure 2

Publication output and cumulative citations by publication cohort



The 2020 publication cohort has the largest reported cumulative citation count, 2,971. Earlier cohorts often have higher citations per article than more recent cohorts; for example, the six papers published in 2009 average 46.83 citations, compared with 3.39 for the 359 papers published in 2023. Those values combine different cohort sizes, article compositions and citation windows. They cannot establish that earlier research was better or that newer research is less influential. A fixed citation window or article-level age normalisation would be needed for a more comparable assessment.

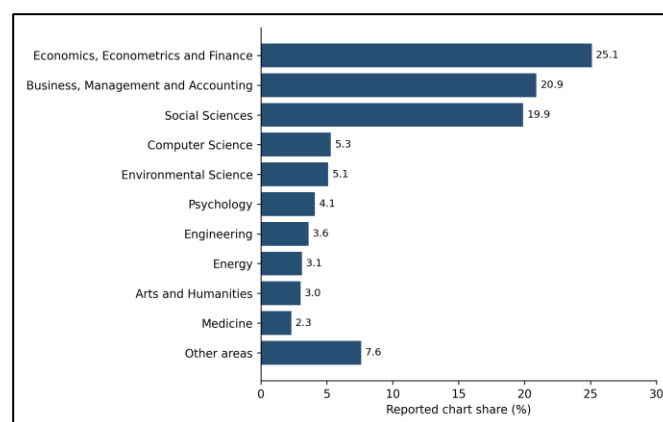
Disciplinary Distribution

The source's subject-area display assigns the largest reported shares to Economics, Econometrics and Finance (25.1%), Business, Management and Accounting (20.9%), and Social Sciences (19.9%). Other categories include Computer Science, Environmental Science, Psychology, Engineering, Energy, Arts and Humanities, and Medicine (Figure 3). The distribution indicates that the retrieved literature extends beyond a single disciplinary outlet.

Scopus subject classifications can overlap. The percentages in Figure 3 are therefore retained as reported chart shares, not interpreted as mutually exclusive shares of the 1,390 articles. Their denominator and treatment of multiple classifications remain to be confirmed. Subject categories also do not reveal the findings of individual papers: a business classification, for example, is not evidence that financial education improved the performance of small firms. The defensible inference is disciplinary breadth within the indexed corpus.

Figure 3

Subject-area distribution reported in the source



Affiliation Economies and Institutions

India records the largest publication count in Table 1, with 317 articles, followed by Indonesia with 234 and Malaysia with 228. Relative to the 1,390-record denominator, these correspond to 22.81%, 16.83% and 16.40%, respectively. China records 212 articles, or 15.25%. These are measures of attributed research output, not measures of population financial literacy, national programme effectiveness or the number of studies conducted in each location.

Among the ten affiliation economies listed, China has the highest reported total citations (4,053) and citations per publication (19.12). Türkiye and Japan record 18.70 and 18.20 citations per publication, respectively. These unnormalised differences may reflect publication age, outlet composition, collaboration patterns or a small number of highly cited articles. The available aggregates do not identify the relative importance of those explanations, and they do not support causal claims about national policy or research quality.

Universiti Putra Malaysia leads the institutional table with 44 publications and 520 citations, followed by Universiti Malaya with 37 publications and 454 citations (Table 4). Southwestern University of Finance and Economics records 755 citations from 20 publications, giving the highest citations-per-

publication value among the listed institutions, 37.75. Hiroshima University records 22 publications and 428 citations. These differences illustrate the distinction

between output and cumulative citation visibility, subject to the unresolved affiliation-counting and disambiguation rules.

Table 4

Leading institutions by reported publication count

Institution	Affiliation economy	Articles	Citations	Citations/article
Universiti Putra Malaysia	Malaysia	44	520	11.82
Universiti Malaya	Malaysia	37	454	12.27
Universiti Teknologi MARA	Malaysia	24	180	7.50
Hiroshima University	Japan	22	428	19.45
Southwestern University of Finance and Economics	China	20	755	37.75
Christ University	India	19	59	3.11
Universiti Sains Malaysia	Malaysia	17	222	13.06
Universiti Utara Malaysia	Malaysia	17	176	10.35
Amity University	India	15	153	10.20
Universiti Kebangsaan Malaysia	Malaysia	14	166	11.86
National University of Singapore	Singapore	14	397	28.36
Universitas Negeri Malang	Indonesia	14	32	2.29
International Islamic University Malaysia	Malaysia	13	66	5.08
Symbiosis International Deemed University	India	12	178	14.83
Malaviya National Institute of Technology Jaipur	India	11	341	31.00
Sichuan Agricultural University	China	11	126	11.45

Source: supplied manuscript, Table 4; ratios recalculated. Counts are corpus-specific and not verified under full or fractional counting. Institutional names and historical author affiliations require disambiguation against the export. Entries with equal publication counts are tied; table order does not break ties.

Publication Outlets

Sustainability (Switzerland) is the most frequent outlet in the reported corpus, with 53 articles and 735 citations. The International Journal of Bank Marketing

and Frontiers in Psychology each contribute 25 articles, with 679 and 319 citations, respectively. The Journal of Family and Economic Issues has the highest citations-per-publication value among the ten listed outlets, 32.25, based on 12 articles (Table 5).

Table 5

Leading publication outlets in the reported corpus

Journal	Articles	Citations	Citations/article
Sustainability (Switzerland)	53	735	13.87
International Journal of Bank Marketing	25	679	27.16
Frontiers in Psychology	25	319	12.76
Malaysian Journal of Consumer and Family Economics	20	52	2.60
Journal of Asian Finance, Economics and Business	16	150	9.38
International Journal of Social Economics	16	209	13.06
Managerial Finance	15	193	12.87
Indian Journal of Finance	15	104	6.93
Journal of Family and Economic Issues	12	387	32.25
International Journal of Business and Society	12	137	11.42

Source: supplied manuscript, Table 5. All metrics refer to the selected corpus and the reported August 2024 extraction. Journal-wide H-index, SJR and quartiles are omitted because the original metric sources and dates are insufficiently documented. Equal article counts represent ties.

The outlet distribution spans sustainability, marketing, psychology, consumer economics and finance. It supports an interdisciplinary reading of the

corpus, but outlet titles alone do not establish which substantive mechanisms dominate. Table 5 therefore reports only corpus-specific publication and citation

measures. The original journal H-index, SJR and quartile columns are excluded because their sources, retrieval dates and measurement scopes cannot be reconciled from the manuscript. Journal-wide prestige indicators are not used as explanations of article-level findings.

Author Productivity and Co-Authorship

Mohamad Fazli Sabri has the highest reported author publication count, with 24 articles, followed by Yoshihiko Kadoya with 22 and Mostafa Saidur Rahim Khan with 19 (Figure 4 and Table 6). These counts refer to individual authors and should not be confused with Malaysia's or Japan's national output. Satish

Kumar records 12 publications and Nurul Shahnaz Mahdzan records ten.

Figure 4

Author productivity in the reported corpus

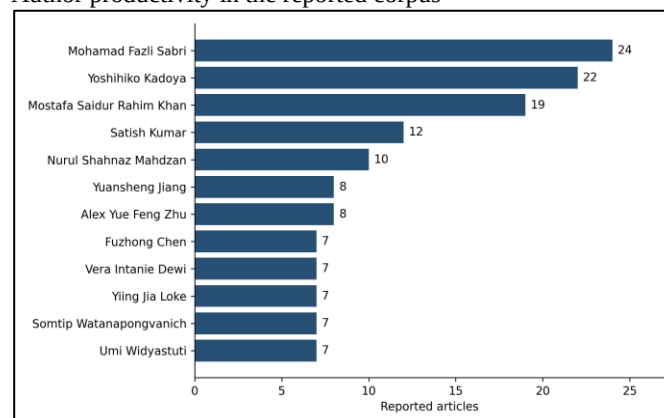


Table 6

Productive authors and reported network measures

Author	Affiliation as reported	Articles	Citations	Total link strength
Mohamad Fazli Sabri	Universiti Putra Malaysia	24	318	12
Yoshihiko Kadoya	Hiroshima University	22	430	37
Mostafa Saidur Rahim Khan	Hiroshima University	19	360	37
Satish Kumar	Indian Institute of Management Nagpur	12	345	6
Nurul Shahnaz Mahdzan	Universiti Malaya	10	140	10
Yuansheng Jiang	Sichuan Agricultural University	8	68	4
Alex Yue Feng Zhu	The Education University of Hong Kong	8	67	0
Fuzhong Chen	University of International Business and Economics	7	312	0
Vera Intanie Dewi	Universitas Katolik Parahyangan	7	120	9
Yijing Jia Loke	Universiti Sains Malaysia	7	131	0
Somtip Watanapongvanich	Hiroshima University	7	164	22
Umi Widayastuti	Universitas Negeri Jakarta	7	71	0

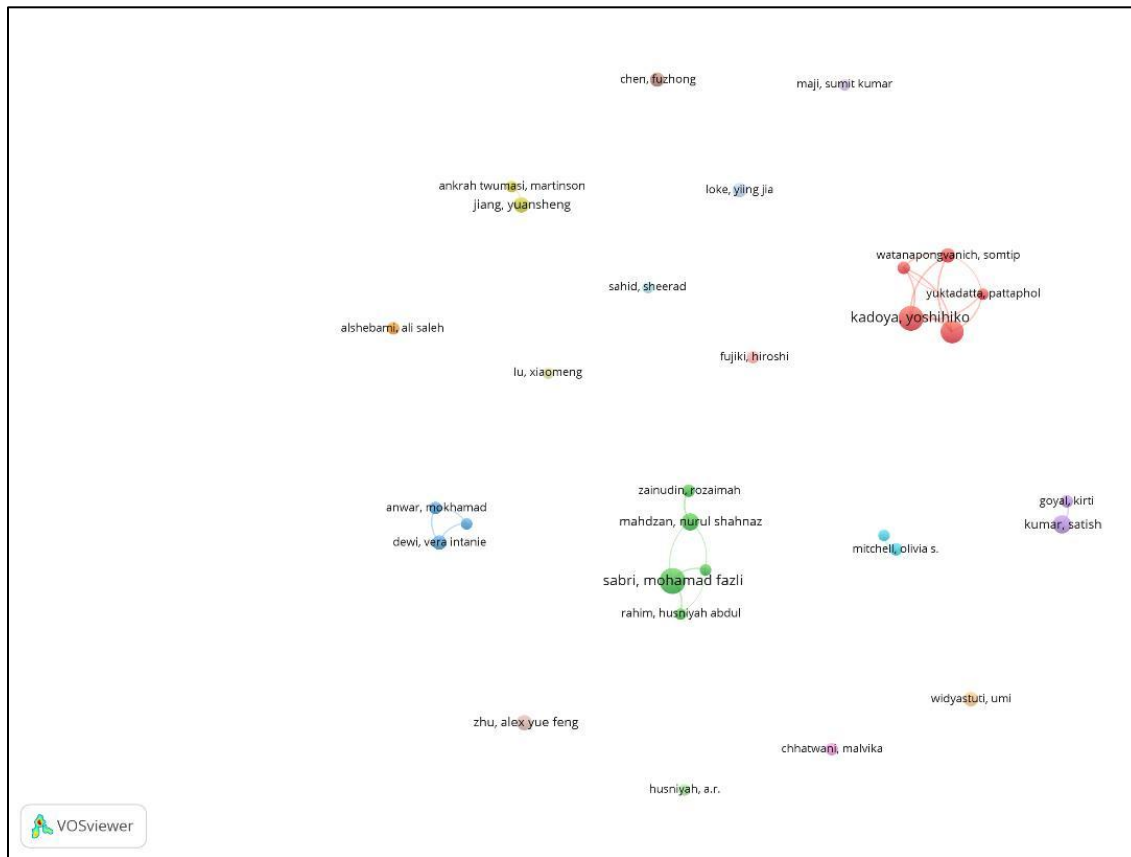
Source: supplied manuscript, Table 6. The author network reportedly uses a five-publication threshold with 31 qualifying authors. A zero link strength is not evidence of no collaboration outside the specified network. Counting, thresholding and identity rules require confirmation. Historical affiliations are retained and are not statements about current appointments.

The source reports that 31 authors met the five-publication threshold for the network in Figure 5. Table 6 lists twelve productive authors together with their reported citations and total link strength. Kadoya

and Khan each have a reported total link strength of 37, while Sabri has 12. Productivity, citation visibility and observed network connectivity therefore rank authors differently.

Figure 5

Reported author co-authorship network



Four listed authors have a reported total link strength of zero: Alex Yue Feng Zhu, Fuzhong Chen, Yiing Jia Loke and Umi Widyastuti. They are retained as productive authors, not described as central collaborators. The network settings must be inspected to determine whether these values reflect disconnected nodes in a thresholded network, a different selection rule or an export problem. The visual map alone also does not establish that collaboration is primarily domestic or institution-based; that inference would require coded affiliations and a direct comparison of within- and cross-country links.

Highly Cited Articles

Table 7 retains the ten highly cited papers and their citation counts as reported in the August 2024 snapshot. Li et al. (2020) lead with 434 citations, followed by Xiao et al. (2014) with 286 and Gutter and Copur (2011) with 208. The papers address digital finance, financial capability, financial behaviour, investment decisions, portfolio choice, help-seeking and retirement planning. The equal citation counts for Dimmock et al. (2016) and Chu et al. (2017) are shown as a tie.

Table 7

Ten highly cited articles in the reported corpus

Rank	Study	Article title	Journal	Citations
1	Li et al. (2020)	The impact of digital finance on household consumption: Evidence from China	Economic Modelling	434
2	Xiao et al. (2014)	Consumer financial capability and financial satisfaction	Social Indicators Research	286
3	Gutter & Copur (2011)	Financial behaviors and financial well-being of college students: Evidence from a national survey	Journal of Family and Economic Issues	208
4	Al-Tamimi & Kalli (2009)	Financial literacy and investment decisions of UAE investors	The Journal of Risk Finance	171
5=	Dimmock et al. (2016)	Ambiguity aversion and household portfolio choice puzzles: Empirical evidence	Journal of Financial Economics	161
5=	Chu et al. (2017)	Financial literacy, portfolio choice and financial well-being	Social Indicators Research	161
7	Lim et al. (2014)	Financial stress, self-efficacy, and financial help-seeking behavior of college students	Journal of Financial Counseling and Planning	150
8	Sivaramakrishnan et al. (2017)	Attitudinal factors, financial literacy, and stock market participation	International Journal of Bank Marketing	143
9	Sekita (2011)	Financial literacy and retirement planning in Japan	Journal of Pension Economics & Finance	133
10	Aziz & Naima (2021)	Rethinking digital financial inclusion: Evidence from Bangladesh	Technology in Society	131

Source: supplied manuscript, Table 7. Citation counts are retained historical values, not current publisher metrics. The rank tie at 161 citations is explicit. Journal quartiles are omitted. Xiao et al. (2014) is correctly assigned to Social Indicators Research in both table and references. Inclusion reflects the reported corpus, not confirmation of an Asian empirical study setting.

The table is an indicator of visibility within the supplied selection, not a ranking of evidential strength. Several prominent papers use non-Asian study populations, which reinforces the distinction between affiliation and study setting. Xiao et al. (2014), for example, analyse US financial capability data, while Gutter and Copur (2011) examine US college students. Their inclusion may be consistent with an affiliation-based search, but it cannot be used to characterise their findings as evidence from Asian households. Each record's eligibility still needs confirmation against the original Scopus export.

Keyword Structure and Temporal Patterns

Figures 6–9 show the reported keyword structure and term prominence. Financial literacy is visually dominant, which is expected because it is a primary search term. Financial education, financial inclusion, financial knowledge and financial behaviour also feature prominently. The word clouds contain both “financial behavior” and “financial behaviour”; their separation may divide a single concept's frequency and affect the ranking of related terms. The retained displays make this limitation visible rather than implying that harmonisation has already been completed.

Reported keyword density map

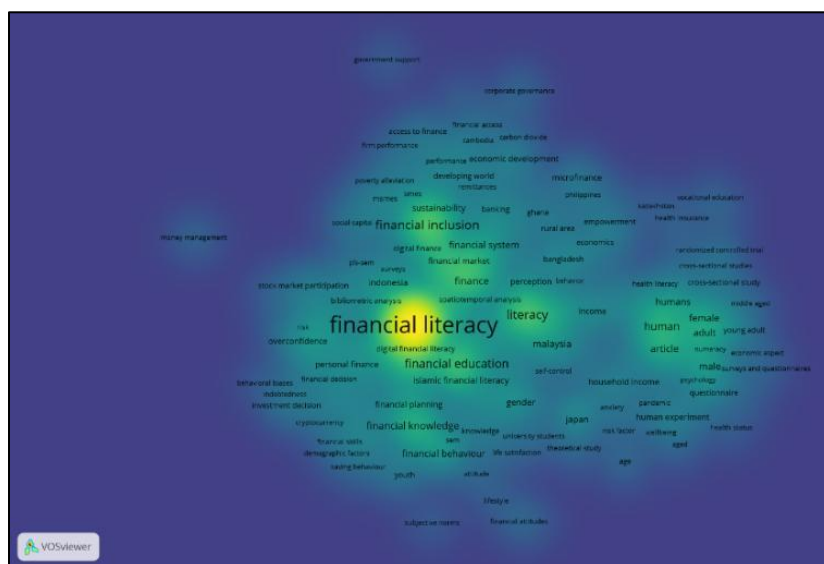
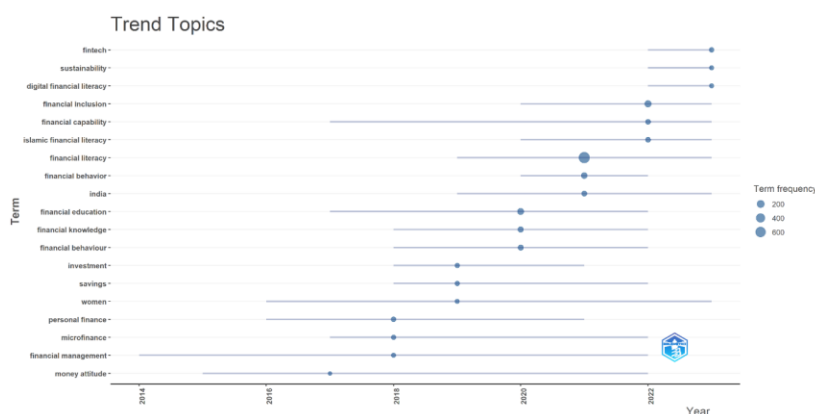


Figure 10 provides the clearest displayed temporal indication. Fintech, sustainability and digital financial literacy have markers near the later end of the plotted period, while money attitude, financial management, microfinance and personal finance appear earlier. These observations are consistent with increasing attention to digital-finance topics within the retrieved literature. The plot does not, however, establish the date a concept first appeared, and its interval construction and bubble-frequency settings require documentation.

Reported author-keyword trend-topic display



Financial resilience and behavioural finance are not labelled as trend topics in Figure 10. The previous claim that this figure demonstrates their recent rise is therefore removed. Household resilience remains a relevant interpretive and future-research theme, but it is not presented as a measured trend established by this particular plot. Likewise, a low-density area in Figure 9 is not automatically classified as emerging or declining.

Interpretation and Relevance to Financial Planning

Digital Access and Meaningful Use

The highly cited list brings digital finance into the financial literacy discussion through studies of household consumption in China and digital financial inclusion in Bangladesh (Li et al., 2020; Aziz & Naima, 2021). These papers connect the mapped field with questions about how households engage with financial technology. They should not be reduced to the proposition that more digital access necessarily improves welfare. Access, comprehension, use and financial outcomes are distinct dimensions that require separate assessment.

For financial planning, this strand suggests questions about clients' understanding of digital products, their ability to compare costs and risks, and their use of technology within a broader financial plan. These are proposed applications of the literature, not tested effects of this bibliometric study. Evaluations should measure whether education changes decisions and outcomes, rather than using platform adoption alone as an indicator of financial capability.

Capability, Behaviour and Help-Seeking

Xiao et al. (2014) examine the association between financial capability and financial satisfaction using US survey data. Gutter and Copur (2011) examine financial behaviours and well-being among US college students. Lim et al. (2014) study financial

stress, self-efficacy and professional help-seeking using an Ohio student survey. Together, these papers illustrate that knowledge, perceived ability, behaviour and access to assistance are related but analytically distinct. They do not provide an Asia-wide estimate of those relationships.

For practitioners, the implication is to consider clients' knowledge alongside their confidence, financial pressures and willingness to seek advice. A person may understand a financial concept yet find it difficult to act because of resource constraints or stress. Conversely, confidence may exceed knowledge. These possibilities support a broader assessment of client needs, but the appropriate assessment tools and interventions require validation in the population where they will be used.

Investment Decisions and Risk

Al-Tamimi and Kalli (2009) examine financial literacy and investment decisions among UAE investors, while Sivaramakrishnan et al. (2017) investigate attitudinal factors, financial literacy and stock-market participation. Dimmock et al. (2016) examine ambiguity aversion and household portfolio choice. These studies address different constructs and should not be combined into a single causal estimate of the effect of literacy on investment performance.

Chu et al. (2017), using Chinese household data, report relationships between financial literacy, the choice of stocks and mutual funds, and investment returns. Their results also distinguish financial knowledge from overconfidence. This is relevant to discussions of portfolio decisions and the use of professional expertise, but it does not imply that increasing literacy guarantees positive returns. Investment outcomes depend on market conditions, portfolio exposure, costs and household circumstances as well as individual competencies.

Retirement Planning and Household Resilience

Sekita (2011) links financial literacy with retirement planning in Japan. This provides a direct connection between the mapped literature and long-term financial preparation. The wider synthesis also shows why financial planning should be considered across different stages of life, from student financial management to investment and retirement decisions. However, results from different populations do not constitute a longitudinal study following the same households over their life cycle.

Household resilience is a useful agenda for extending this work. Future studies could examine whether financial knowledge and advice are associated with emergency savings, manageable debt and the ability to maintain essential expenditure after shocks. This is a proposed research direction; the present bibliometric records do not measure household resilience or demonstrate which programmes improve it.

Research and Policy Priorities

The publication map identifies where the selected indexed literature is concentrated. It can help researchers identify potential collaborators and locate relevant outlets, but it should not be used to allocate resources solely according to publication or citation rankings. Lower recorded output may reflect database and language coverage, smaller research systems or the affiliation filter, rather than an absence of local expertise or policy activity.

A stronger comparative research programme would code study setting separately from author affiliation, harmonise core measures and examine differences across institutional contexts. Intervention research should distinguish educational exposure, changes in knowledge, behavioural responses and longer-term welfare outcomes. For financial planners, this separation helps prevent a research topic's popularity

from being mistaken for evidence that a particular practice is effective.

Limitations and Future Research

Five limitations govern interpretation. First, the Scopus-only, English-language and two-term search creates coverage and terminology restrictions. Relevant local-language, practitioner and non-indexed work may be omitted. Second, affiliation-based selection does not identify study setting and the reported country list is not an exhaustive or exclusively Asian classification. Third, the search history, screening counts, identity-cleaning rules and analysis settings are incomplete, limiting independent reproduction of the results.

Fourth, cumulative citations observed at a single date provide unequal exposure across publication cohorts. Citation totals and averages may be concentrated in a few articles and are not field- or age-normalised. The five-citation discrepancy between the annual rows and the printed aggregate further requires reconciliation with the raw export. Fifth, the keyword displays retain spelling variants and lack sufficient documentation of term fields and normalisation. Their visual patterns are descriptive and should not be interpreted as precise evidence of conceptual transitions.

Future work should first recover and archive the original search history, metadata export, screening log, cleaning thesaurus and software settings. A reproducibility package should state the counting rule, citation snapshot date and subject-area denominator. Subsequent sensitivity analyses could compare full and fractional affiliation counting, alternative keyword definitions and an explicitly classified Asia-only sample. These analyses would be new work; they have not been performed for this revision.

An updated search could extend publication coverage beyond 2023, but it should be distinguished from the historical August 2024 snapshot. Combining

bibliographic databases would also require source-specific deduplication and careful treatment of citation measures. A full systematic review of selected substantive questions could then assess study quality and effect estimates, complementing rather than substituting for the descriptive bibliometric map.

Conclusion

The reported Scopus corpus shows a substantial expansion in financial literacy publications during 2000–2023, with nearly three quarters of the articles appearing in 2020–2023. India, Indonesia and Malaysia lead the reported affiliation-economy publication counts, while China has the highest cumulative citation total among the ten leading contributors listed. Universities and journals contribute differently when assessed by output and by citations, and productive authors are not necessarily the most connected in the reported co-authorship network.

The keyword displays retain a strong focus on financial education, inclusion, knowledge and behaviour, with later attention to fintech, digital financial literacy and sustainability. The selected highly cited papers connect these themes to financial capability, investment decisions, financial help-seeking and retirement preparation. They provide a basis for identifying questions relevant to financial planning, but do not establish a uniform causal relationship between literacy and wealth outcomes across Asia.

The study's contribution is a historical, affiliation-based map with a practice-oriented interpretation. Its conclusions are bounded by the selected corpus, the August 2024 extraction and unresolved methodological documentation. Clarifying geography, counting rules and citation exposure is essential to making the map useful and reproducible. Within those boundaries, the analysis offers a foundation for comparative research that connects financial

knowledge with decisions and outcomes in clearly specified populations.

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Legal Awareness and Reported Estate Planning Intention Among Malaysian Indian Testators

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Abstract

This study examines associations between legal awareness, perceived behavioural control and reported estate-planning intention among Malaysian Indians who had already written a will. A cross-sectional survey initially obtained 400 responses, of which 260 existing testators were included in the analysis. Respondents were recruited through a will-writing company's database and Malaysian Indian WhatsApp groups using non-probability sampling. Pearson correlations and multiple linear regression were used to examine financial knowledge, selfless attitude, social influence, perceived behavioural control and legal awareness. Legal awareness ($B = 0.818$, $p < 0.001$) and perceived behavioural control ($B = 0.113$, $p = 0.038$) were positively associated with the reported intention score after mutual adjustment. Financial knowledge, selfless attitude and social influence were not statistically significant in the adjusted model. The model accounted for 39.9% of the observed variance in the outcome (adjusted $R^2 = 0.387$). Because all analysed respondents had already written a will, the findings describe associations measured among existing testators; they do not identify antecedents of initial will writing or establish that legal awareness increases participation. Awareness and perceived control may themselves reflect experience acquired during will preparation. The results support further investigation of legal understanding and perceived procedural capability in estate-planning research, while prospective data from individuals who have not yet written wills are needed to examine intention before behaviour and subsequent participation.

Keywords: Legal awareness, estate planning, will writing, perceived behavioural control, Malaysian Indian testators

Introduction

Estate planning concerns arrangements for the management and transfer of an individual's assets and interests. Will writing is one component of this broader process. Research on estate-planning behaviour considers financial knowledge, family motives, social influences and perceptions of the planning process, although the relevance of these factors can differ across populations and institutional

settings (Basir et al., 2023). Evidence concerning Malaysian Indian testators can contribute to this literature, provided that the population and timing of measurement are clearly defined.

The present study examines reported estate-planning intention among 260 Malaysian Indian respondents who had already written a will. This distinction is central to the research question. Scores collected after will writing cannot establish what

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respondents knew, believed or intended before they completed that behaviour. Accordingly, the analysis concerns contemporaneous associations within a selected group of existing testators, rather than determinants of initial will adoption in the Malaysian Indian population.

The Theory of Planned Behaviour (TPB) provides an organising framework for considering attitudes, subjective norms and perceived behavioural control in relation to intention (Ajzen, 1991, 2020). Financial knowledge and legal awareness are included as context-specific correlates. However, the cross-sectional design and the restriction to prior will writers prevent a prospective test of the intention–behaviour sequence. The study therefore uses TPB to organise the variables without claiming to establish its temporal mechanism.

Estate Planning Among Malaysian Indian Testators

Estate planning is broader than the preparation of a will, and the two concepts should not be treated as interchangeable. An individual who has written a will may still hold views about estate planning, but a score labelled intention does not necessarily measure plans to update a will, undertake additional arrangements or maintain existing plans. Those interpretations depend on the precise wording and time reference of the questionnaire items.

In this study, “reported estate-planning intention” denotes the questionnaire score labelled Intention to Estate Planning in the original analysis. The label is retained to preserve the identity of the measured outcome. Because measurement occurred among respondents who had already written a will, the score is interpreted as a report obtained after will writing. It is not treated as an observed pre-will intention, a verified recollection of such intention or a measure of future will revision.

The focus on existing testators provides information about this particular group, but it also restricts the interpretation of the results. People who have already used will-writing services may differ from non-testators in access to advice, financial circumstances, education and family needs. Legal awareness may also have developed through discussions with service providers. These possibilities make it inappropriate to infer the factors responsible for participation from associations estimated only among participants.

Research Questions and Objective

RQ1: How are financial knowledge, selfless attitude, social influence, perceived behavioural control and legal awareness associated with the reported estate-planning intention score among sampled Malaysian Indian testators?

RQ2: Which of these associations remain statistically significant when the five variables are included simultaneously in a multiple linear regression model?

The objective is to describe these bivariate and mutually adjusted associations within the sampled group of existing testators. The analysis does not estimate the probability of having a will or the effect of an intervention on will writing.

Hypothesis Development

The hypotheses below concern positive associations with the reported intention score within the analytical sample. They do not assert temporal precedence or causal effects. Selfless attitude and social influence are contextual adaptations and should not automatically be equated with validated measures of the corresponding TPB constructs.

Financial knowledge

Financial knowledge refers to understanding financial concepts relevant to financial management and longer-term planning. Such understanding could be associated with how respondents evaluate estate planning. However, general financial knowledge and knowledge of will-writing procedures are distinct concepts, and prior planning experience may affect both.

H1: Financial knowledge is positively associated with reported estate-planning intention among sampled existing testators.

Selfless Attitude

Selfless attitude refers to concern for the welfare of family members and beneficiaries when considering asset distribution. It represents an orientation towards others rather than necessarily an overall favourable evaluation of a specified behaviour. Family-oriented motives provide a rationale for examining this variable, but its correspondence with TPB attitude depends on the measurement items.

H2: Selfless attitude is positively associated with reported estate-planning intention among sampled existing testators.

Social Influence

Social influence concerns perceived encouragement or expectations from family members, friends and professionals. It is conceptually related to subjective norms in TPB, although encouragement, advice and perceived social pressure are not identical. Social influence may be associated with reported intention, and experiences surrounding will preparation could also shape respondents' perceptions of such influence.

H3: Social influence is positively associated with reported estate-planning intention among sampled existing testators.

Perceived Behavioural Control

Perceived behavioural control concerns the perceived ability to perform a behaviour (Ajzen, 2002). Respondents who regard estate planning as manageable may report higher intention scores. Among existing testators, however, confidence in handling the process could have increased after completing a will.

H4: Perceived behavioural control is positively associated with reported estate-planning intention among sampled existing testators.

Legal Awareness

Legal awareness concerns respondents' reported understanding of procedures, requirements, rights and responsibilities relevant to estate planning. It may be associated with stronger endorsement of estate planning. Equally, contact with advisers during will preparation may improve legal awareness, making the direction of this association uncertain.

H5: Legal awareness is positively associated with reported estate-planning intention among sampled existing testators.

Figure 1

Analytical framework expressed as an association model

Explanatory variables entered jointly	Outcome and scope
Financial knowledge Selfless attitude Social influence Perceived behavioural control Legal awareness	Reported estate-planning intention score 260 Malaysian Indian respondents who had already written a will

Note: The framework represents contemporaneous statistical associations. It does not imply that the explanatory variables preceded will writing or that the model predicts initial adoption.

Methodology

Design and Sample

The study employed a quantitative, cross-sectional survey. Initial data collection yielded 400 responses: 260 respondents reported having written a will and 140 reported not having done so. The published analysis retained the 260 existing testators. The unit of analysis was the individual respondent, and eligibility for this analytical sample required respondents to be Malaysian Indian adults aged 21 years or older who had already written a will.

Recruitment took place through a will-writing company's database, with reported permission from the company to contact eligible individuals, and through Malaysian Indian WhatsApp groups. Questionnaires were distributed personally and electronically, including by email and Google Forms. This was a non-probability recruitment procedure. The analytical sample should therefore not be regarded as representative of either all Malaysian Indians or all Malaysian Indian testators.

Restricting analysis to existing will writers conditions the sample on prior participation. This restriction can alter the associations among the explanatory variables and the outcome, and it prevents comparison with people who have not written wills. No claim about population prevalence or determinants of initial participation is made.

Measurement

Six constructs were measured using six items each on a five-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree): financial knowledge, selfless attitude, social influence, perceived behavioural control, legal awareness and reported estate-planning intention. The reported adaptation sources were Chong (2015) and Lai and Tan (2009) for financial knowledge; Sikkell and Schoenmakers (2012) for selfless attitude; Lehman and James (2018) for social

influence; Alma'Amun (2010), Chong (2015), and Sikkell and Schoenmakers (2012) for perceived behavioural control; Alma'Amun (2010) and Chong (2015) for legal awareness; and Alma'Amun (2010) and Boon et al. (2011) for the intention scale.

The reported Kaiser–Meyer–Olkin values ranged from 0.589 to 0.875, and Bartlett's tests were significant for all six constructs ($p < 0.001$). These results indicate that the item correlation matrices were suitable for further examination of their structure; they do not establish construct validity. Separate principal component analyses within each construct cannot, by themselves, establish discriminant validity across the six constructs.

Cronbach's alpha was 0.687 for financial knowledge, 0.892 for selfless attitude, 0.660 for social influence, 0.675 for perceived behavioural control, 0.747 for legal awareness and 0.781 for reported estate-planning intention. The three coefficients below 0.70 indicate modest internal consistency and warrant caution. Retention of these scales for an exploratory analysis does not establish that their measurement quality is adequate, and measurement error may affect the observed associations.

Research Ethics

The study reports that participation was voluntary, respondents were informed of the research purpose, and responses were to be treated confidentially and used for academic purposes. Recruitment included access to a commercial will-writing database with the company's reported permission.

Statistical Analysis

Descriptive statistics summarised the sample and construct scores. Pearson correlations described bivariate associations. Multiple linear regression using the enter method included all five explanatory variables simultaneously. Statistical significance was assessed at the 5% level. The reported coefficients are

unstandardised B values and describe changes in the outcome score associated with a one-unit difference in each explanatory variable, holding the other four variables constant. The model did not include demographic controls.

Tolerance and variance inflation factors (VIFs) were used to assess multicollinearity. The reported Durbin–Watson statistic is not interpreted as evidence of independent observations because these are cross-sectional respondent data without a specified meaningful ordering. Low VIFs likewise do not establish linearity, homoskedasticity, appropriate

residual behaviour or absence of influential observations.

Findings

Respondent Characteristics and Descriptive Statistics

Of the 260 respondents, 152 (58.5%) were male and 108 (41.5%) were female (Table 1). The largest age group was 41–50 years (32.7%), followed by the 31–40 and 51–60 groups (23.5% each). Respondents aged 61 or older accounted for 15.0%, and those aged 21–30 accounted for 5.4% (Table 2). Percentages may not sum exactly to 100 because of rounding.

Table 1

Respondent gender

Gender	Frequency	Percent
Male	152	58.5
Female	108	41.5
Total	260	100.0

Table 2

Respondent age

Age in years	Frequency	Percent
21–30	14	5.4
31–40	61	23.5
41–50	85	32.7
51–60	61	23.5
61 and above	39	15.0
Total	260	100.0

All construct means exceeded the scale midpoint of 3 (Table 3). Legal awareness had the highest mean (4.44), followed by reported estate-planning intention (4.16), followed by reported estate-planning intention (4.16). Perceived behavioural control had the lowest mean (3.34). These are descriptive comparisons of

reported scale scores. They do not demonstrate objective competence. The high means for legal awareness and intention suggest possible ceiling effects, although the distributions and item responses would need to be examined to establish their extent.

Table 3

Descriptive statistics for construct scores

Construct	Mean	Standard deviation
Reported estate-planning intention	4.16	0.789
Financial knowledge	3.94	0.688
Selfless attitude	3.99	0.690
Social influence	3.68	0.651
Perceived behavioural control	3.34	0.773
Legal awareness	4.44	0.596

Bivariate Associations

Legal awareness had the largest observed bivariate correlation with reported intention ($r = 0.621$, $p < 0.01$). Perceived behavioural control ($r = 0.198$, $p < 0.01$) and social influence ($r = 0.131$, $p < 0.05$) also

had positive correlations. Financial knowledge ($r = 0.085$) and selfless attitude ($r = -0.002$) were not statistically significant. These correlations describe within-sample relationships and do not establish their direction of causation.

Table 4

Pearson correlation matrix

Variable	FK	SA	SI	PBC	LA	IEP
FK	1.000	0.393**	0.335**	0.193**	0.199**	0.085
SA	0.393**	1.000	0.595**	0.209**	0.039	-0.002
SI	0.335**	0.595**	1.000	0.386**	0.200**	0.131*
PBC	0.193**	0.209**	0.386**	1.000	0.168**	0.198**
LA	0.199**	0.039	0.200**	0.168**	1.000	0.621**
IEP	0.085	-0.002	0.131*	0.198**	0.621**	1.000

Note. FK = financial knowledge; SA = selfless attitude; SI = social influence; PBC = perceived behavioural control; LA = legal awareness; IEP = reported estate-planning intention. ** $p < 0.01$; * $p < 0.05$, two-tailed. $N = 260$.

Multiple Regression

The five-variable model was statistically significant, $F(5, 254) = 33.741$, $p < 0.001$, with $R = 0.632$, $R^2 = 0.399$ and adjusted $R^2 = 0.387$ (Tables 5

and 6). Thus, the model accounted for 39.9% of the observed variation in the intention score within this sample. This is an in-sample measure of fit, not evidence of causal explanation or out-of-sample predictive performance.

Table 5

Multiple regression model summary

R	R ²	Adjusted R ²	F (df1, df2)	p
0.632	0.399	0.387	33.741 (5, 254)	<0.001

Table 6

Analysis of variance

Source	Sum of squares	df	Mean square	F	p
Regression	64.359	5	12.872	33.741	<0.001
Residual	96.898	254	0.381	—	—
Total	161.257	259	—	—	—

Tolerance values ranged from 0.553 to 0.914 and VIFs from 1.094 to 1.808, providing no indication of severe multicollinearity by these diagnostics. Legal awareness ($B = 0.818$, $t = 12.059$, $p < 0.001$) and perceived behavioural control ($B = 0.113$, $t = 2.089$, $p = 0.038$) were positively associated with the outcome after mutual adjustment. H4 and H5 were supported as within-sample association hypotheses at the stated significance level.

Financial knowledge ($B = -0.054$, $p = 0.387$), selfless attitude ($B = -0.026$, $p = 0.643$) and social influence ($B = -0.001$, $p = 0.986$) were not statistically significant in the adjusted model; H1–H3 were not supported. Their negative estimates should not be interpreted as evidence that these variables discourage estate planning.

Table 7

Reported regression coefficients

Variable	B	t	p	Tolerance	VIF
Financial knowledge	-0.054	-0.866	0.387	0.800	1.250
Selfless attitude	-0.026	-0.465	0.643	0.590	1.695
Social influence	-0.001	-0.017	0.986	0.553	1.808
Perceived behavioural control	0.113	2.089	0.038	0.838	1.193
Legal awareness	0.818	12.059	<0.001	0.914	1.094

Note: B denotes an unstandardised coefficient. Dependent variable: reported estate-planning intention; N = 260. All five variables were entered together. Coefficient magnitudes are expressed in the respective score units and are not used to rank relative importance.

Discussion

The findings show positive adjusted associations of legal awareness and perceived behavioural control with reported estate-planning intention among sampled existing testators. The substantive interpretation must remain tied to this population and measurement timing. Respondents had already undertaken will writing, and the study does not show whether awareness and control preceded that action.

Legal awareness had the largest observed bivariate correlation with the outcome and a statistically significant adjusted coefficient. Respondents reporting greater legal awareness also reported higher intention scores. A plausible interpretation is that legal understanding and favourable views of planning coexist among these respondents. Another is that will preparation increased awareness and reinforced respondents' endorsement of planning. The design cannot distinguish these explanations, and shared self-report measurement or unmeasured characteristics may also contribute to the association.

The positive association for perceived behavioural control is compatible with the conceptual relevance of perceived capability in TPB (Ajzen, 1991, 2002). Nevertheless, compatibility is not a test of temporal ordering. Having completed the process may have increased respondents' confidence. The evidence therefore does not establish that increasing perceived control would cause people without wills to begin estate planning.

The absence of statistically significant adjusted associations for financial knowledge and selfless attitude does not establish their irrelevance to estate planning. Relationships may differ before participation, and the restricted sample and measurement limitations may obscure associations. In particular, the financial knowledge scale had modest internal consistency. Non-significance should be interpreted as insufficient evidence of an adjusted association in this model, rather than proof of no relationship in the wider population.

Social influence had a small positive bivariate correlation but an approximately zero adjusted coefficient. Its bivariate association may overlap with other included variables, although the regression does not identify the mechanism underlying this difference. Advice and family encouragement may operate differently at earlier stages of planning, which are not observed here.

The results support further examination of legal awareness alongside behavioural variables, but they do not demonstrate that legal awareness improves a TPB model. Establishing incremental explanatory value would require an appropriate comparison with a model excluding legal awareness, alongside valid measures and assessment of model performance. Nor can the unstandardised coefficients alone establish which variable is most important.

Practical Implications

For services supporting existing testators, the observed associations motivate consideration of clear explanations of procedures and opportunities to ask questions about estate-planning arrangements. Materials in Malay, Tamil and English, together with accessible guidance on service procedures and costs, could be evaluated for their usefulness to intended users. The present study did not test these measures or establish their effectiveness.

These suggestions should be treated as proposals for service evaluation. Extending them to programmes intended to increase initial will writing requires evidence from non-testators and prospective or experimental evaluation. The findings do not justify prioritising legal education over all other interventions, nor do they establish an effect of digital tools or financial technology, which were not included in the model.

Limitations and Directions for Further Research

First, analysis was restricted to 260 existing testators and excluded 140 respondents without wills. Selection on prior participation limits external validity and can distort associations. Future research should transparently define eligibility for the full sample and distinguish analysis of will status from analysis of prospective intention. Adding non-testators to the same model without clarifying the outcome's meaning and timing would not, by itself, resolve the problem.

Second, the cross-sectional data do not establish temporal precedence. Legal awareness and perceived control could be consequences of will writing. A prospective design should measure clearly specified intention and its proposed antecedents before initial participation, then observe subsequent behaviour. Existing testators could be studied separately using explicit measures of future review or additional planning, where substantively appropriate.

Third, non-probability recruitment through a commercial database and WhatsApp groups limits representativeness. Recruitment may favour individuals with access to advice or particular social networks. Wider and more diverse recruitment would improve coverage, but a larger sample alone would not eliminate selection bias.

Fourth, measurement evidence is limited. Some scales have modest internal consistency, separate factorability checks do not establish discriminant validity, and the time reference of the outcome is crucial. High average scores also raise the possibility of restricted variation and ceiling effects. Item-level validation and sensitivity analyses are needed before stronger substantive conclusions can be drawn.

Finally, the reported model includes no demographic controls, and the available diagnostics do not establish the adequacy of all regression assumptions. Theoretical justification should guide additional controls and robust sensitivity checks. Such extensions may improve description, but they cannot repair the absence of temporal ordering or establish causality.

Conclusion

Among 260 sampled Malaysian Indian respondents who had already written a will, legal awareness and perceived behavioural control were positively associated with reported estate-planning intention after adjustment for the other included variables. Financial knowledge, selfless attitude and social influence were not statistically significant in the adjusted model, which accounted for 39.9% of the observed outcome variance. These findings concern associations measured among existing testators. They do not establish the causes of initial will writing, validate a prospective intention-behaviour sequence or support generalisation to all Malaysian Indians. Future research should clarify the measured outcome, strengthen measurement and reporting, and examine intention before behaviour using prospective data.

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Zakat in Programmable Economies: A Conceptual Framework for Digital Wealth and Financial Planning with Implications for Emerging Generations

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Abstract

Blockchain-based assets, decentralised finance, stablecoins and automated financial services create new challenges for identifying, valuing and transferring wealth. For zakat planning, these challenges concern asset classification, beneficial ownership, reliable valuation, the nisab threshold, applicable holding-period conditions and authorisation of payment. This conceptual article integrates behavioural finance, digital asset economics, Islamic normative analysis and financial planning to develop a practitioner-oriented framework. It distinguishes the jurisprudential basis of zakat from the technological systems used to implement an assessment. Stablecoins are considered possible reporting or settlement instruments, rather than substitutes for the authorised nisab benchmark. Eight propositions address wealth abstraction, fragmentation, aggregation, automation, perceived agency, explainability, volatility and institutional recognition. These propositions are theoretical extensions and have not been empirically tested. The framework translates them into an asset taxonomy, an advisory protocol, valuation safeguards, a defined wealth-planning equation and digital succession procedures. Malaysia illustrates the need to distinguish capital-market regulation, Shariah assessment and zakat administration. References to Generations Alpha and Beta identify future research settings rather than established behavioural characteristics. The article concludes that automated tools should combine documented assessment rules, reliable data, informed authorisation, human review and beneficiary accountability. Empirical research and asset-specific scholarly assessment are required before claims about effectiveness or general Shariah validity can be made.

Keywords: Zakat, Islamic fintech, decentralised finance, digital assets, behavioural finance, financial planning

Introduction

Digital financial participation creates new ways to record and transfer wealth. The Global Findex Database 2025 reports financial-inclusion and digital-connectivity evidence collected during the 2024 survey year (World Bank, 2025). These data provide context for digitally mediated finance, but account ownership or digital-payment use should not be equated with cryptocurrency ownership.

Blockchain-based assets add particular challenges to this broader transition. A person may hold assets through exchanges, self-custody wallets, custodians

and smart contracts. The Financial Stability Board (FSB, 2023) identifies vulnerabilities in decentralised finance (DeFi), including operational weaknesses and financial interconnections. For financial planners, the relevant question is how to document the client's economic rights and obligations across these arrangements, rather than assuming that an application's displayed balance is a complete statement of wealth.

Zakat introduces both an assessment obligation and a religious purpose. Computational accuracy alone cannot determine the appropriate treatment of an asset, the applicable holding-period rule or the validity of a

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payment arrangement. Those questions require an identified jurisprudential basis and competent institutional guidance. This article develops a conceptual framework linking these decisions to digital asset characteristics, behavioural mechanisms and financial-planning practice.

The framework addresses three questions. RQ1: How might digital asset properties affect recognition of wealth relevant to zakat? RQ2: Under what conditions can stablecoins assist valuation or settlement while preserving the authorised nisab benchmark? RQ3: How might automation affect perceived agency and the informed fulfilment of zakat obligations?

Generational Scope and Analytical Boundaries

The labels Generation Alpha and Generation Beta are used only to identify prospective research contexts. McCrindle's convention assigns 2010–2024 births to

Alpha and 2025–2039 births to Beta (McCrindle, n.d.-a, n.d.-b). These commercial labels are not validated psychological categories or official United Nations demographic classifications. World Population Prospects 2024 supplies demographic estimates and projections, not evidence that a named generation shares a particular financial mindset (United Nations DESA, 2024).

At the article's 2026 reference point, those defined as Generation Alpha are children or adolescents, while the earliest Generation Beta members are infants or very young children. Their independent financial behaviour cannot be inferred from adult cryptocurrency users. The analysis therefore concerns digital wealth holders generally and family or guardian planning where appropriate. It does not imply that childhood, technical familiarity or cohort membership establishes personal zakat liability. The treatment of wealth owned by minors requires a separately specified jurisprudential approach.

Table 1

Generational scope and evidential boundaries

Group	Relevant research setting	Permissible interpretation
Adult users including Millennials and Generation Z	Observed use of accounts, platforms or digital assets, where documented	Age, experience, income and jurisdiction must be measured; behaviour is not inferred from a label.
Generation Alpha under the stated convention	Children and adolescents in family, educational and supervised financial settings	Study learning and interface use with appropriate safeguards; do not assume independent asset ownership or adult obligations.
Generation Beta under the stated convention	Future systems and guardian-led planning	Scenario and design research only at present; no established cohort-specific financial behaviour.

Statement of the Problem and Research Gap

Digital asset balances can be fragmented across interfaces, subject to transfer restrictions and valued using different market sources. A token may represent an underlying asset or a claim against an intermediary; counting both the token and its backing can overstate wealth. Conversely, recording only immediately visible wallet balances can omit claims held in protocols. These are accounting and ownership problems before they become calculation problems.

Behavioural finance provides a basis for examining how people mentally separate financial positions and respond to payment design (Thaler, 1999; Prelec & Loewenstein, 1998). Applying these mechanisms to zakat is a conceptual extension. Fragmented displays might obscure aggregate wealth, while consolidated records might improve recognition. Either outcome is possible; digitalisation should not be assumed to reduce religious commitment or increase compliance.

The contribution lies in connecting four decisions that are often handled separately: identifying economic rights, determining the adopted zakat treatment, measuring the assessable base, and

arranging authorised payment. A fifth concern is whether the system's presentation enables the client to understand those decisions. The framework does not claim that no prior work links Islamic finance and technology, nor that existing standards uniformly omit every form of digital asset.

Methodology and Framework Development

This is a non-systematic conceptual synthesis, not an empirical study or an exhaustive review of jurisprudential opinions. It brings together selected theoretical studies, technical documentation and official institutional sources. The purpose is to derive explicit propositions and a practical assessment structure, rather than estimate effect sizes or establish the prevalence of a behaviour.

The analysis separates three types of statement: source-supported descriptions, interpretive links

between disciplines, and proposals for future testing. Behavioural studies inform possible mechanisms; protocol documentation informs technical descriptions; regulatory instruments establish their own jurisdictional scope. None of these sources alone establishes the Shariah treatment of every digital position or validates the proposed advisory framework.

The framework proceeds analytically from asset characteristics to possible behavioural mechanisms, then to assessment and governance requirements, and finally to planning implications. Table 2 records the role and limits of each domain. Appendix A maps the principal sources to the propositions and distinguishes their original contribution from this article's extension. This map provides traceability but does not substitute for a documented search and appraisal process.

Table 2

Interdisciplinary domains and their analytical roles

Domain	Concepts and contribution	Boundary
Behavioural finance	Mental accounting, payment salience, reference dependence, defaults and reliance on automation	Mechanisms from other settings motivate hypotheses; they are not digital-zakat findings.
Digital asset economics	Token rights, liquidity, custody, protocol dependencies and valuation inputs	Technical function does not establish ownership, legal validity or Shariah permissibility.
Islamic normative analysis	Mal, milk, nisab, hawl, niyyah and beneficiary eligibility	Apply a stated scholarly or institutional position; differences cannot be resolved by code alone.
Financial planning	Inventory, valuation, liquidity, retirement projections and succession	Proposed professional procedures require testing and client-specific assessment.
Regulatory governance	Authorisation, custody, disclosure, financial-crime controls and privacy	Each instrument has a defined scope; capital-market status is not a zakat ruling.

Demographic and Institutional Context

Digital financial environments differ within as well as across age groups. Access to reliable connectivity, education, advice and regulated services can shape how a person encounters digital wealth. This framework treats these characteristics as variables to measure rather than outcomes implied by the term "digital native". Longitudinal research is needed to determine whether early exposure has lasting effects on recognition of wealth or financial responsibility.

Regulatory context also matters, but its behavioural effects remain propositions. The EU Markets in Crypto-Assets Regulation, Regulation (EU) 2023/1114 (MiCA), distinguishes asset-referenced tokens and e-money tokens and establishes requirements for activities within its scope (European Parliament and Council, 2023, Article 3 and Titles III–V). It does not make every stablecoin equivalent to sovereign currency or determine zakat treatment. Outside that scope, different instruments and authorities may apply.

The Financial Action Task Force's updated guidance on virtual assets and virtual asset service providers addresses implementation of anti-money-laundering and counter-terrorist-financing requirements, including the Travel Rule (FATF, 2021). FATF guidance is implemented through national frameworks; it is not itself a universal authorisation or prohibition for every charitable transfer. A proposed payment service must identify the rules applicable to its activities and location.

Malaysia is examined below as an institutional illustration. Other jurisdictions cannot be grouped into a single "Asian", "African" or "Islamic" model. Differences in licensing, custody rights, permitted services and enforcement should be documented for a named jurisdiction and date before comparative claims are made.

Qur'anic Foundations and the Normative Economy of Zakat

Wealth and Responsibility

The normative discussion draws on Qur'anic passages concerning entrusted wealth, giving and beneficiary categories, including 57:7, 2:267, 9:60 and 9:103. These passages motivate attention to responsibility, the quality of what is given and appropriate distribution. These ethical principles provide a foundation for analysis, while a complete digital-asset ruling requires interpretation of the relevant jurisprudential sources.

Qur'an 59:7 refers to the distribution of *fay'* and contains a concern about wealth circulating only among the rich. It provides a broader distributive context; it is not a stand-alone prescription of the zakat rate, *nisab* or treatment of a particular token. The distinction matters when connecting Islamic ethical reasoning to modern financial instruments.

Redistribution and Beneficiary Accountability

The World Inequality Report 2022 reports that the global top 10% held 76% of wealth and the bottom 50% held 2% in its 2021 estimates (World Inequality Lab, 2022, executive summary). These figures provide context for distributive concerns; they do not show that a particular DeFi architecture increases inequality or that an automated zakat mechanism reduces it.

A payment record also does not establish beneficiary eligibility or real-world delivery. Smart contracts can enforce specified transfer conditions, but the identification of eligible recipients, authorisation of intermediaries and handling of disputes require accountable procedures. The proposed framework therefore distinguishes transaction traceability from evidence of appropriate distribution and social outcomes.

Niyah and Delegated Execution

Niyah, or intention, is a religious concept and should not be reduced to a behavioural survey score. Explicit authorisation, clear explanations and review opportunities are proposed ways to support informed participation. They do not, by themselves, establish that a system satisfies every jurisprudential requirement. The timing and form of intention and agency must be evaluated under the position adopted for the service.

The appropriate design separates the client's informed instruction from technical execution. Users should be able to understand what assets are included, which rules are applied, the proposed amount and the intended recipient or institution. Changes to an instruction should be possible before execution where the arrangement permits. Completed blockchain transfers may not be reversible, so a promise of universal reversibility would be misleading.

Behavioural Finance of Digital Zakat

Recognition and Mental Accounting

Mental accounting concerns the ways individuals organise and evaluate financial activity (Thaler, 1999). The proposed application is that a collection of separate wallet or platform displays may encourage attention to individual balances rather than the complete assessable position. An interface could also improve recognition by consolidating relevant holdings. The direction and size of either effect require testing against a verified inventory.

Household aggregation must not erase differences in ownership. A family dashboard may display several people's assets for planning purposes, but each person's assessable base must remain separately identifiable under the applicable rules. Trust, company, custodial and jointly held positions likewise require attribution before aggregation.

Payment Salience and Agency

Prelec and Loewenstein (1998) link payment arrangements to the mental accounting of consumption and debt. This provides a rationale for examining payment salience, not evidence that frictionless zakat payments reduce sincerity. Lower transaction costs could facilitate payment while leaving, increasing or decreasing perceived meaning. Research should measure payment completion, understanding and perceived agency separately.

Johnson and Goldstein (2003) examine defaults in organ-donation decisions, while Parasuraman and Riley (1997) distinguish appropriate and inappropriate reliance on automation. Neither study tests automated zakat. They motivate comparisons between manual payment, assisted automation and default execution, with comprehension and error detection assessed alongside convenience.

Volatility and Reference Dependence

Prospect theory concerns evaluation relative to reference points and decisions under risk (Kahneman & Tversky, 1979). It does not establish that volatility necessarily weakens reference dependence. This article instead proposes that fluctuating displayed balances may make users uncertain about the amount relevant to assessment or encourage selective attention to favourable prices. A predetermined valuation policy is a proposed procedural safeguard, not an empirically demonstrated cure.

Digital Asset Valuation and Nisab Determination

Distinguishing the Asset Value from the Threshold

The assessable asset value and the nisab threshold are separate inputs. An adopted gold- or silver-based benchmark can change in reporting-currency terms; its jurisprudential basis is not replaced merely because a digital unit appears more stable. A system should record the reference asset, quantity or official threshold, valuation date, reporting currency and source required by the applicable authority. It should not select between gold, silver or alternative dates opportunistically to minimise the payment.

Similarly, continuous market pricing does not create a requirement to recalculate and pay zakat continuously. The relevant assessment date and hawl rules depend on the asset and adopted position. Monitoring software should implement those rules explicitly rather than treat every temporary price movement as restarting or completing a holding period.

Stablecoins as Reporting or Settlement Instruments

A stablecoin can be an asset held by the client, a reporting denomination or a payment instrument. These roles must be distinguished. A fiat-referenced unit may simplify display, yet its peg, reserves,

redemption terms and market liquidity can fail to deliver the expected value. Gorton and Zhang (2023) analyse stablecoin fragility and the institutional arrangements associated with redemption confidence.

Two design approaches are therefore possible for evaluation. A system can use the authorised reporting currency and threshold directly, with no stablecoin intermediary. Alternatively, where accepted, it can convert values into a stablecoin denomination using documented exchange rates and redemption assumptions. The latter adds risks and does not change the underlying nisab basis. Neither approach establishes universal Shariah acceptance of the token or of in-kind payment.

A de-pegged stablecoin should not automatically be recorded at its nominal target value. Its observable market value, enforceable redemption claim and access restrictions must be assessed under the chosen valuation policy. Uncertainty should be disclosed and escalated for review. An unsupported discount described as “conservative” could understate the assessable base just as an unrealistic peg could overstate it.

Price Sources and Oracle Governance

Oracles supply external information to smart contracts; they do not establish the truth of an asset’s legal status or the correct religious rule (ethereum.org, n.d.-b). A reliable implementation should document price sources, update frequency, stale-data limits, treatment of thin markets and conditions for suspending automated execution. Independent checks can reduce reliance on one erroneous feed but do not eliminate common-source or manipulation risk.

The proposed valuation record includes a timestamp and time zone, asset quantity, price source, reporting-currency conversion and any restrictions on realisation. For illiquid assets, an observed last trade may not support valuation of the entire holding. The basis of an estimate and its uncertainty should be

transparent, with specialist review where no defensible market input is available.

Shariah Governance and Jurisprudential Questions

Mal and Ownership

Digital form alone does not decide whether an asset qualifies as mal or how it should be treated. The Securities Commission Malaysia’s Shariah Advisory Council (2020, pp. 2–4) recognises specified digital assets within its jurisdiction as mal and distinguishes their characteristics and applicable conditions. Its resolution expressly excludes assets outside that jurisdiction. It should not be presented as a universal approval of cryptocurrencies, DeFi arrangements or a comprehensive zakat assessment rule.

Private-key control is also different from legal title or beneficial ownership. A custodian, trustee or employee may control a key for someone else. A client may have a recoverable claim without controlling an on-chain address. Assessing ownership therefore requires the relevant contract, economic exposure and access conditions, not simply a wallet signature.

Asset Classification and Holding Periods

Personal use, trading inventory, an investment claim and a right to receive a service may require different assessment. A token’s marketing label does not resolve that classification. Staking rewards, liquidity-pool claims and lending receipts require attention to the contract, lawful source of return, recovery rights and timing of recognition. A market price or payment of zakat does not establish that the underlying activity is permissible.

Hawl is a relevant holding-period condition for applicable categories, not a universal rule for every form of wealth or receipt. Asset exchanges, additions, rewards, temporary restrictions and changes around nisab must be assessed under the stated approach.

Software should retain the events needed for that analysis rather than assume a single clock applies to all tokens.

AAOIFI identifies Shari'ah Standard No. 35 as "Zakah" (AAOIFI, n.d.). This should be distinguished from financial accounting standards with different numbers and purposes. A standard's existence does not demonstrate its legal adoption in every jurisdiction or resolve every protocol-specific question. Implementation requires the relevant edition, provisions, institutional applicability and any local requirements to be identified.

Philosophical Implications of Programmable Wealth

Programmability makes some rights and restrictions executable through code, but it does not make conventional wealth purely tangible or unconditional. Bank deposits, securities and contractual claims have long depended on institutions, records and enforceable promises. Conversely, some tokens represent claims on productive or physical assets. The distinction between traditional and digital wealth should therefore concern the structure of rights and dependencies rather than a claim that only digital value is socially recognised.

The framework's normative interpretation is that technical control and market valuation do not exhaust the responsibilities associated with wealth. Zakat planning adds an assessment of obligations and appropriate distribution. This is a conceptual position about governance, not evidence that zakat stabilises token prices, prevents concentration or guarantees the legitimacy of an asset. Those stronger claims require separate arguments and evidence.

Digital Asset Taxonomy for Zakat and Estate Planning

Table 3 distinguishes economic functions and review questions. It is a due-diligence taxonomy, not

a schedule of binding rulings. A look-through approach identifies the underlying right and prevents duplicate recognition where a token represents assets already recorded elsewhere. Valuation, liquidity and ownership should remain separate fields.

Integrated Conceptual Framework and Propositions

The framework links abstraction, fragmentation, volatility, liquidity, programmability and custody to possible differences in wealth recognition, assessment accuracy and payment behaviour. Financial literacy, interface design, access to advice and institutional context are proposed moderators. The following propositions are untested and concern mechanisms rather than inherent generational traits.

P1 — Digital abstraction. Displaying isolated token quantities without understandable aggregate values may reduce recognition of the complete assessable position compared with a comprehensible consolidated display.

P2 — Fragmentation. Holding assets across more wallets, exchanges and protocols may increase omission risk, conditional on complexity, experience and the availability of complete records.

P3 — Aggregation and visibility. A verified, ownership-sensitive inventory may reduce the omission errors associated with fragmentation. Incomplete automated aggregation may instead create false confidence.

P4 — Automation and accuracy. Automated calculations and reminders may reduce arithmetic and timing errors when the input data and encoded rules are correct. Incorrect rules or feeds may scale those errors.

P5 — Automation and agency. Opaque execution may reduce perceived agency relative to assisted automation, but convenience or prior informed

authorisation may offset this effect. Perceived agency is distinct from religious validity.

P6 — Explainability and legitimacy. Understandable calculations, disclosed rules and meaningful review options may improve comprehension and perceived legitimacy compared with an opaque interface. Mere disclosure volume may not do so.

P7 — Volatility and valuation choices. Volatility may increase uncertainty or selective valuation behaviour, while a predetermined assessment policy may limit opportunistic price selection.

P8 — Institutional recognition. Credible and clearly bounded institutional guidance may increase willingness to disclose digital positions and seek advice. Effects may depend on trust and perceived privacy costs; recognition should not be interpreted as a guarantee of safety.

Table 3

Digital asset taxonomy and assessment questions

Asset category	Economic right and valuation	Principal risks	Question for assessment
Payment cryptocurrencies	Transferable units; observable market price where sufficiently liquid	Price volatility, custody and market concentration	Which classification, ownership and assessment-date rules apply?
Fiat-backed stablecoins	Token and any enforceable redemption claim; assess achievable value	De-pegging, issuer, reserve and redemption risk	Is the adopted treatment supported by the actual rights, rather than the advertised peg?
Crypto-collateralised stablecoins	Stability supported by collateral and protocol rules	Liquidation, collateral volatility and oracle failure	How should collateral rights and restrictions be attributed?
Algorithmic stablecoins	Stability mechanism may rely on incentives and linked tokens	Reflexivity, liquidity failure and collapse	Is there a recoverable claim or reliable value? Do not assume cash equivalence.
Utility tokens	Access or service rights, possibly transferable	Platform dependency and uncertain resale value	Personal use, investment or trading inventory?
Governance tokens	Protocol voting rights and any additional contractual benefits	Voting concentration and protocol failure	What rights and benefits actually attach to the token?
Non-fungible tokens	Unique token; rights depend on associated terms	Illiquidity, fraud and uncertain comparables	What is owned, for what purpose, and on what defensible valuation basis?
Tokenised real-world assets	Claim on an underlying asset or issuer	Title, custody and enforceability risk	Apply the relevant underlying-asset analysis and avoid double counting.
Staking positions	Staked principal and recognised rewards under protocol terms	Slashing, withdrawal delays and service-provider risk	Are principal and rewards accessible and attributable, and when are rewards recognised?
Liquidity-pool positions	Share of pool assets and accrued fees; protocol-specific valuation	Impermanent loss, smart-contract and liquidity risk	Value the claim and fees without also counting the same underlying reserves.
Lending and yield positions	Claim to principal and contractual returns, if recoverable	Default, liquidation and protocol risk	Assess permissibility, recoverability and timing; yield is not automatically lawful.
Wrapped or bridged assets	Representation of another asset across a contract or chain	Bridge, custody and backing risk	Count the economic exposure once and verify backing and redemption.

Sources and scope. Technical descriptions draw on FSB (2023), Gorton and Zhang (2023), ethereum.org (n.d.-a, n.d.-c) and Uniswap (n.d.). The assessment questions are the author's proposed synthesis, subject to asset-specific review. Impermanent loss is a divergence in value relative to holding the underlying assets outside the pool; it is not a promise that the loss will reverse. Protocol rewards and fee income do not guarantee a positive total return.

Table 4

Potential risks and benefits of digital mechanisms

Mechanism	Possible adverse effect	Possible benefit and condition
Multiple wallets and protocols	Omitted holdings, duplicate claims or fragmented records	Aggregation may improve coverage if ownership and backing are verified.
Frictionless payment	Reduced attention to amount or recipient	Lower effort may support timely payment; informed authorisation remains necessary.
Smart-contract execution	Repeated errors, unintended transfers or weak user control	Consistent execution of correctly specified instructions, with exception controls.
Portfolio dashboard	False precision, overload or incorrect ownership aggregation	Clearer inventory and monitoring when scope and uncertainty are visible.
Defaults and reminders	Passive acceptance or ignored alerts	Fewer missed actions if settings are understood and appropriately chosen.
Price oracles	Stale or manipulated data	Repeatable inputs when source governance and suspension rules are sound.

Note: These are proposed mechanisms and design conditions, not observed effects from a digital-zakat experiment.

Implications for Financial Planning and Wealth Management

and protocol records, distinguishing evidence of an asset from assumptions about its recovery.

Digital Wealth Inventory and Client Discovery

The first task is to identify assets and claims attributable to the client. The proposed inventory records the platform or chain, asset, quantity, custody arrangement, beneficial owner, acquisition purpose, restrictions, valuation source and any related liabilities or rewards. It should reconcile platform statements

The inventory must include relevant non-digital wealth where the adopted assessment requires aggregation. Combining wallets without combining eligible off-chain holdings can leave an incomplete base. Conversely, access to a household account does not authorise counting every balance as one person's property. Table 5 converts these distinctions into a proposed advisory sequence.

Table 5

Proposed digital zakat advisory protocol

Step	Adviser action	Documented output
1 Identify	Map relevant digital and non-digital assets, platforms and claims.	Dated inventory and coverage limits.
2 Attribute ownership	Separate key control, legal title, beneficial ownership and access restrictions.	Ownership and custody record.
3 Classify	Identify underlying rights, purpose of holding and duplicate representations.	Asset classification and reconciliation.
4 Establish treatment	Record the applicable Shariah and institutional approach; refer disputed cases.	Authority, provisions and unresolved questions.
5 Value	Apply documented dates, currency and defensible price sources.	Valuation record and uncertainty assessment.
6 Assess	Apply the authorised nisab, hawl, aggregation and deduction rules.	Calculation and rule version.
7 Plan liquidity	Identify a feasible payment source without assuming locked assets are exempt.	Cash-flow and liquidity plan.
8 Authorise and execute	Confirm instructions, amount, recipient and exception handling.	Authorisation and payment record.
9 Reconcile	Check settlement, fees, receipt and treatment of failed or duplicate transfers.	Reconciliation and exception log.
10 Review	Update holdings, rules, permissions and family circumstances.	Revised assessment and succession instructions.

Valuation Policy and Liquidity

The adviser should distinguish the portfolio's displayed market value, realisable value and zakat assessment base. They may differ because of ownership, eligibility, timing or deductions. A planning haircut used in a liquidity stress test is not automatically an allowable reduction in the zakat base. Borrowing, encumbrances and inaccessible assets likewise require a stated treatment rather than a blanket deduction or exclusion.

A liquidity plan can consider reserves, payment timing and the consequences of selling positions under adverse conditions. It should address market falls, redemption delays, slashing, smart-contract failure and transaction costs without promising that those events can be eliminated. Automating payment does not ensure that funds will be available or that the correct asset will be sold.

Long-Term and Retirement Planning

Equation (1) is a simple wealth-flow identity illustrating how payment enters a planning projection:

$$W_{t+1} = W_t(1 + r_t) - C_t - Z_t \quad (1)$$

where, W_t is beginning-of-period investable wealth; r_t is the nominal total portfolio return over the period, net of investment fees but before consumption and zakat; C_t is consumption and other non-zakat outflows; Z_t is the zakat payment made at the end of the period; and W_{t+1} is closing wealth. All wealth and flow amounts use the same reporting currency. The return is a decimal rate, not a cash amount. The simplified timing assumes that returns accrue before both outflows and omits external inflows, taxes and intra-period timing differences. More detailed projections should include those flows explicitly.

Equation (1) is a planning identity, not a jurisprudential formula. Z_t must be assessed separately using the eligible wealth base, applicable rate, adopted

nisab reference and relevant time conditions. W_t and the assessable base need not be equal. For an illustration using a lunar-year assessment, the return interval must also be stated consistently; an annual Gregorian return should not silently be treated as a lunar-year return.

Illustrative example. Suppose opening wealth is RM100,000 and the return over the assumed lunar-year interval is 5%. Non-zakat outflows of RM10,000 occur at the end, leaving RM95,000 before zakat. Assume, solely for this example, that this entire remaining amount is assessable, the applicable hawl condition is met, the adopted threshold is RM30,000 and the applicable rate is 2.5%. The payment is RM2,375 and closing wealth is RM92,625. The threshold is a hypothetical input, not the actual Malaysian nisab. The example shows a payment on the assumed full eligible base, not only on the amount above the threshold. A different approved classification, timing or base would change the assessment.

Professional Responsibilities

The proposed framework requires financial-planning competence alongside sufficient technical understanding to identify when specialist advice is needed. Advisers should document the limits of their valuation, legal and Shariah expertise and explain the basis of recommendations. Product providers' claims, software output and regulatory registration should be checked for their actual scope. None substitutes for client-specific assessment.

Digital Estate Planning and Intergenerational Transfer

Technical access and legal entitlement may diverge after death. A documented entitlement is of limited practical use if assets cannot be discovered or recovered; possession of a key does not itself establish an heir's entitlement. A secure estate plan therefore identifies the assets, the relevant rights and a

controlled access process without placing private keys or recovery phrases in an unsecured will.

Possible recovery arrangements include institutional procedures, carefully governed multi-signature access and encrypted instructions held

through an appropriate process. Each requires assessment of privacy, unauthorised access, continuity and the authority of the person executing it. No recovery design is universally suitable, and automated transfers should not bypass the applicable estate-administration process.

Table 6

Digital estate planning risks and responses

Risk	Potential consequence	Proposed response
Unknown wallet or protocol	Assets omitted from the estate	Maintain a secure, current inventory and a controlled discovery process.
Lost credentials	Assets inaccessible	Document and test an appropriate recovery arrangement without exposing secrets.
Unclear beneficial ownership	Disputes or incorrect distribution	Retain contracts, title records and evidence of ownership and authority.
Locked or illiquid positions	Difficulty meeting estate liabilities or making distributions	Record restrictions and consider separate liquidity subject to applicable law.
Unrecorded rewards or claims	Incomplete valuation	Include accrued entitlements and protocol claims without duplicate recognition.
Post-death automatic execution	Unintended or unauthorised transfer	Review permissions, delegated authority and available emergency controls.
Uncertain unpaid zakat	Dispute over obligations	Retain assessments and receipts; apply the relevant legal and scholarly treatment.

Intergenerational education should address security, risk and responsibility alongside technical familiarity. Research involving children should distinguish learning outcomes from actual financial transactions and comply with appropriate consent and safeguarding procedures. The framework does not presume that young users are either more competent or less committed than older users.

Malaysia As an Institutional Illustration

Malaysia offers a setting in which market oversight, Shariah assessment and zakat administration need to be distinguished. Securities Commission Malaysia's Guidelines on Digital Assets cover specified activities, including initial exchange offerings and digital asset custodians (SC, 2024). Its 20 May 2026 announcement confirms revisions to the Guidelines on Recognized Markets for digital asset exchanges (SC, 2026). These instruments concern capital-market activities; they do not create a single national rule for every digital-zakat question.

The SAC resolution discussed earlier has an expressly limited scope. Zakat assessment and collection also involve the relevant state religious institutions. A service should identify which institution's guidance applies to the client and distinguish that guidance from market regulation. Lembaga Zakat Selangor's dedicated cryptocurrency guidance provides an example of asset-specific public information (Lembaga Zakat Selangor, n.d.); it should not be treated as automatically applicable in every state or jurisdiction.

Bank Negara Malaysia's Financial Sector Blueprint 2022–2026 provides broader financial-sector policy context (Bank Negara Malaysia, 2022). It does not, by itself, certify a token, platform or automated zakat tool. Any pilot must identify the permissions applicable to its actual functions rather than rely on a general innovation-policy statement.

Table 7

Malaysian stakeholders and boundaries of responsibility

Stakeholder	Relevant role or proposed contribution
Securities Commission Malaysia	Capital-market oversight within its jurisdiction, including the relevant digital asset operators and activities.
SC Shariah Advisory Council	Shariah resolutions within the SC's remit; not a substitute for every zakat authority's guidance.
Relevant state religious and zakat institutions	Applicable assessment, collection, distribution and public guidance.
Financial planners	Client inventory, valuation, liquidity and succession advice within competence and authorisation.
Exchanges and custodians	Statements, transaction histories, ownership information and applicable estate procedures.
Islamic fintech providers	Proposed aggregation, calculation and payment tools with documented limits and governance.
Professional and educational bodies	Training, competence development and independent evaluation.

Policy and Industry Recommendations

The immediate priority is transparent asset-specific guidance that identifies where opinions agree and where they differ. A common data structure can improve communication without forcing different authorities to adopt an unsupported uniform ruling. It should record rule versions, valuation assumptions and unresolved cases, with a route to human review.

Interoperability should use only the information needed for assessment and reconciliation. Access controls, informed data sharing and retention limits are proposed safeguards. Private keys, recovery phrases

and sensitive beneficiary identities should not be placed on a public ledger as proof of transparency. An immutable transaction record can support an audit without revealing unnecessary personal information.

Controlled pilots should test whether users understand the calculation, whether the system includes the correct assets and whether exceptions are handled appropriately. Evaluation should include failed payments, stale prices, de-pegging, incomplete inventories and incorrect ownership attribution. Permission to conduct a pilot must not be portrayed as approval for unrestricted deployment or proof of Shariah validity.

Table 8

Stakeholder recommendations and evaluation criteria

Stakeholder	Proposed action	Outcome to evaluate
Financial advisers	Use consolidated, ownership-sensitive inventories and documented valuation policies.	Completeness, explainability and client understanding.
Zakat institutions	Publish asset-specific guidance and clarify how disputed or uncertain cases are referred.	Consistency of assessments and resolution of queries.
Fintech developers	Provide user authorisation, comprehensible calculations, exception controls and audit records.	Error rates, comprehension and effective control before execution.
Regulators	Clarify applicable permissions, custody duties and information requirements.	Compliance with the relevant scope and quality of records.
Shariah councils and scholars	Document the basis and limits of digital-asset interpretations.	Clarity of the adopted rules and treatment of disagreement.
Educational institutions	Develop age-appropriate digital-wealth and zakat learning materials.	Knowledge and decision quality, not presumed cohort traits.

Future Research Agenda

The propositions require empirical testing. Studies should distinguish asset type, interface design,

automation level and institutional setting. Payment completion alone is an incomplete outcome: a completed transfer can reflect an incorrect base, an unsuitable recipient or misunderstood instructions.

Relevant measures include inventory completeness, valuation error, rule comprehension, perceived agency and appropriate settlement.

Experiments can vary the interface while holding the portfolio and rule set constant. Observational research should account for experience, wealth, education and religiosity without interpreting adjusted

correlations as causal effects. Linkage to wallet or payment records requires informed consent and safeguards, and cannot be assumed to reveal all beneficially owned assets. Niyyah's religious validity should be assessed through appropriate scholarship rather than treated as directly observable from a behavioural scale.

Table 9

Proposed empirical research agenda

Question	Design	Measures and limits
How do users recognise eligible wealth?	Survey and interviews with adult digital-asset holders; reconcile a consented inventory.	Knowledge, complexity and omissions; distinguish self-report from verified coverage.
Does fragmentation increase errors?	Randomised task with identical assets in fragmented or consolidated views.	Omission and double-counting rates; control total value and ownership.
Do reminders improve timely action?	Consented field trial with independently checked assessments.	Correct payment completion and timing, not clicks alone.
How does automation affect agency?	Compare manual, assisted and default execution in a controlled setting.	Comprehension, authorisation and perceived agency; no direct claim to measure religious validity.
How are difficult assets assessed?	Delphi study and interviews with qualified planners, scholars and institutions.	Document disagreement, valuation rules and recovery assumptions.
What supports tool acceptance?	Survey or usability study with explicit system features.	Trust, privacy concerns and understanding; intention is not actual compliance.
Do experiences differ by age or cohort?	Longitudinal or age-appropriate comparative research.	Separate age, period and cohort effects; no Beta financial-behaviour claims at present.
How does institutional coordination work?	Multi-stakeholder case study in a specified jurisdiction.	Responsibilities, information flows and treatment of exceptions.

Limitations

The framework is a non-systematic synthesis and is vulnerable to source-selection bias. It contains no original dataset, validated instrument, implemented payment system or demonstrated intervention effect. General behavioural research supplies theoretical motivation but does not establish the proposed relationships in digital zakat. Technical documentation describes particular architectures and may change.

The normative analysis does not adjudicate competing legal or Shariah positions. Nisab, holding periods, classification and payment arrangements need an explicit local basis. Malaysia is an illustration rather than evidence of uniform institutional practice. Generational references are prospective, and commercial cohort labels cannot support causal or demographic conclusions. These limits should guide

both the strength of the article's claims and the design of subsequent research.

Conclusion

Zakat planning for programmable wealth requires identification of economic rights, transparent asset classification, defensible valuation and an authorised assessment and payment process. The conceptual framework links these tasks to possible behavioural effects of fragmented displays, automation and institutional guidance. Its central distinction is between the rules governing an obligation and the technology used to implement them. A stablecoin may serve as a reporting or settlement instrument where accepted, but does not replace the authorised nisab basis; a smart contract may execute instructions, but cannot independently establish ownership, intention or beneficiary eligibility.

The proposed taxonomy and advisory protocol integrate digital holdings with liquidity, long-term planning and succession. Their effectiveness remains to be tested. Future work should evaluate errors and understanding alongside payment outcomes, specify the applicable jurisdiction and scholarly position, and avoid attributing unobserved financial behaviour to Generations Alpha and Beta. Transparent limits, human review and accountable institutions remain necessary components of any operational implementation.

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Appendix

Source to proposition map

Table A1 Evidence boundaries for the conceptual propositions

Propositions	Principal sources	Supported foundation and proposed extension
P1–P3	Thaler (1999)	Mental accounting is the foundation; wallet abstraction, omissions and the value of verified aggregation are proposed extensions.
P4–P6	Prelec and Loewenstein (1998); Johnson and Goldstein (2003); Parasuraman and Riley (1997)	Payment design, defaults and automation reliance inform hypotheses; none tests digital zakat or establishes niyyah.
P7	Kahneman and Tversky (1979); Gorton and Zhang (2023)	Reference-dependent choice and stablecoin fragility motivate research; selective zakat valuation is not an established result.
P8	SC (2020, 2024, 2026); FATF (2021); European Parliament and Council (2023)	Sources establish bounded institutional context; their effects on disclosure or perceived legitimacy remain untested.
Technical conditions across propositions	FSB (2023); ethereum.org (n.d.-a-c); Uniswap (n.d.)	Technical vulnerabilities and functions inform design; they do not certify the proposed system or determine Shariah treatment.

Note. This is a conceptual traceability map, not a record of a systematic search, a quality appraisal or proof that the propositions have been confirmed.

When Convenience Becomes Commitment: Strengthening Digital Financial Literacy for Responsible Buy Now, Pay Later Use in Malaysia

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A Familiar Purchase, an Unseen Burden

Aina, who is a 26-year-old executive living in Klang Valley, finds an online discount offer for a laptop. The platform allows her to make payments through a seemingly affordable Buy Now, Pay Later (BNPL) plan in instalments. The first payment is certainly a manageable amount, and she feels that the purchase is an informed one.

However, this is not Aina's first experience with BNPL. She already has several charges incurred through various apps for her mobile phone, clothing and household goods. Individually, these instalments seem manageable, but collectively they account for a major part of her disposable income. When an accidental car repair disturbs her plans for the month, she uses another BNPL service to pay for groceries. Convenience has become necessity.

Aina is well-educated, has a job and has experience of using digital payment services. But she has no idea about how to calculate her total BNPL dues, how to differentiate between payment ability and buying ability, how to understand the terms of the payment she has to make digitally and how various promotions and advertising can affect her decision-making. Overall, she is a clear example of the central concern discussed in this article.

Why BNPL Matters in Malaysia

The adoption of BNPL has surged from being a niche service within the realm of FinTech to achieving mass-market status within Malaysia's consumer credit environment. The product is now commonly

available at physical and online storefronts, where it is sold alongside debit cards, e-wallets, and all forms of online banking.

This presentation makes BNPL seem like yet another payment option rather than an agreement involving future income commitments. BNPL's growth trajectory has been impressive. The value of Malaysian BNPL transactions increased from RM4.9 billion in the first half of 2024 to RM7.1 billion in the second half, representing a 44.9% increase (Hishamudin, 2025). As of the end of 2025, the number of BNPL users had reached approximately 7.5 million, up from 2.6 million in 2023. The total value of outstanding BNPL financing stood at RM4.9 billion, while overdue accounts amounted to RM160.2 million, equivalent to 3.3% of outstanding financing (Ministry of Finance Malaysia, 2026). According to the Ministry of Finance Malaysia (2026), BNPL exposure remained manageable, accounting for approximately 0.3% of total household debt.

The numbers require careful reading. In terms of value, BNPL is still minor compared to national statistics for home mortgage, vehicle financing, personal loans, and credit card debt. It must be noted that a small share in the economy does not mean insignificant consumer pain or damage. The RM300 payment may be negligible in national statistics yet still represents a lot of inconvenience for a household with unstable income, poor savings or multiple other obligations at the same time. The discussion of the BNPL phenomenon in terms of policy in Malaysia shows that it is used, in part, by the poorest consumers, including the B40 group (Hishamudin,

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2025).

Young consumers have to be studied carefully but should not be reduced to the stereotype of being irresponsible. They actively engage in mobile commerce, social media marketing, online payments, and mobile applications, and at the same time make progress towards stable income and learning how to use formal loans. BNPL is appealing due to its simplicity: the approval process is very fast, payments are cheap, and getting BNPL is easier than getting a usual credit card.

From Convenience to Financial Vulnerability

In economic terms, buy now pay later is a form of consumer credit which differs from other payment systems since payment systems entail moving money while credit systems allow for consumption regardless of the current obligation already incurred. Opting for buy now pay later entails that the consumer assigns a portion of their future income towards the payment. The commercial terms such as “pay later”, “four easy payments” or “interest free payments”, imply that the consumer gets quick access to the goods without the need to think much about the total commitment in financial terms.

For example, a purchase costing RM600 can be defined as RM150 per payment instead of RM600 lost. Therefore, the purchase cost stays unchanged but differs in timing and presentation. This provides a crucial distinction between instalment payment affordability and total purchase affordability. The former consideration ensures whether the forthcoming payment can be made while the latter assesses whether the overall money obligation can be paid without having any effect on necessary spending, saving, debt obligations and emergency reserve. Approval does not guarantee affordability since it only says that the lending company is willing to provide money.

BNPL does possess genuine advantages. It allows for an expense to be spread out through salary cycles,

provides short-term liquidity, and serves as an interest-free solution to credit options, assuming payments are made on time. BNPL users have been seen to engage in some operation factors linked with improved financial success, such as planning, doing budget comparisons, reading contracts, and avoiding impulsive purchases (Powell et al., 2023). So the issue here is not about access but based more on people's behaviour around access.

Experiments using real-life transaction data suggest that BNPL may facilitate buying and spending due to lower perception of financial constraints. Kumar et al. (2024) demonstrated that BNPL users tend to spend much more than traditional payment option users, while Maesen and Ang (2025) articulated that the instalment payment option allows for seeing purchases as manageable, hence increasing the frequency of transactions. This does not say that all payments made via BNPL lead to excessive spending but indicates that customers regard product affordability differently when it comes to the payment structure options offered.

There are many relevant mechanisms. Mental accounting proposes that consumers take all payments into account separately although all payments come from the same earnings. BNPL eases the pain of paying since the creation of debts happens in the present while the expenses begin to manifest later. Present bias additionally makes the current offering more enticing than payments scheduled for the following month. Countdown timers, targeted ads, free shipping limits, vouchers, and recommendations from social media can reinforce this phenomenon by shifting the consumer's question from whether they should buy anything to which credit payment option to select.

Digital platforms may also legitimise frequent borrowing thanks to the rewards, larger limits, and signs of status via the app. Qualitative research indicates that gamified elements allow consumers to perceive enhanced access to credit as an

accomplishment (Threadgold et al., 2025). The research connects such risky borrowing behaviour and impulse buying with the problematic use of BNPL depending on self-control, stable income, and design of the goods (Kumar & Nayak, 2024).

The most serious risk is often debt stacking. One consumer may use separate providers for clothing, electronics, groceries, and transport. Each application displays only its own instalments, while the combined claims fall on the same future salary. AKPK has warned that managing multiple BNPL payments across platforms increases the risk of missed payments, late charges, and over indebtedness, particularly among consumers already facing financial difficulty (Agensi Kaunseling dan Pengurusan Kredit [AKPK], 2025).

Financial vulnerability should therefore not be measured only by formal default. A consumer may keep every BNPL account current while reducing savings, delaying healthcare, missing another bill, borrowing from family, or transferring repayments to a credit card. Evidence from the United Kingdom documents BNPL obligations being paid through credit cards, converting short-term commitments into potentially longer and more expensive debt (Guttman-Kenney et al., 2023). Repeated BNPL use for food, transport, or utilities may also signal persistent income insufficiency rather than discretionary spending.

Low arrears are reassuring at the market level, but they do not prove that repayment occurs without sacrifice. The relevant welfare question is whether BNPL preserves or weakens consumers' capacity to meet all obligations, withstand shocks, and maintain control over future cash flow. Recent evidence suggests that BNPL and social-media shopping exposure can interact to intensify financial stress and unsecured debt, particularly among digitally connected consumers (Donou-Adonsou & Leslie-Piper, 2026).

Digital Financial Literacy as a Protective Capability

Traditional financial literacy is very important, but it is not enough due to credit being built into mobile apps and the unique algorithms behind them. Digital financial literacy (DFL) brings financial knowledge to the environment marked by technology and social behaviour. It encompasses the skills necessary for the appropriate use of digital financial services, understanding their risks and benefits, protecting personal data, understanding consumer rights, and supporting financial well-being (Organisation for Economic Co-operation and Development [OECD], 2026). In the case of BNPL, DFL has to provide six important capabilities. First, consumers must realise that BNPL represents credit and a future income obligation. Second, they must calculate the total amount payable across instalments and understand their cumulative BNPL exposure. Third, they must assess real affordability based on all the current expenses, debts, savings, and emergency needs. Fourth, they need to understand instalment framing, urgency of promotions, social comparison, and incentives and other persuasion techniques. Fifth, they should use various reminders, calendars, reports, and budgets for tracking their obligations. Finally, they need to know how fees are charged, how personal data are processed, and how complaints are handled.

These competencies convert knowledge into behaviour. A digitally financially literate consumer should review all instalments due within a salary cycle, set a personal BNPL limit below the provider's approved limit, pause new purchases until existing plans are cleared, and ask whether the purchase would still be made if full payment were required. Consumers should also know how to preserve transaction records, contest an incorrect deduction, obtain a refund, request hardship assistance, and escalate an unresolved complaint.

Evidence supports this protective role. Digital financial literacy among university students was favourable in terms of preventing impulsive behaviour and enhancing self-control, which affected their financial well-being (Bhat et al., 2025). In addition, the levels of financial and digital literacy across developing countries were linked to more successful saving, borrowing, and risk-taking practices in the countries concerned (Kass-Hanna et al., 2022).

The OECD's 2026 Digital Financial Literacy Core Competency Framework for Adults in ASEAN is especially relevant. Developed at the request of Malaysia and Indonesia as co-leads of an ASEAN financial-inclusion initiative, it provides an outcome-based basis for identifying competency gaps, designing programmes, and evaluating results (OECD, 2026). Malaysia can adapt this framework to BNPL through practical scenarios involving instalment comparison, cumulative repayment calculations, digital persuasion, data protection, and complaint procedures.

DFL, however, must not become a device for blaming consumers. Even knowledgeable individuals can be harmed by weak affordability checks, misleading interfaces, excessive limits, or inaccessible redress. Education and regulation are complementary: regulation determines what providers must do, while DFL strengthens consumers' capacity to interpret information, manage commitments, and exercise their rights.

Building a Responsible BNPL Market in Malaysia

Malaysia's Consumer Credit Act 2025 (Act 873) provides the institutional foundation for stronger protection. The Act was approved on December 31, 2025, and came into effect on March 1, 2026, with the formation of the Suruhanjaya Kredit Pengguna (Consumer Credit Commission). Companies dealing with BNPL (Buy Now Pay Later), leasing, and factoring are required to obtain licences, while some credit service providers are required to register. The

requirements for licensing and registration took effect on June 1, 2026, with a transition period of six months (Consumer Credit Oversight Board Task Force, 2026). This legislation establishes BNPL as a credit activity that needs governance, appropriate conduct standards, monitoring, and enforcement mechanisms. The success of the initiative will be dependent on its execution.

First, consumers need to receive a standardised BNPL key facts statement before they can complete a transaction. The statement should show the full cash price, the amount that the consumer has to pay immediately, the number of instalments and their dates, the total amount to be paid, all fees that might be applicable, consequences of a missed payment, refund policy, complaint procedures, and how it can affect credit history. The total amount to be paid must have equal or higher prominence than the amount of the instalment. This addresses the difference between legal disclosure and effective disclosure, as while one might be able to obtain the information, it might not be visible in practice.

Second, providers should conduct proportionate affordability assessments. A small first-time purchase may justify a simplified check, whereas repeated use, several active plans, missed payments, or rapidly increasing exposure should trigger a more detailed assessment. Where legally and technically feasible, assessment should account for aggregate BNPL commitments across providers. Several individually small approvals can become collectively unaffordable when no provider sees the consumer's complete position.

Third, consumers require repayment options in one place. As a minimum, there should be a total outstanding balance displayed together with instalments due within 30 days of the viewing, current plans and information about any missed payments. In the longer run, Malaysia should investigate the adoption of solutions to allow consumers and approved providers to view their complete outstanding

balance across all licensed providers, provided consent and sufficient data protection measures are put in place.

Fourth, the regulation ought to tackle digital marketing as well as choice architecture. The use of BNPL as a pre-selected form of payment should also be prohibited, and its use should not be given priority over the regular price format. The oversight should also extend to the combination of countdown timers with instant credit, BNPL-only discounts, automatic increases of credit limits, bonuses for repeated borrowing, as well as the advertising of credit products for consumers with low income. The mandatory brief confirmation pause for repeated and larger transactions can offer consumers a chance to remind themselves of the full price, the current obligations, and the amount of payment in the next payday period.

Fifth, providers should establish early-warning, hardship, complaint, and redress arrangements. Repeated failed deductions, rapid increases in use, frequent late payments, and continuous borrowing immediately after earlier plans are settled may signal emerging distress. Early intervention should prioritise reminders, temporary suspension of new borrowing, reasonable restructuring, and referral to accredited financial-advisory services. Consumers should not be encouraged to use new credit merely to repay existing BNPL obligations. Returns and disputed transactions should also trigger prompt coordination between merchants and providers so that consumers are not required to continue paying for goods already returned.

These measures require shared responsibility. It is crucial that consumers analyse the intention behind the use of BNPL, total costs of transactions, cumulative exposure, and payment affordability. Moreover, providers should aim at sustainable lending practices of offering and extending credit. In addition, merchants and platforms should be forthright when it comes to communicating the offer of buy-now-pay-later products. Educational institutions, employers,

and community organisations should focus on transmitting practical competencies associated with the use of digital credit rather than generic “spend wisely” phrases. It is vital for regulators to provide the data regarding the existing plans at the same time, the occurrence of late payments, hardship requests, complaints, and consumer patterns regarding the use of multiple service providers used among younger and less wealthy consumers.

Malaysia requires focused research on specific key issues. Evidence is needed on the extent of multi-provider exposure, the differences between discretionary and necessity-based use, and the influence of the Consumer Credit Act on provider conduct and consumer welfare. Research over time and at the transaction level will allow distinguishing between responsible use of liquidity and use prompted by distress and thus will assist in identifying effective interventions.

In the meantime, a simple decision rule could help consumers: Does the purchase represent a need? What is the total cost? How much is owed to various providers? Is it possible to pay off the debt after covering essential expenses while retaining some funds in case of an emergency? Would repayment be possible in the event of an income shock? In case of uncertainty regarding any of these questions, postponing purchases would be the right decision rather than losing an opportunity to buy something.

Conclusion

Aina’s difficulty did not begin with one huge purchase but rather from many small commitments, all appearing to be manageable when considered by themselves. Her case illustrates why BNPL should not only be looked at in terms of transaction volume or default rates but assessed in terms of its total impact on cash flow, financial resilience, and well-being. BNPL can be useful if it is used prudently and responsibly. It is dangerous when meaningful costs are hidden behind instalments or when credit is used

multiple times instead of being used wisely. Malaysia has a chance to lay the groundwork while its BNPL sector is still young.

The decisive question is therefore not, “Can this purchase be divided into instalments?” It is: “Can I accept the full commitment without weakening my ability to meet essential needs, manage unexpected events, and protect my future financial well-being?” When consumers can answer that question accurately—and when the market makes the answer visible—BNPL can function as a controlled financial tool rather than a concealed source of vulnerability.

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When AI Starts Spending for Us: From Financial Literacy to Delegation Literacy

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Introduction

In March 2026, an artificial intelligence (AI) agent booked a ride from Kuala Lumpur International Airport to KL Sentral and completed the payment on the passenger's behalf. Conducted in a controlled pilot involving Mastercard, CIMB and RHB, the transaction used tokenised credentials, explicit consumer consent and purchase confirmation through a payment passkey (Mastercard, 2026). The immediate story was technological: Malaysia had completed its first authenticated agentic transaction. The more consequential story, however, was financial. A machine had moved beyond providing information or recommending a choice. It had acted and paid.

The transaction was deliberately bounded and authenticated. Nevertheless, it offers a glimpse of a much wider shift. AI tools are already helping consumers compare products, interpret investment information, prepare budgets and generate financial recommendations. Agentic systems add a further capability: they can plan and execute tasks on the consumer's behalf. The OECD (2026d) describes agentic AI in terms of goal pursuit, autonomy, interaction and the ability to take actions within digital environments. Once connected to payment systems, an agent may not merely say which option appears best; it may select the option, place the order and complete the transaction.

This changes the financial-literacy question. Consumers still need to understand prices, interest, risk, inflation, diversification and affordability. They must now also decide what a machine is authorised to do with their money, which objective it should pursue, where its authority ends and when human

approval remains necessary. An efficient transaction is not necessarily a sound household financial decision. AI can optimise a purchase without optimising financial well-being.

From Financial Assistance to Financial Action

The distinction between generative and agentic AI is important. Generative AI produces content in response to prompts: an explanation, comparison, forecast or suggested budget. The consumer ordinarily decides what to do next. Agentic AI is designed to pursue an objective through a sequence of actions, potentially using external tools and making decisions with limited intervention. The line between recommendation and execution therefore becomes thinner.

This development can create genuine consumer value. An agent could search across providers, reduce information costs, identify unnecessary fees, schedule payments, find an insurance option that meets specified requirements or help a time-poor household manage routine expenses. The OECD (2026a) notes that AI can improve access to financial information, personalisation and decision support. Research on digital finance likewise shows that digital financial literacy is associated with the effective use of digital financial services and improved financial well-being (Choung et al., 2023; Lyons & Kass-Hanna, 2021). Properly designed automation can reduce administrative burden and help consumers act on intentions that might otherwise be neglected.

The benefit, however, depends on what the agent has been told to optimise and what it is able to observe. A household's financial life is not a single-variable problem. Price matters, but so do cash-flow

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timing, existing debt, emergency savings, family commitments, risk tolerance and future goals. An agent asked to find the lowest monthly instalment may produce a technically correct answer while increasing the total financing cost. An agent asked to obtain the cheapest flight may select an inflexible fare that becomes costly when a family's plans change. A subscription agent may renew a service because the price remains within its permitted limit, even though the household no longer values it.

These are not necessarily system failures. They may be examples of a system competently pursuing an incomplete instruction. The gap lies between computational optimisation and household judgement.

When Convenience Is Not Financial Well-Being

The shift towards agentic commerce arrives in an environment where payment is already becoming less visible. Experimental evidence indicates that mobile payment can increase willingness to pay and shorten payment time compared with cash (Liu et al., 2021). This does not mean that every digital payment causes overspending, but it demonstrates why transaction design matters. When searching, choosing and paying are compressed into a nearly frictionless process, the pause during which a consumer might reconsider affordability can also disappear.

AI introduces another layer. Personalisation can make choices more relevant, but it can also make commercial influence harder to recognise. A recommendation may reflect the consumer's stated interest, the platform's ranking logic, a sponsored arrangement or some combination of these. A recent systematic review of AI and consumer financial behaviour identifies consumer interaction, behavioural outcomes and ethical and regulatory challenges as major areas requiring attention (Meng et al., 2025). The OECD (2026a) similarly highlights risks involving inaccurate content, bias, commercial influence, privacy, exclusion and over-reliance, while

noting that the long-term benefits for financial well-being remain uncertain.

Consumers' responses to algorithmic advice are also not uniform. Some people avoid algorithms, especially for tasks they regard as subjective; others give algorithmic recommendations greater weight than human advice. Reviews of this literature show that reliance varies according to the task, the person, the system and the surrounding context (Burton et al., 2020; Mahmud et al., 2022). Trust is therefore not a simple choice between trusting and distrusting AI. The relevant objective is calibrated reliance: using the system where it adds value while preserving scrutiny where the consequences are material.

This is especially important in personal finance because small decisions accumulate. A single unnecessary purchase may be manageable. Repeated automated renewals, frequent optimised offers or a series of low-friction instalment decisions can gradually weaken cash flow. Household financial resilience depends not only on access to technology but also on the capability to use financial resources in ways that protect the household against shocks. Evidence across emerging economies links financial and digital literacy with stronger financial resilience, although the benefits vary across groups and contexts (Kass-Hanna et al., 2022). Digital capability should therefore be judged by what it enables households to achieve, not merely by how many digital tools they use.

Financial Literacy Must Evolve

Financial literacy has never meant knowledge alone. It includes the awareness, skills, attitudes and behaviours needed to make informed decisions and support financial well-being. Digital financial literacy extends this capability to digital products, platforms, risks and transactions (Koskelainen et al., 2023; Lyons & Kass-Hanna, 2021). The OECD's regional framework for adults in ASEAN reinforces the need to understand digital financial products, protect

personal data, identify risks and use digital services safely (OECD, 2026c).

These competencies remain essential, but agentic commerce changes the locus of decision-making. Traditional financial education generally assumes that the person learning is also the person making the final decision. Even when a calculator, comparison platform or robo-adviser is used, the consumer is expected to assess the recommendation and press the final button. Agentic transactions create a different arrangement: the consumer defines some instructions in advance and the system acts later within those instructions.

For this emerging setting, delegation literacy offers a practical extension of digital financial literacy. It refers to a consumer's capacity to define, limit, monitor and revoke the financial authority given to an AI system. The concept is not presented as an empirically validated construct. Instead, it provides a practitioner-oriented framework for translating established concerns about financial literacy, autonomy and human oversight into questions that consumers and advisers can apply.

This distinction is supported by research beyond finance. Experiments on delegating purchasing tasks to AI show that consumers differentiate between autonomy over the available choices and autonomy over the final decision; reducing either can affect their willingness to use AI (Ahmad Husairi & Rossi, 2024). Research also indicates that explainability can influence users' trust and acceptance of AI systems (Shin, 2021). In other words, people require more than an accurate output. They need an intelligible role in the decision process.

Delegation literacy does not mean refusing automation. It means deciding deliberately which functions may be automated, under what conditions and with what safeguards. Just as a financial plan establishes goals and constraints before products are selected, an AI-enabled financial arrangement should

establish authority and boundaries before transactions are executed.

Seven Questions Before an AI Is Allowed to Act

The following questions translate delegation literacy into a practical decision framework.

1. What exactly am I authorising?

Permission to search is not permission to purchase. Permission to pay one bill is not permission to manage an entire category of expenses. Consumers should be able to distinguish among information access, recommendation, selection, commitment and payment. Each represents a different level of delegated authority.

2. What objective is the AI being asked to optimise?

The instruction to find the “best” option is incomplete. Best may mean lowest upfront price, lowest total cost, lowest risk, highest quality, greatest convenience or best alignment with the household budget. Consumers should specify the objective and understand what may be sacrificed when one outcome is prioritised.

3. What financial and behavioural limits have I imposed?

A useful mandate should include transaction ceilings, cumulative limits, permitted product categories and an expiry period. It may also include behavioural safeguards: no purchases after a certain hour, no new instalment commitments, no automatic renewal after a price increase and no transaction that reduces the emergency fund below a defined threshold.

4. Which decisions still require human approval?

Routine, reversible and low-value tasks may be suitable for automation. Complex, long-term, high-value or difficult-to-reverse decisions should trigger explicit approval. Borrowing, investment switching, insurance cancellation, changes affecting joint household finances and transactions involving vulnerable family members deserve a higher threshold.

5. How will I know what the agent has done?

Consent at the beginning is insufficient if subsequent actions are invisible. Consumers need accessible transaction records, timely notifications and plain-language explanations linking each action to the authority previously granted. Monitoring should show not only what was paid but also why the action met the consumer's rules.

6. Can I pause, revoke, challenge or reverse the action?

Control must remain usable after consent is given. A consumer should know how to suspend an agent immediately, withdraw access, dispute an unsuitable transaction and seek redress. Reversibility may not always be possible, which makes approval thresholds more important before an irreversible commitment occurs.

7. Who is accountable when something goes wrong?

Consumers should not be expected to resolve a chain of responsibility involving an AI provider, platform, merchant, bank and payment network. The responsible parties and complaint route should be clear before use. Accountability cannot disappear simply because the transaction

was distributed across several technologies.

A New Assignment for Financial Planners

Agentic commerce will not reduce the need for financial planners. It may change part of their work. Advisers have traditionally helped clients translate life goals into budgets, protection needs, investment strategies and estate plans. They may increasingly need to translate those same goals into rules that AI systems can follow without undermining the wider financial plan.

This begins with an AI authority review. Alongside reviewing income, commitments, assets and risk tolerance, planners can ask clients which applications have access to their financial data, which services can initiate payments and which decisions are automated. Many consumers may know that they approved an application but may not recall the scope or duration of that authority.

Planners can then help clients establish a delegation budget. This is not another spending category. It is a set of limits governing what an AI system may do: a maximum value per transaction, a monthly cumulative amount, permitted merchants or product types, and situations requiring confirmation. These limits should reflect the household's cash flow and resilience, rather than the maximum spending level a platform permits.

A third task is identifying non-delegable decisions. A household may be comfortable automating utility payments and routine reordering but not credit applications, investment liquidation, insurance cancellation or transfers from emergency savings. The boundary should be explicit before a persuasive interface or urgent situation tests it.

Finally, planners should incorporate automation records into periodic reviews. A conventional budget shows where money went. An agentic-finance review

should also ask which decisions were machine-initiated, whether they remained aligned with client goals and whether the rules should be tightened. Human advice is most valuable not when it competes with AI on speed, but when it restores context, challenges an incomplete objective and recognises consequences that a transaction-level system may not see.

The current evidence supports this hybrid role. In an HSBC-commissioned Ipsos survey of about 10,000 affluent and high-net-worth individuals across ten markets, 85% of Malaysian respondents reported using AI for finance and investment. Yet 58% preferred a future approach combining AI with professional human expertise (HSBC Malaysia, 2026). These figures apply to a specific affluent sample and should not be generalised to all Malaysians. Even so, they reveal an important preference: consumers may welcome machine assistance without wanting to surrender human judgement.

Responsibility Cannot Rest on Consumers Alone

Delegation literacy is necessary, but education cannot compensate for poor system design. Financial institutions, payment networks, AI providers and merchants have responsibilities that begin before the consumer grants authority.

Consent should be specific, comprehensible and proportionate to the action. Interfaces should distinguish permission to recommend from permission to transact. Authority should be limited by purpose, amount and time, with conservative defaults rather than open-ended access. High-risk transactions should require renewed human confirmation. Consumers should receive clear records of the agent's actions and have a simple way to pause or revoke access.

Explanations must also be decision-useful. A lengthy technical description of a model may satisfy neither comprehension nor accountability. Consumers need to know which objective was pursued, what information materially influenced the choice, what alternatives were excluded and whether a commercial relationship shaped the recommendation. Research on trust in AI shows that trust is affected by both system characteristics and how the technology is represented and experienced (Glikson & Woolley, 2020). Transparency should therefore help consumers calibrate reliance, not merely reassure them.

Additional safeguards are needed for vulnerable users. Older adults, people with limited digital skills, individuals under financial stress and consumers managing money jointly may face different risks. JWMFP discussions of youth bankruptcy and elder financial abuse already demonstrate that financial vulnerability is shaped by life stage, capability and relationships of trust (Ating et al., 2024; Md. Sum & Nordin, 2025). Agentic systems should not assume that every account holder has equal capacity to understand, monitor or challenge automated actions.

Regulators and financial-education stakeholders should consequently examine agentic commerce as both a consumer-protection and capability issue. The OECD's *Consumer Finance Risk Monitor 2026* warns that opaque algorithms, manipulative digital design, limited human support and unreliable AI assistance can create consumer risks (OECD, 2026b). Policy should encourage innovation while preserving meaningful choice, contestability, redress and access to human support.

Conclusion

The Malaysian pilot was designed around consent, authentication and consumer control. Those safeguards are a sound starting point. The next challenge is ensuring that control remains meaningful as agentic payments move from controlled pilots to

routine purchases and more consequential financial decisions.

For years, financial education has taught consumers to think before they spend. In an agentic economy, that lesson must be extended: consumers must think carefully before authorising a system that may spend later. They need to understand not only the product and price but also the mandate, objective, limits and route for taking authority back.

At the policy level, Malaysia should move early to embed these safeguards in both financial education and consumer-protection practice. The Financial Education Network could incorporate delegation literacy into national learning materials, while relevant regulators could develop risk-based expectations for agentic transactions: purpose-specific and time-limited consent; per-transaction and cumulative limits; renewed human approval for credit, investment, insurance and other high-impact decisions; auditable records; simple pause and revocation functions; and clear liability and redress arrangements. Pilot evaluations should assess not only whether a transaction is secure and successful, but also whether consumers understand the authority granted, can monitor its use and can regain control without undue difficulty. These assessments should include older adults, consumers with limited digital or financial capability and households under financial stress, so that innovation does not widen existing vulnerabilities.

AI can make personal finance faster, more accessible and more responsive. It can also execute an incomplete instruction with remarkable efficiency. Progress should therefore not be measured only by how many decisions can be automated. It should be measured by whether households retain the judgement and control needed to protect their financial well-being.

The next financial-literacy test is not simply whether AI can be trusted with consumers' money. It

is whether consumers understand how much financial judgement they are willing to delegate—and how to take that authority back.

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A Date with Money

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In *A Date with Money* (2021), Maxine Chan offers an alternative perspective to conventional financial literacy models. While conventional consumer finance literature heavily emphasizes quantitative metrics, portfolio diversification, and rigid budgeting frameworks, Chan pivots toward a qualitative, behavioral exploration of an individual's emotional relationship with wealth. It comprising fewer than 80 pages and integrated with illustrations, the book positions money not as an ultimate driver of personal identity, but as a neutral, flexible tool requiring mindful management. The text argues that material accumulation loses its fundamental utility unless it is balanced with the core facets of human well-being. By framing financial literacy through a psychological and behavioral finance perspectives, the book prompts audiences to translate what the author labels their personal financial 'passwords'. This review evaluates how effectively Chan unpacks this behavioral philosophy across four core pillars, namely Love, Health, Time, and Purpose, while contextualizing her insights against current consumer finance theories and highlighting the text's inherent socio-economic boundaries.

Pillar 1: Love

The Love pillar examines the intersection between personal finance and human relationships. Rather than purely rational calculations, this pillar underscoring that financial decisions are driven by complex emotional dynamics. The author explores how mismatched financial expectations, societal comparisons, and unvoiced economic anxieties can between financial management and comprehensive well-being, particularly physical and mental health.

destabilize familial structures and romantic partnerships. Chan states that authentic financial literacy requires decoding the relational 'love password', which demands empathy and transparent communication to prevent capital from being utilized as an instrument for control or interpersonal resentment. Through real-life narrative case studies, the book demonstrates how domestic conflicts arise when financial utility overrides emotional security, which guiding audiences to decouple their self-worth from strict monetary assessments.

This viewpoint aligns with contemporary research in financial therapy and behavioral finance, which acknowledges that money management is rarely an isolated, algorithmic task. By centering relational dynamics, author addresses the psychological frictions that conventional economics often ignores. However, while the illustrations lower defenses regarding a conventional taboo topic, the analysis tends to overlook deeply embedded cultural constructs. In a highly collectivistic socio-economic ecosystem such as Malaysia, intergenerational financial commitments such as support for extended family networks and aging parents, carry huge structural and psychological weight. While Chan establishes the necessity of drawing healthy financial boundaries, the text lacks structured, operational frameworks for navigating these delicate, high-stakes conversations without exposing family cohesion.

Pillar 2: Health

The Health pillar establishes a direct relationship Chan argues that chronic financial anxiety establishes a severe physiological hazard capable of inducing

sleep disruptions, elevated stress, and long-term illness. The text explains a self-destructive feedback loop where individuals compromise their physical health to accumulate wealth, only to exhaust those economic reserves later in life attempting to recover their lost vitality. The author advocates for proactive boundary-setting, encouraging financial choices that prioritize mental peacefulness over unrestricted material acquisition.

From an academic perspective, this pillar aligns of subjective financial well-being concept, which separate objective wealth from an individual's perceived financial security. Rather than viewing conventional personal finance models, such as Dave Ramsey's *The Total Money Makeover*, which tend to prioritize mathematically optimal debt repayment strategies, the author treating health as a foundational economic asset. Nonetheless, a key structural limitation lies in the text's highly idealistic framing. For lower-income demographics operating under systemic macroeconomic pressures and inflation, financial stress cannot be resolved simply through cognitive shifts. While Chan manages to diagnoses the hyper-productive workplace cultures, however the lack to provide explicit coping mechanisms or accessible stress-reduction strategies would bridge the gap between theoretical well-being and structural economic realities.

Pillar 3: Time

In the Time pillar, Chan characterizes time as humanity's ultimate and non-renewable asset. She positions the wealth pursuit as a trade-off where individuals frequently exchange irreplaceable life time for numerical monetary amount. The text critiques the deferred gratification phenomenon, which the problematic mentality that postpones lifestyle enjoyment exclusively until retirement. Chan urges audiences to shift from purely maximizing financial returns to optimizing time utility by re-evaluating professional overcommitment and evaluating the opportunity cost of material luxuries against lost moments with family.

This chapter offers an appropriate critique of contemporary corporate settings by translating existential concepts into digestible personal finance goals, which effectively re-establishing capital as a medium to an end rather than the final objective. As compare to standard behavioral economics literature, such as Richard Thaler's work on mental accounting, Chan emphasizes on the psychological valuation of time rather than money. Nevertheless, from a practical standpoint, this perspective risks labor market dynamics. While the autonomy to reclaim personal time is highly desirable, it reflects a middle-class privilege that may separate individuals working multiple jobs out of survival rather than greed. Due to global workforce exchanges labor hours strictly for survival, the text would be improved by acknowledging these wealth inequalities and offering guidance on reallocating micro-moments of time independent of an individual's income bracket.

Pillar 4: Purpose

The Purpose pillar addresses the wealth dimension which asserting that capital accumulation devoid of an overarching life philosophy remains inherently unfulfilling. The author discusses the common psychological deadlock where individuals achieve conventional material milestones only to experience a profound sense of emptiness. The text resists that capital should serve as an operational engine to fuel personal passions, core values, and societal contributions. Audiences are challenged to identify their unique 'purpose password', aligning career choices and long-term financial plans with actions that resonate on a personal level.

Integrating purpose into financial literacy introduces a comprehensive perspective that is frequently missing from standard finance materials. It appropriately identifies that financial freedom is functionally hollow if an individual lacks clarity on what that independence is meant to facilitate. The core strength of this pillar is its capacity to prompt rigorous self-reflection and motivate audiences to

audit their underlying economic motivations. Nonetheless, similar to previous pillars, the commentary borders on the idealistic. In volatile job markets, aligning a profession entirely with an intrinsic personal purpose is a rare socio-economic privilege. For many, employment functions strictly as a pragmatic survival mechanism which meaning that personal fulfillment must be cultivated entirely outside of occupational hours. The text could be significantly strengthened by exploring how consumers with modest financial resources can deploy small-scale capital toward purpose-driven actions, thereby rendering the concept actionable for a broader demographic.

Practical Implications for Financial Practitioners and Educators

Despite its simplified format, *A Date with Money* offers valuable operational insights for various stakeholders within wealth management and financial education. For financial planners and wealth advisors, the book serves as a qualitative tool to uncover a client's underlying unconscious, learned beliefs about money that dictate financial behavior. By understanding a client's behavioral barriers across the pillars, planners can customized personalized wealth management strategies that align with the client's psychological profile rather than relying solely on mathematical models.

For financial educators, counsellors, and university students, the book's use of lighthearted visual narratives acts as an excellent psychological buffer. It lowers intellectual defenses and reduces the cognitive anxiety typically associated with economic education, making it an excellent resource for introductory financial literacy. Finally, for policymakers, the text supports the importance of incorporating subjective financial well-being and mental health metrics alongside of the objective economic indicators such as national savings rates, when evaluating the efficacy of national financial literacy initiatives.

Conclusion

In conclusion, *A Date with Money* provides a refreshing and psychologically grounded alternative. By structuring the text around four distinct, interrelated human pillars, Chan successfully redirects the audience's emphasis from quantitative capital accumulation to qualitative life balance. While certain philosophical assumptions lean toward middle-class demographics and overlook systemic socio-economic constraints, the text's principal value lies in its exceptional accessibility. The strategic integration of illustrative narratives demystifies financial anxiety, rendering the text an engaging resource for young professionals, general audiences, and entry-level wealth management students. Ultimately, the book makes a useful contribution to the broader behavioral finance discourse, which illustrating that true wealth management requires balancing financial books alongside personal well-being.

Islamic Finance and Climate Agenda: From Green Sukuk Innovation to Greener Halal Value Chains

Diong Seng Long

Author : World Bank Group and Islamic Development Bank
Publisher : World Bank, Washington DC
No. Pages : 88
Price : Open Access (CC BY-NC 3.0 IGO)
DOI : 10.1596/43986

Introduction

Islamic Finance and Climate Agenda was written by the World Bank Group Inclusive Growth and Sustainable Finance Hub in Malaysia in cooperation with the Islamic Development Bank (IsDB) Center of Excellence in Kuala Lumpur and was released in November 2025; it was presented publicly at Sasana Kijang in January 2026. Its regulatory access is unique, and its data set — built from Climate Bonds Initiative, Refinitiv and Pitchbook sources for 2017–2024 — is the first attempt to quantify this market systematically. It is also an institution reporting on its own activity: the World Bank provided the technical assistance behind the first green sukuk in 2017 and co-runs the 2025 Greening Halal Businesses pilot. The Foreword says it is “both a roadmap and a call to action,” which is accurate about genre. This review argues that the data assembled to construct the roadmap lead to a different and arguably more useful conclusion than the one reached: that asset-backing and risk-sharing — the very attributes that the report identifies as evidence that Islamic finance is aligned with the climate — are the constraining factors limiting climate finance. Read as costs rather than virtues, they explain the puzzles in the report’s own data — and turn an advocacy document into a research agenda.

Chapter 1: Scope and the Framing Decision

The governing decision is in Chapter 1. The report’s Figure 1.7 — all chapter-numbered figures

and tables cited below are the report’s, not this review’s — divides financing for sustainability into managing physical and transition risks and mobilising capital for sustainable investment; the report addresses only the second. This is not a minor omission. The alignment argument is about both parts; if Islamic screening is really in line with climate, we should see it in low exposure to high-emission assets, not merely in participation in labelled issuance. By leaving out the first part, the report leaves no room to disprove the alignment argument. It is also a retreat. ADB and IsDB’s Unlocking Islamic Climate Finance (2022) — the source of this report’s own Figures 2.12 and 2.13 — actually dealt with the transition risk part, and found that because Islamic contracts are linked to physical assets, Islamic institutions carry structurally higher exposure to commodities and real estate than conventional peers. Three years and a much richer data set later, the successor narrowed the frame.

Executive Summary: Growth, Adequacy and the Size of the Gap

The report presents the OIC’s 24.4 per cent annual growth rate as a positive sign against a global 22.9 per cent. Applied to a 0.1 per cent base, a 1.5 percentage point gap implies around 190 years to reach a 1 per cent share. The bottleneck at these rates cannot be the growth rate; it has to be the base. The strategic implication, un-stated, is that what this market needs is a discrete increase in the eligible universe, via sovereign benchmark curves, taxonomy

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interoperability, or allocation targets, rather than incremental market building. All nine actions in Chapter 4 are incremental market building.

Adequacy points the same way. The report says over US\$1 trillion is required by 2050 for OIC climate action, and separately that Islamic sustainable issuance totalled US\$53.9 billion over eight years. Figure 1 sets the two against each other. Actual issuance runs at approximately US\$6.7 billion per year against the US\$38.5 billion the target implies, and that counts every issuance as climate finance, which the re-port's own one-third green-label finding forbids; on green-labelled sukuk alone the rate is 3.5 per cent of requirement. Both figures are in the Executive Summary and are never divided. Nor is the trillion itself robust: the report's Table 2.1 adds up to US\$1,240 billion for nine countries, already larger than the total attributed to 57, and mixes 2030, 2040 and 2050 horizons with present-value and nominal terms.

Chapter 2: The Natural-Fit Claim and Its Denominator

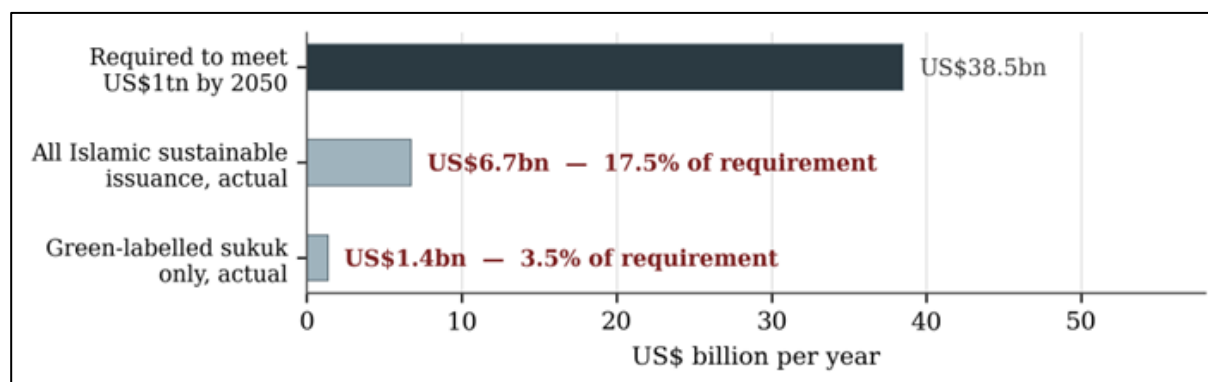
The report infers from the fact that Islamic issuances account for 4.6 per cent of all Islamic financing, “a higher share compared to the

conventional markets,” that this “reinforces the narrative of Islamic finance as a natural fit for climate finance.” The conventional market benchmark is not provided, and footnote 13 admits the analysis does not investigate determinants. But the deeper issue is the choice of normalisation. Two are possible: Islamic sustainable issuance as a share of Islamic financing (the report's choice), or Islamic sustainable issuance as a share of all OIC sustainable issuance (which is 16 per cent). The latter is no less natural, and it invites the obvious comparison the report leaves out — Islamic finance's share of the financial system in the OIC countries where it is actually issued, which is well above 16 per cent in Malaysia, Saudi Arabia and Brunei. Under this normalisation, Islamic finance is under-represented in sustainable issuance relative to its footprint. The choice of denominator is never justified.

Its own glossary quietly undermines the conclusion. “Islamic sustainable fi-nance” is defined as “Shariah-compliant sustainable finance,” and “Islamic climate finance” is “Shariah-compliant climate fi-nance” — purely conjunctive definitions of two properties that just happen to co-exist. If the convergence were substantive, the conjunction would be near-redundant.

Figure 1

Islamic sustainable issuance against the rate implied by the report's own US\$1 trillion estimate



Source: Constructed by the author from World Bank & IsDB (2025); annual rates derived by the author.

Chapter 2: Green Labelling and the Cost of Asset-Backing

The most notable finding of the report is that while one-third of sustainable sukuk have a green label, nearly two-thirds of sustainable bonds do — US\$10.9 billion from 17 issuers versus US\$37.3 billion from 57, within the same jurisdictions, regulators and investor base. Its explanation is that Islamic instruments are used for “a broader range of sustainability goals,” which repeats the observation rather than explaining it. Figure 2 shows why that explanation fails. If sukuk were simply serving broader objectives they would be over-represented under social and sustainability labels. They are not: there they reach near-parity with bonds, while under the green label they reach less than a third. Islamic instruments are not diverted to other objectives; they are impeded at one particular label.

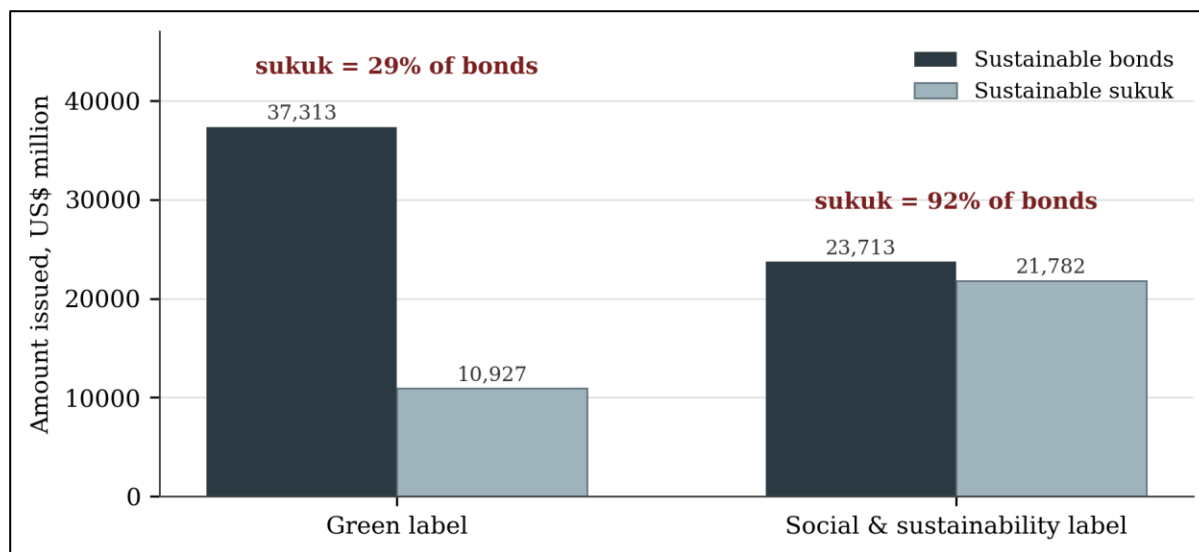
A more compelling explanation can be found in the glossary of the report itself. Under current conventions, a product can only receive green labelling if the use of proceeds can be traced back to green as-sets. However, a sukuk cannot exist in the

first place without an underlying tangible asset, usufruct or service, which has been chosen to fulfil Shariah criteria and not environmental ones. The issuer there-fore faces two asset requirements where a conventional issuer faces one, and the eligible universe is correspondingly smaller. Hence asset-backing — the feature the re-port advances as evidence of alignment — is a principal reason green labelling is harder to achieve in sukuk than in bonds.

The hypothesis makes predictions the report’s data confirm. Green sukuk should be predominantly issued where there is an intersection between Shariah-compliant tangible assets and climate change eligibility — large-scale generation, transmission, certified buildings, rail. The report finds 58 per cent of OIC green sukuk are issued for energy. Adaptation should be systematically under-served, because adaptation assets often consist of public goods that do not generate revenue (seawalls, drainage, early warning systems, etc.) and there-fore resist structuring through *ijarah* or *musharaka* contracts. The report concedes adaptation lags mitigation and attributes it to a lack of expertise; the constraint may be contractual rather than cognitive.

Figure 2

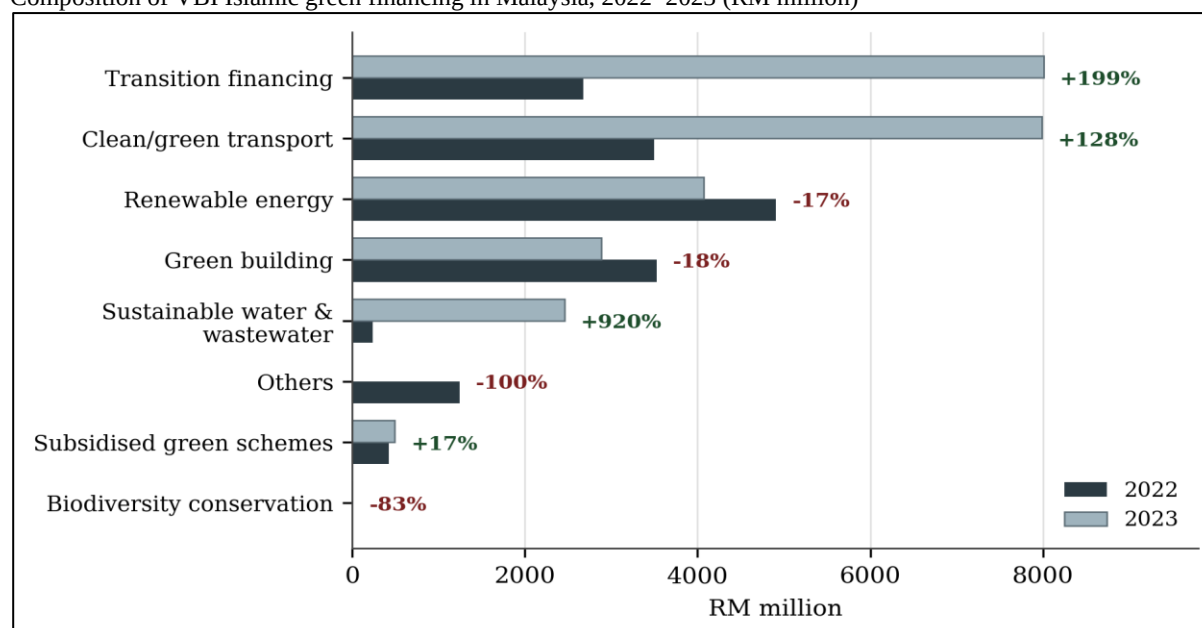
Sustainable sukuk reach near-parity with bonds under social and sustainability labels, but not under the green label, OIC 2017–2024



Source: Constructed by the author from World Bank & IsDB (2025), Figure 2.5.

Figure 3

Composition of VBI Islamic green financing in Malaysia, 2022–2023 (RM million)



Source: Constructed by the author from World Bank & IsDB (2025), Figure B2.2.

The same argument reveals a contradiction the report leaves untouched. ADB and IsDB (2022) note how sukuk that are structured through commodity *murabaha* or *wakalah* face challenges in identifying non-carbon-intensive commodities that could serve as collateral assets. However, in this report, 40 per cent of Malaysia's sustainable sukuk are structured through *Murabaha*. Taken together, a significant proportion of one of the world's largest sustainable sukuk markets may rest on collateral drawn from the very commodity classes the instrument is raised to displace. Neither report makes the connection; each supplies half of it.

Chapter 2: Risk-Sharing, *Musharaka* and *Takaful*

The Foreword is premised on risk-sharing. The report's data indicate it is almost entirely illusory. Indonesia issues 72 per cent of its sustainable sukuk through *Musharaka*, a partnership structure — yet 96.7 per cent are government-issued, so the investor in this 'equity' structure faces sovereign rather than commercial risk. In Malaysia, where non-financial corporations issue nearly half of all sustainable sukuk, 40 per cent are structured through *Murabaha*,

which is effectively a debt instrument. *Mudaraba*, the most direct form of profit-and-loss sharing, makes up just one per cent of the overall OIC figure. Profit-and-loss sharing only emerges when a sovereign balance sheet is prepared to take the loss, and defaults to debt whenever real credit risk is involved. Chapter 4 nonetheless recommends lever-aging the industry's "inherent risk-sharing principles" to develop Shariah-compliant private equity and venture capital in a market in which the OIC accounts for only 0.46 per cent of the global PE and VC market for clean technologies. Eight years of data record a revealed preference the report proposes to reverse without first explaining it.

Takaful demonstrates the point structurally. The report states that, in the DRIVE project, *takaful/retakaful* loss-absorbing capacity is minimal compared with reinsurance; that temporary Shariah dispensation has been granted to use conventional reinsurance; and that Somali *takaful* funds are not being used to cover losses, which are paid instead through ZEP-Re's *retakaful* window under exemption. The report treats this as a maturity problem. More plausibly, *takaful* can-not accumulate

loss-bearing capacity, a problem inherent in the instrument. Loss absorption depends on capital, and takaful capital comes not from shareholders but from participant contributions; a mutual-donation structure cannot build a buffer large enough for catastrophe risk, which is precisely the risk the climate agenda asks it to carry. This explains why the flagship case needs a conventional backstop, and why takaful remains 1.4 per cent of Islamic financial assets. Chapter 4 lists takaful for mainstreaming without addressing capital at all.

Chapter 2: Claims That Outrun the Evidence

Several claims carry more weight than their evidence supports. Green sukuk, the report notes, have generally been over-subscribed, which it reads as evidence of strong private sector demand for thematically aligned issuances. Oversubscription is endemic to sukuk markets, where Shariah-compliant liquidity chronically exceeds available paper. Isolating demand would require a within-issuer green-versus-vanilla comparison, or a pricing differential. Greenium is not discussed anywhere in the report.

The report reads the halal survey's 94 per cent enthusiasm for green practices as demand. Figure 4 shows why it is not. Enthusiasm and stated priority cost nothing and clear 88 per cent; every item carrying a price — certification, disclosure, financing — falls to between 9 and 21 per cent. This is indicative of the gap between stated and revealed preference, the single most useful insight of the report, which goes un-remarked upon. It follows that retail and SME green products in these markets will require a price concession rather than an awareness campaign — a point that appears nowhere.

The professional survey drew 68 responses, roughly 70 per cent from South-east Asia, and is used to characterise 57 countries. Within it, every respondent from the Islamic banking and takaful sectors is reported to have adopted either a sustainability strategy or a net-zero action plan. A 100 per cent result in a voluntary survey is a self-selection artefact. It also clashes with the report's Figure 2.17, where 9 per cent of survey respondents select the answer "my institution does not currently have any sustainability/climate strategies".

Chapter 3: The Case Studies

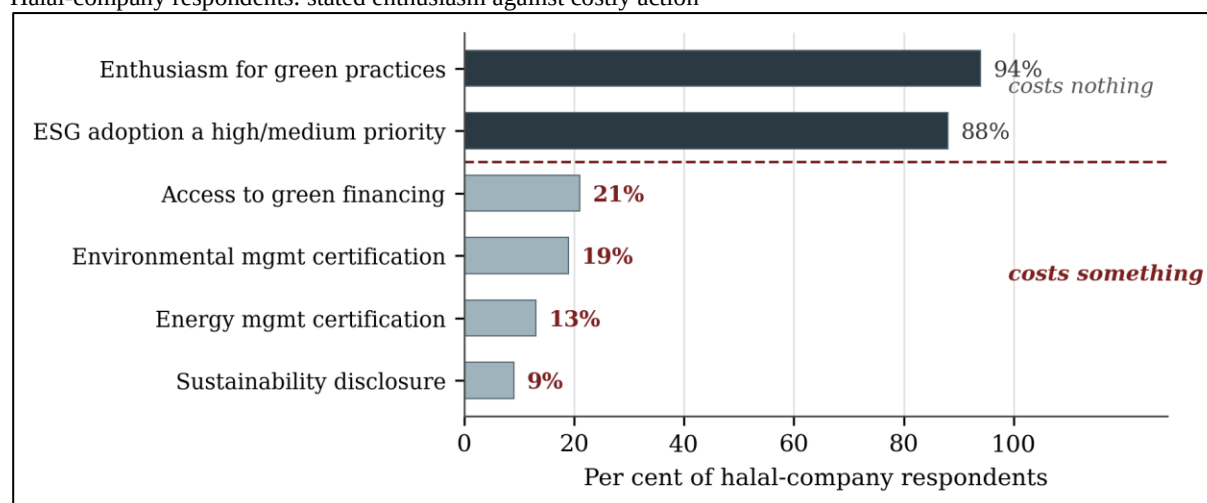
Chapter 3 has no stated case-selection criteria, and its cases track the authors' own projects. Of the five sukuk cases, two are conventional and two are hypothetical structures drawn by the authors; the Amazon Reforestation-Linked Outcome Bond, a World Bank instrument in a non-OIC country with conventional counterparties, is awarded four paragraphs and a transaction diagram to substantiate two speculative sentences. No case documents a failure. A report authored out of Kuala Lumpur, which describes a market in which Malaysia accounts for 47 issuances worth US\$13.4 billion, does not include a single Malaysian sukuk case.

Chapter 4: The Nine Actions

The nine actions of Chapter 4 have no lead institution, date, order or cost; each is mapped to three to five stakeholder categories; where everyone is responsible, no one is. They largely recapitulate ADB and IsDB (2022) recommendations on capacity building, taxonomy work, pipeline development and blended finance. The report neither asks why those recommendations did not take, nor revises them.

Figure 4

Halal-company respondents: stated enthusiasm against costly action



Source: constructed by the author from World Bank & IsDB (2025), Figures 2.24–2.26.

Box 2.2: Malaysia and the VBI Data

Malaysia's 80.4 per cent sustainable-sukuk share of its sustainable debt issuance is portrayed as indicative of leadership. It is at least as plausibly fiscal: Malaysia paired its SRI Sukuk Framework with cost relief and grant support for sustainable sukuk; Türkiye, with no similar incentive, records a zero per cent sustainable sukuk share. Both the doctrinal thesis and the tax argument would predict the same sustainable-sukuk share; the share therefore cannot discriminate between them, and the two diverge sharply on durability were the incentive to lapse.

Composition matters more than the total. VBI Islamic green financing rose 57 per cent between 2022 and 2023, but Figure 3 shows the growth was not where the label implies: the two least contestable green categories both contracted, while transition financing nearly tripled to take roughly 31 per cent of the total, and bio-diversity conservation received RM1 million in a megadiverse country. Whether transition financing is achievement or euphemism depends on counterfactual base-lines and the credibility of borrowers' transition plans. That is the question a climate finance report exists to ask.

Finally, demand. A Waqf ETF holds 1.5 million units against an authorised billion, 0.15 per cent; 18 tokens are listed on Labuan's RAMZ; 650 SMEs have been reached by the Greening Value Chain Programme. Products exist, and remain un-purchased, in the world's two most developed Islamic finance markets. Yet eight of nine actions are supply-side, and the stakeholder table never names investors, households, distribution channels or financial advisers. Indonesia offers retail green sukuk through its Sukuk Tabungan series; Malaysia has no comparable programme. Every touchpoint at which retail money might be channelled — portfolio construction, EPF Shariah and ASNB retirement accounts, takaful protection planning, estate and waqf planning — sits with licensed financial planners. The profession is not the intended audience of this report; on the re-port's own evidence about where the constraint lies, it is the missing fourth pillar.

Appendix 1: Internal Consistency and Data Regimes

Errors of internal consistency compound the difficulty. Islamic banking assets are US\$2.78 trillion on page 28 and US\$2.2 trillion on page 33, a 26 per cent discrepancy in the denominator of the key assertion. Islamic fintech is US\$138 billion out of a

global US\$12.27 trillion, yet re-reported as 0.01 per cent when the math works out to 1.12 per cent. And since the bond and sukuk data is from CBI and syndicated financing data from Refinitiv — diverging by US\$17.8 billion and 158 issuers for sukuk alone, per Appendix 1 — the headline ratios rest on inconsistent regimes, and the one-third figure, which depends wholly on CBI's taxonomy, is never sensitivity-tested.

inadvertent: it has assembled, for the first time, the evidence with which the natural-fit proposition can be tested — and in declining to test it, it has left the most interesting question in the field open and now answerable.

Conclusion

Why would two independent multilateral teams assert the same claim three years apart without testing it? The most generous reading is also the most structural: the proposition is load-bearing for the institutional programme it accompanies. Shariah-compliant climate windows, blended facilities and technical assistance to OIC members all presuppose that Islamic finance is a natural vehicle for climate capital. A premise that underwrites a mandate is asserted, not interrogated — and the limb of the analysis capable of falsifying it is placed outside scope. That is a fair account of an advocacy document, and no criticism of the individuals who wrote it. It is, however, a strong reason for academic readers to supply the test the institutions have not.

In fairness, this is a market development report rather than a research paper, and its descriptive scope is a defensible choice for the genre. Its reliance on CBI is a disclosed trade-off and small samples are normal in a market this size. The mapping of the five *Maqasid al-Shariah* to climate action goals in Box 2.1 is the most thorough analysis published so far, and the database is undoubtedly a valuable public resource. The difficulty is that the report reads its structural features as credentials when its own data read them as costs.

Islamic Finance and Climate Agenda is the most comprehensive dataset currently available, and it is free. It is strongest where it describes and weakest where it declares. Its lasting contribution may be

JOURNAL OF WEALTH MANAGEMENT & FINANCIAL PLANNING (JWMFP)

Paper Submission Guidelines for Authors

- The manuscript sent to JWMFP must be original work. It must not have been published or accepted for publication in any other journals. The paper should be written in English.

Style and Format of Manuscripts

- The Journal of Financial Planning follows The Publication Manual of the American Psychology Association (APA) 7th Ed.) for style and format reference. Please prepare the entire manuscript, including the text headings, references, tables, figures and appendixes following the latest edition (7th edition) of the APA Publication Manual. Please note some changes have been made in the 7th edition as compared to the 6th edition.
- The APA Manual is available in bookstores or from the APA online at www.apa.org/books. Summaries of the APA style and format guidelines also are available from the APA website <https://apastyle.apa.org/instructional-aids/reference-guide.pdf> and other sources.
- The manuscript should be 3000 to 8000 words or between 5 to 15 pages, including an abstract, text, tables, footnotes, and references.
- The manuscript should comprise:
 - A title page
 - An abstract (start on a separate page, numbered page 2)
 - Text (start on a separate page, numbered page 3)
 - References (start on separate page)
 - Appendixes, if any (start each on separate page)
 - Endnotes, if any (list together starting on a separate page)
 - Acknowledgements, if any (start on a separate page)

Tables, Figures and Other Illustrative Material

Tables, Figures and Other Supportive Illustrative Material

- You are encouraged to provide supportive illustrative material with the manuscript.
- Tables, graphs, maps and drawings should not be separate from the body of the text. Place tables and figures throughout your text.
 - Note that each table or figure should only appear once. If you refer to the same table or figure more than once, don't reproduce it each time—just place it after the paragraph in which it is first discussed.
- Align the table or figure with the text along the left margin. Leave a line break before and after the table or figure to clearly distinguish it from the main text, and place it on a new page if necessary to avoid splitting it across multiple pages.
- For the presentation of quantitative data, graphs are preferred to tables as they contain more information and are easier to edit and reproduce.

- Diagrams and illustrations should preferably be prepared in black and white only. If the diagram should be reduced in size for publication purpose, it has to be clear and sharp so that it can be easily noticed.

Please refer to the appendix (sample paper) for ease of understanding of the required APA style and format.

References

Please refer to the appendix (References) for ease of reference.

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- Enter a valid email address. All notifications will be sent by email.
- Click on "Online Submission" menu to submit manuscript and follow the procedure.

Change from APA 6: No Running head

Every page has a page number in the header

1

Paper Example

Based on the Seventh Ed. of the
*Publication Manual of the American
Psychological Association*



Writing in APA Style 7th Edition Example Paper

Title in bold, Capitalize All
of the Major Words; no
word limit.

Use same font size
for everything in the
entire document

One blank double-spaced
line under title.

**First name Last name1,
First name Last name2 and First name Last name3
1Department name, Institution name
2Department name, Institution name
3Department name, Institution name**

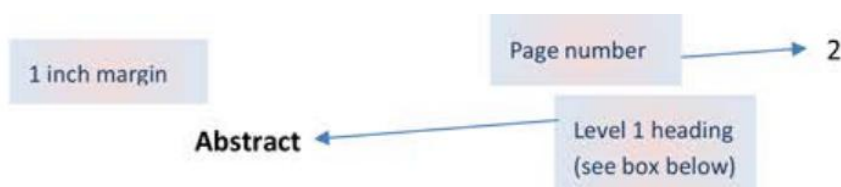
Writer(s) name (s),
Department name(s) and
Institution name(s)

Entire document should be
double-spaced.

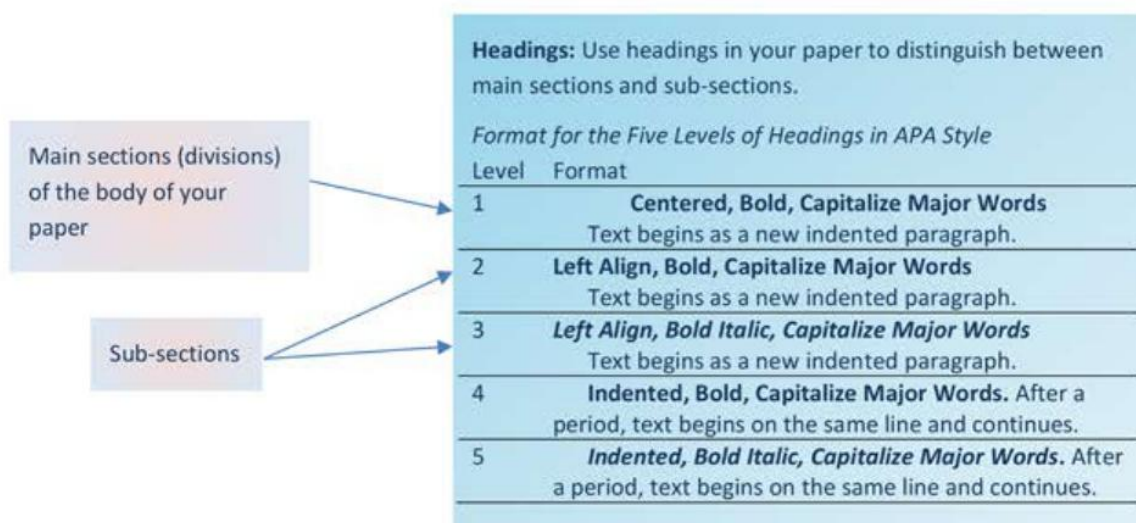
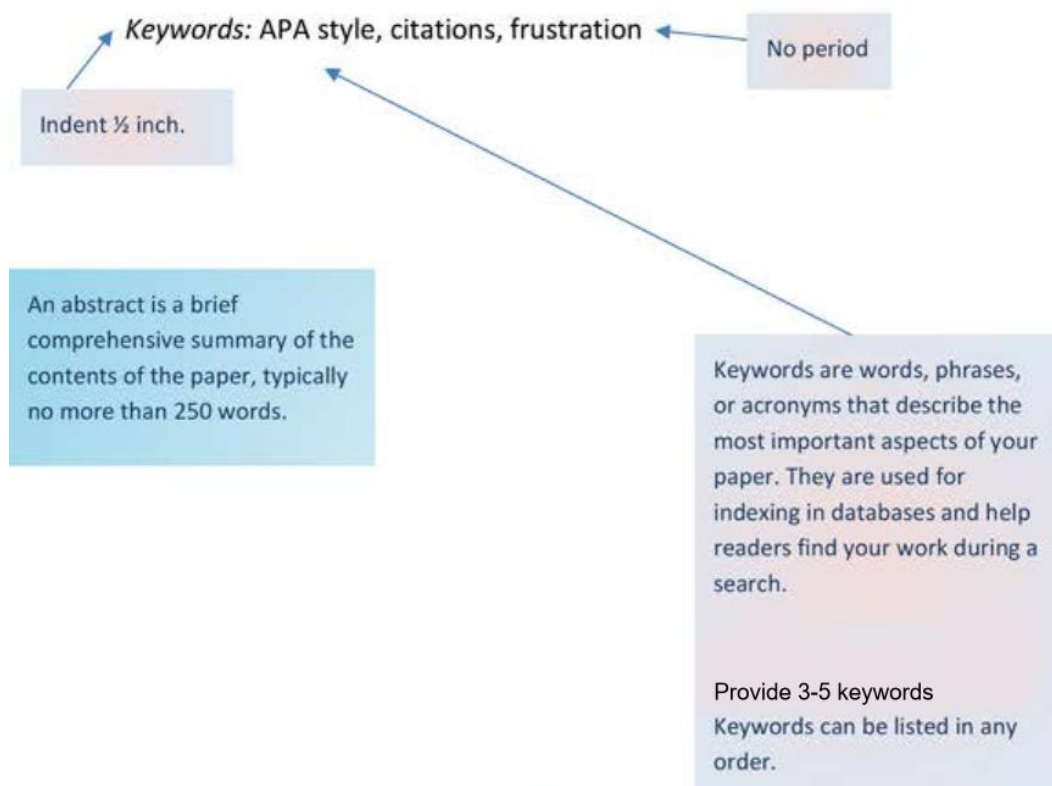
APA 7 no longer requires
12-pt. Times New Roman.

Permitted fonts:

- 12-pt. Times New Roman
- 11-pt. Georgia
- 11-pt. Calibri
- 11-pt. Arial
- 10-pt. Lucida Sans



This paper describes some basic parts of writing in APA style 7th Edition. These components include seven major areas: the title page, abstract, formatting concerns for student writing, use of language, in-text citations, the references page, and titles and figures. This paper also provides examples of specific changes that are required by APA style 7th Edition.



3

Title is bolded and centered, Capitalize All of the Major Words → **Writing in APA Style 7th Edition Example Paper** ← Level 1 heading (see p. 2)

Repeat title from Title page

Writing in the style of the American Psychological Association (APA) is a regular practice for students of higher degree programs in psychology and many programs in science. The new edition of the manual has made several changes, such as endorsing the use of the singular *they*, as exemplified in the next sentence. Each student writer who applies the new APA student writing standards may encounter different challenges, however, they may use the resources provided by the AUSB Writing Center for support in learning the relevant new rules.

Use singular "they"

According to the seventh edition of the *Publication Manual of the American Psychological Association* (2019), the style's broad applicability "helps authors present their ideas in a clear, concise, and organized manner" that "uniformity and consistency enables readers to (a) focus on the ideas being presented rather than formatting and (b) scan works quickly for key points" (p. xvii). Since this paper is mostly written in the seventh edition of APA style, attentive readers will note that it has many examples of changes from the sixth edition. Most of the rules demonstrated here are those a student will need to have some acquaintance with in order to write easily according to the student writing guidelines, which are distinct from APA's new journal article reporting standards (Paiz et al., 2013).

1 inch margins on all sides

One space after a period

New in APA 7: Use "et al." for three or more authors

Level 1 heading (a main section) → **The Structure of a Paper in APA Style**

The APA style guidelines are designed for primary research papers that usually contain the following sections: (a) introduction, (b) method, (c) results, (d) discussion, and (e) references. However, the actual headings may vary depending on the type of paper one is writing (American Psychological Association, 2019). For example, papers that do not describe primary research or original experimental data may omit the method, results, and discussion

sections (Xyers, Young, Zucherman, & Anne, 2019, p. 291). Some sections may be broken into subsections, in which case the authors must use the appropriate headings and subheadings (Xyers, Young, Zucherman, & Roberts, 2019, para. 4).

Exception to "et al." rule for 3 or more authors:
Include as many authors as needed to distinguish between sources with the same first author(s).

Organizing the Main Body

Level 2 heading (a sub-section)

Most APA style papers written by students are not experimental; the organization of headings and subheadings within the main body of the paper is therefore particularly important. In certain cases, the author might use additional major sections, such as a literature review, to introduce their own material.

Organizing the Main Body When There are Additional Content Concerns

Level 3 heading (a sub-section of the Level 2 sub-section)

Short papers usually only need Level 1 and 2 headings

In some common graduate assignments, students are instructed to compare therapeutic models, provide possible interventions given specific presenting problems, or engage in case study analyses. These papers may have particular sections (such as presenting problem, or socio-cultural considerations of a given model).

Level 4 heading (see p. 2)

Language Concerns in the Body of the Paper. Sometimes, writers who are just becoming comfortable with APA style, or with academic writing in general, will mimic academic language in ways subtly less clear than writers who use academic register fluently. For example, one might write the following sentence, which sounds academic to the mental ear, but in which almost everything is done poorly:

during the preparatory process of elucidating the critical and fundamental elements of this theory for analysis, it would be observed that certain subjective elements of the theory would be excessively situational to the point of being non-applicable outside of the theorists' particular circumstances. (Goodwin, 2012a)

For block quotes, period comes before citation.

If a quotation is 40 words or more, use a block quote format: new line, indent ½ inch, double space, no quotation marks.

5

We observe that such a sentence serves little use beyond parody. The same sentiment can be expressed in appropriate academic register in the following fashion: this theory is based on subjective components and thus is not widely applicable (Goodwin, 2012b).

Level 4 heading

Language Concerns as Issues of Unstated Academic Expectation. Writers for whom the

distinction between the two earlier examples is unintuitive should not be dismayed. Graham and Harris (1997) have shown that an academic style of writing is slowly learned, and is not

Para-phrase

often intuitive. Often, the rules of academic English, and American academic English in

particular, are presented as assumptions rather than with explicit guidance (Graham & Harris,

No page # (see box below)

1997). A student may look at their peers and see no one else asking questions about unclear elements of an assignment, or unclear expectations, and try to muddle through on their own rather than raising the issue. However, most academic expectations need to be explicitly taught at some point, so students should not feel bad asking for clarification. Often, if one writer has a question about the expectations, many others do also (S. Harter, personal communication, September 30, 2018).

Personal communication formatting example. Cite in text but not on References page. (see p. 7)

Level 1 heading

In-Text Citations and References

The American Psychological Association (APA) encourages authors to cite any works that have impacted their own (APA, 2019). In general, the style guide recommends paraphrasing sources rather than using too many direct quotes, “because paraphrasing allows you to fit material to the context of your paper and writing style” (APA, 2019, p. 270).

Cite the specific page number of direct quotes.

A direct quote is best employed when the original author has stated a point particular memorably, concisely, or effectively, or when the original author is providing a technical

About page numbers:

- Use for direct quotes
- Use for paraphrases of *information on a specific page*
 - Otherwise, optional for paraphrases

definition or explanation of a term. Under other circumstances, a paraphrase is usually more efficient than a direct quotation. Both paraphrased ideas as well as quotations need to be cited, though; only common knowledge does not require a citation. A good general rule of thumb might be: “when in doubt, cite it, and if you don’t have a citation, double-check” (S. Chase, personal communication, August 12, 2017).

Personal communication formatting example. Cite in text but not on References page. (see p. 7)

Writers using APA style should be careful to format their citations appropriately. Most in-text citations follow the format of author and year in parentheses, providing page numbers (or paragraph numbers) for every direct quotation. For paraphrases/summaries in your own words, include a page number when information is from a specific page of a source; otherwise a page number is optional, but may be helpful. The formatting of references in the references list, however, is more complicated, and writers should check their work to ensure that they have used the appropriate format for each citation, depending on the type of source.

Figures and Tables

As shown in Table 1, the seventh edition of APA has made some changes to the formatting of figures and tables. For example, figures now use the same title format as tables (see Figure 1).

Use table and figure numbers to refer the reader to tables and figures. Do not write “see the table above/below”.

Final Recommendations

APA style is an effective way of formatting and presenting complex material. APA can be time-consuming to learn; visit us in the AUSB Writing Center for help with any of your APA questions.

7

References should be in alphabetical order and double spaced.

Level 1 heading

References

American Psychological Association. (2019). *Publication manual of the American Psychological Association* (7th ed.).

When publisher & author are the same, omit that info.

Goodwin, J. (2012a). Made up examples of bad academic writing. *Academic Writing*, 343(1), 1006–1010. <http://doi.org/11.1136/acadbad.12345>

Same author, same year: use a & b

Include DOI as hyperlinked URL

Goodwin, J. (2012b). Good reading is hard writing: Another made-up journal article about academic writing. *Reading & Writing*, 25(3), 143–152.

Capitalize only the first word of a journal article and subtitle.

<http://doi.org/10.1234/readwrite.123456789>

Graham, S., & Harris, K. R. (1997). It can be taught, but it does not develop naturally: Myths and realities in writing instruction. *School Psychology Review*, 26(6), 414–424.

Paiz, J. M., Angeli, E., Wagner, J., Lawrick, E., Moore, K., Anderson, G., Franks, M., Paul, R., Keech, E., Ruiz, G., Allison, A., Caterelli, B., Zhou, M., Soong, R., Nguyen, Y., Bedo, O., Sanders, B., Howard, C., Denny, H., ... Keck, R. (2013). Online writing: The challenges of learning APA. *Journal of Psychotherapy*. <http://doi.org/10.4567/apa-style.67810>

Use a hanging indent

Xyers, K., Young, G., Zucherman, F., and Anne, A. (2019). Example with multiple authors. In G. Y. Iwamasa & P. A. Hays (Eds.), *Big Book of Examples* (2nd ed., pp. 287–314). CRC Press.

Xyers, K., Young, G., Zucherman, F., and Roberts, B. (2019, June 1). *Example citation for multiple authors*. BBC News. <http://www.bbcnews.com/example-for-multiple-authors.html>

Include up to 20 authors

The References provides the information necessary for a reader to locate and retrieve any source you cite.

- Every source you cite must appear on your References page.
- References page *only* includes sources cited in the body of your paper.

New in APA 7:

- No place of publication for books
- Leave hyperlinks
- Do not use “retrieved from” or a retrieval date unless the website content updates often by design (e.g., social media)

Exception: Do not include personal communication on your References page, e.g., emails or interviews, since they are not recoverable. Instead, cite them in-text. (See p. 6.)

Table 1

An Example of an APA Style Table

Limited shading and borders now preferred. (Do not use vertical borders to separate data.)

Table or Figure	Change from 6th Edition
Table	Mostly the same for simple tables, but avoid unnecessary borders or shading in a table
Figure	Now uses same title format as tables

Note. A table note may optionally be included under the table to clarify the contents of the table for the readers of the manuscript.

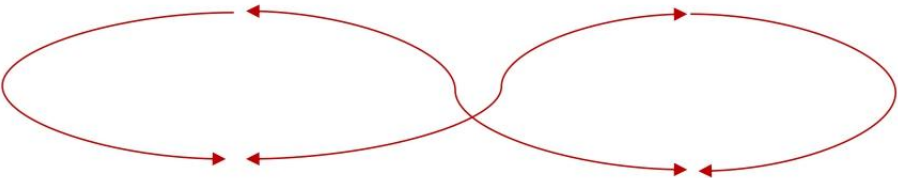
Figures and tables are left-aligned

Place each table on a separate page, followed by each figure on a separate page

Figure 1

Writing in APA Style

Figure titles now parallel to table titles (above the figure)



Note. A figure note may optionally be included under the figure to clarify the contents of the figure for the readers of the manuscript.



APA Style 7th edition

IMPORTANT NOTE: This Library Guide has been produced in single space in order to minimize paper use. **Please remember that when you produce your own APA documents, all text and references must be double-spaced.**

- The American Psychological Association (APA) style, as presented in this handout, is widely accepted in the Social Sciences.
- The APA citation format requires citation within the text rather than endnotes or footnotes.
- In-text citations usually include the name of the author and the date of publication, to lead the reader to the listing found in the "References" section, which is placed at the end of the research paper.
- Complete information about each source cited in the text is supplied in the "References" list.

Based on the *Publication manual of the American Psychological Association* (7th ed.). Washington, DC: American Psychological Association. For more information also go to <https://apastyle.apa.org/>

Citing in Your Paper (In-Text Citation)

In the text of a research paper, if the author's name is part of the narrative, include only the year of publication in the parentheses.

According to Smith (1998), APA style is an easy citation format for first-time learners.

APA style is an easy citation format for first-time learners (Smith, 1998).

If citing a particular page or chapter of a document, include that information in the parentheses.

APA style is an easy citation format for first-time learners (Smith, 1998, p. 203)

At the end of the paper, in a section called "References," full citations are listed in alphabetical order.

Smith, P. (1998). Learning to cite using APA Style. *Journal of College Writing*, 6, 60513.

Author Type	Parenthetical citation	Narrative citation
One author	(Gonzalez, 2019)	Gonzalez (2019)
Two authors	(Gonzalez & Jones, 2019)	Gonzalez and Jones (2019)
Three or more authors	(Gonzalez et al., 2019)	Gonzalez et. al. (2019)
Group author with abbreviation:		
First citation	(American Psychological Association [APA], 2020)	American Psychological Association (APA, 2020)
Subsequent citations	(APA, 2020)	APA (2020)
Group author without abbreviation	(University of California, 2020)	University of California (2020)
No author	("New drug," 1993) <i>Use an abbreviated version of the title.</i>	

Citations in Text with no page numbers:

If citing a particular part of a document which has no page numbers, include the paragraph (para.) or section heading with the number of the paragraph.

Use paragraph number or section heading with the number of the paragraph.

(Myers, 2000, para. 5)
(Beutler, 2000, Conclusion section, para.1)

Citation of a work discussed in another (secondary) source:

In general it is expected that you seek out and use the *original* source of the information. However, this is not always practical. To cite a secondary source, do the following.

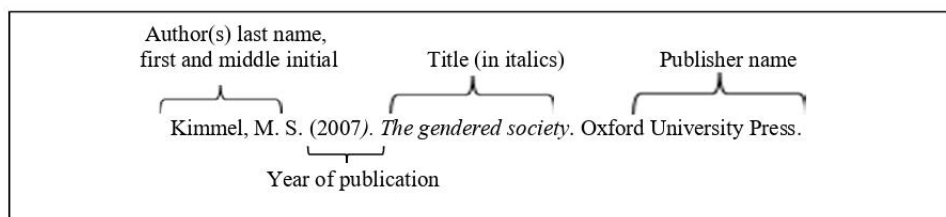
In the Text:

Seidenberg and McClelland's study (as cited in Coltheart, Curtis, Atkins, & Haller, 1993)

Note: You will list the Coltheart reference in the reference list.

Creating a Reference List at the End of Your Paper

Remember: All references in your list must be double-spaced, both between references and within references, with a hanging indent of ½ inch for references with more than one line.

Books and eBooks**Books:**By a Single AuthorBy Two or More Authors

DiFonzo, N., & Bordia, P. (2007). *Rumor psychology: Social and organizational approaches*. American Psychological Association.

By a Corporate (Group) Author

American Sociological Association. (1975). *Approaches to the study of social structure*. Free Press.

Edited Book

Rhodewalt, F. (Ed.). (2008). *Personality and social behavior*. Psychology Press.

No Author

The universal declaration of human rights. (1974). U.S. Catholic Conference, Division of Latin America.

Ebooks:With a doi

Gillam, T. (2018). *Creativity, wellbeing and mental health practice*. Wiley Blackwell.
<https://doi.org/10.1007/978-3-319-74884-9>

Without a doi (Cite the same as a print book)

Lauwers, J., Opsomer, J. & Schwall, H. (Eds.). (2018). *Psychology and the classics: a dialogue of disciplines*. De Gruyter.

From a website:

Sanger, M. (2000). *Woman and the new race*. Bartleby.com. <http://www.bartleby.com/1013/> (Original work published 1920).

Chapters in Books

Levi-Strauss, C. (1971). Totem and caste. In F. E. Katz (Ed.), *Contemporary sociological theory* (pp. 82-89). Random House.

Article, entry, or chapter from an online reference book (encyclopedia, dictionary, handbook):Online with a doi:

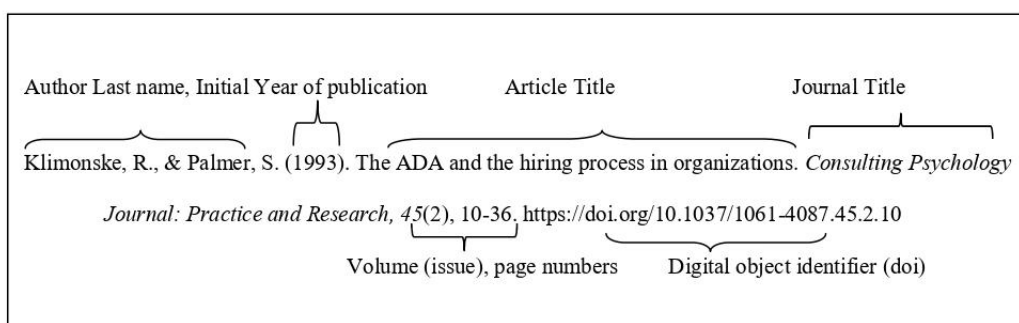
Watkins, M. (2013). Mind-body problem. In H. Pashler (Ed.), *Encyclopedia of the mind*. SAGE.
<http://dx.doi.org/10.4135/9781452257044.n191>

Online with no doi:

Shevell, S. K. (2000). Color vision. In A. E. Kasdin (Ed.), *Encyclopedia of psychology* (Vol.2, pp.182-186). Oxford University Press.

ERIC Documents

Evans, V. (2016). *An Evaluation of CHAMPS for classroom management* (ED581571). ERIC.
<https://eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED581571>

Journal ArticlesArticle without DOI or in print:

Scroggins, W. A., Thomas, S. L., & Morris, J. A. (2008). Psychological testing in personnel selection, Part II: The refinement of methods and standards in employee selection. *Public Personnel Management*, 37(2), 185-199.

Two or more authors (up to 20 authors)

Klimonske, R., & Palmer, S. (1993). The ADA and the hiring process in organizations. *Consulting Psychology Journal: Practice and Research*, 45(2), 10-36. doi:10.1037/1061-4087.45.2.10

Note: If an article has 21 authors or more, list the first 19 authors, then insert an ellipsis (...) and then the last name and first initials of the last author.

Wolchik, S. A., West, S. G., Sandler, I. N., Tein, J., Coatsworth, D., Lengua, L., Johnson, A., Ito, H., Ramirez, J., Jones, H., Anderson, P., Winkle, S., Short, A., Bergen, W., Wentworth, J., Ramos, P., Woo, L., Martin, B., Josephs, M., ... Brown, Z. (2005). Study of the brain. *Psychology Journal* 32(1), 1-15. doi:10.1037/1061-4087.45.1.11

Newspaper and Magazine Articles

Newspaper Article

Online:

From a database (note: do not include database URL or name)

Article Author	Publication	Article Title	Newspaper
Last name, first initial	Date		
Cieply, M.	(2013, November 11).	Gun violence in American movies is rising, study finds.	<i>New York Times</i> .

From a website, with no author:

It's subpoena time. (2007, June 8). *New York Times*. <https://www.nytimes.com/2007/06/08/opinion/08fri1.html>

Print:

Jones, S. (1997, October 19). Hit-and-run suspect commits suicide. *New York Times*, p. 17.

Magazine Article:

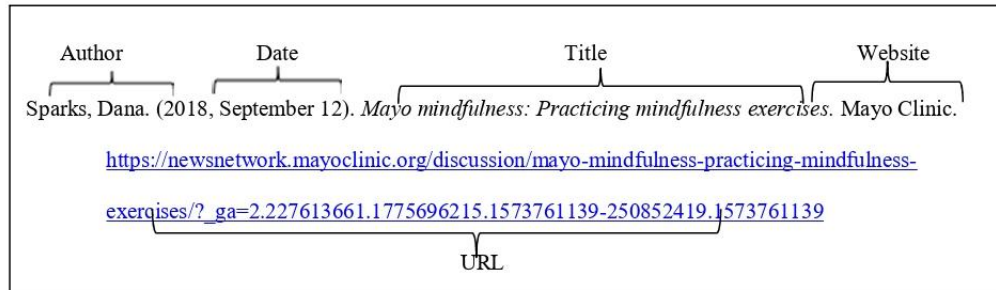
From a database or print:

Kluger, J. (2010, November 1). Keeping young minds healthy. *Time*, 176(18), 40-50.

From a website:

Heid, M. (2015, August 12). You asked: Why do I blush so much? *Time*. <http://time.com/3992760/blush-blushing/>

Web sites



Organization name as author (Group author):

National Institutes of Mental Health. (2015, May). *Anxiety disorders*.
<http://www.nimh.nih.gov/health/topics/anxiety-disorders/index.s>

Note: when the author and the name of the website are the same, you don't need to list it as the name of the website.

No author, no date:

What is psychology? (n.d). BestPsychologyDegrees.com. <https://www.bestpsychologydegrees.com/what-is-psychology/>

Notes:

- Only include a retrieval date if the information on the page is designed to change over time.
- If you cite multiple webpages from a single website, you should create a separate reference for each webpage. If you want to mention a website in its entirety, just mention it in your text with the URL in parentheses; don't include it in your references.

Blog posts:

Selingo, J. (2014, June 22). Reimagining the undergraduate experience: 4 provocative ideas. *Next*.
<http://chronicle.com/blogs/next/2014/06/22/reimagining-the-undergraduate-experience-4-provocative-ideas/>

Other Sources

Test Reviews

Online

Newmann, D. L., & Rust, J. O. (1989). [Review of the test *A.S.S.E.T.S—A survey of students educational talents and skills*]. In J. C. Conoley & J. J. Kramer (Eds.), *The tenth mental measurements yearbook*. Mental Measurements Yearbook with Tests in Print.

Charts, Tables and Graphs

If you are reproducing a graphic, chart, or table, from some other source, you must provide a special note at the bottom of the item that includes copyright information. If you are submitting your work for publication or if your work is a dissertation or master's thesis you should also submit written permission along with your work. If your work is a paper submitted for course work, permission is not necessary. In either case, begin the citation with "Note."

Note. From “Experiences of peer aggression and parental attachment are correlated in adolescence,” by R.M. Earl and N.R. Burns, 2009, *Personality and Individual Differences*, 47, p. 751. Copyright 2009 by the authors. Reprinted with permission.

If permission is not sought, substitute “Permission not sought” in place of “Reprinted with permission.”

Video

DVD or VHS:

Staveley-Taylor, H. (Director). (2006). *Introduction to designing experiments* [Film; DVD]. Uniview Worldwide; Cambridge Educational.

Streaming Online:

From a database:

BBC (Producer). (2014). *Living with autism*. [Film; Streaming Video]. Films on Demand.

From a website:

Lancaster, B. (Presenter). (2018, Jun 22). *Behavioral treatments for ADHD* [Video]. Michigan Medicine. YouTube. https://www.youtube.com/watch?v=iUgs8N_-nlo

Dissertations or Theses

Electronic copy of a thesis or dissertation from a database:

Rockey, R. (2008). *An observational study of pre-service teachers' classroom management strategies* (Publication No. 3303545) [Doctoral dissertation, Indiana University of Pennsylvania]. ProQuest Dissertations and Theses Global.

Electronic copy of a thesis or dissertation from an online archive or repository:

Gerena, C. (2015). *Positive Thinking in Dance: The Benefits of Positive Self-Talk Practice in Conjunction with Somatic Exercises for Collegiate Dancers* [Master's thesis, University of California Irvine]. University of California, eScholarship. <https://escholarship.org/uc/item/1t39b6g3>

Personal Communications:

Personal communications such as Emails, lectures, or conversations should be cited as personal communications in the text only (not in the reference list) in the following format:

R. J. Smith (personal communication, August 15, 2015)



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