# ASSESSING DIGITAL AND FINANCIAL LITERACY IN

# PAPUA NEW GUINEA

## A Survey on Knowledge, Skills and Access

# Acknowledgements

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# List of Acronyms and Designations

| Acronym/ Designated Labels | Description |
| --- | --- |
| ATM | Automated Teller Machine |
| CATI | Computer Assisted Telephone Interviewing |
| CAPI | Computer Assisted Personal Interviewing |
| DFL | Digital and Financial Literacy |
| DFS | Digital Financial Services |
| PGK or K | Papua New Guinean Kina |
| PNG | Papua New Guinea |
| Digicel, bmobile-Vodafone, & Telikom PNG | Mobile networks operating in Papua New Guinea |
| MSMEs | Micro, Small, and Medium Enterprises |
| PDEP | Pacific Digital Economy Programme |
| PPS | Probability Proportional to Size |
| SES | Socioeconomic Status |
| UNCDF | United Nations Capital Development Fund |
| UNDP | United Nations Development Programme |

# Glossary of Terms

Some of the terms used in the DFL 2022 Survey Report are defined as follows:

**Papua New Guineans** and **Papua New Guinean adults** refer to individuals aged 15 to 74 years living in Papua New Guinea.

**Financial inclusion** refers to the concept that all working-age adults have effective access to banking, credit, savings, payments, and insurance services from formal service providers. Please note that while this definition refers to the whole of the concept of financial inclusion, this survey did not probe all dimensions of access.

**Adult population** refers to Papua New Guineans aged 15 to 74 years of age.

**Youths** refers to Papua New Guineans aged 15 to 24 years.

**Older Adults** refers to Papua New Guineans aged 45 to 74 years.

**High(est) income earners** refer to Papua New Guineans who say they and their partner have access to a combined income of K480 or greater fortnightly (21% of the sample). Income categories are based on a percentage of GNI.

**Low(est) income earners** refer to Papua New Guineans with a combined fortnightly income (personal income plus income from a spouse/partner) of less than K95.

**Formally employed** refers to individuals who indicate in the occupation question that they are working for another person or company, full time or part time, also known as wage earners. Includes those temporarily absent from work due to sickness or maternity/paternity leave.

**n=** The number of respondents in the entire sample or subsets of the sample that were asked specific survey questions or comprise a demographic or geographic subgroup discussed in the report.

# Significance Testing

Shading indicates statistically significant differences between the sub-group (e.g. females) vs the total (average) result at the 95% confidence level. We have used a two-tailed Z-test, $p \leq 0.5$.

In plain English, we say that a difference between two groups of people (e.g. older respondents vs. the average) is statistically significant if it is mathematically unlikely to have happened purely by chance. This means it is likely there is a genuine difference between the sub-group and the average.

A cell shaded green indicates a result that is significantly greater than the average, while a red shaded cell means the result is significantly less than the average.

| | |
|---|---|
| <span style="color:green">■</span> | Significantly greater than the average |
| <span style="color:red">■</span> | Significantly less than the average |

It should be noted that "statistically significant" does not mean "relevant", and not every statistically significant result is an important finding.

# Executive Summary

## Digital Financial Literacy Index Scores

**Papua New Guineans possess moderate levels of digital and financial literacy with significant room for growth in the uptake of digital financial services (DFS).**

Out of a possible 52 points, Papua New Guineans achieve a mean score of 21.12 points. The majority (65%) achieves DFL (digital and financial literacy) scores which fall within the moderate category, achieving an overall score of between 13 and 26 points.

**Digital and financial literacy in Papua New Guinea tracks closely with gender, age, region, educational attainment, and socio-economic status.**

Residents of urban areas, particularly urban men, men aged 25 to 44 years, residents of the Papua and Islands regions, higher-educated, and higher-income Papua New Guineans perform higher on a number of (but not all) measures than counterpart groups. Tracking with income, adults with formal employment outside the home also perform significantly higher than the average in terms of their overall DFL score, as well as their performance in all assessment areas.

**Women achieve a lower overall digital and financial literacy score than men, driven in large part by lower rates of digitalisation and digital access (access to the Internet).**

Differences in financial or digital financial competencies between men and women are slight. DFL scores do not take into account financial product ownership (the study focussed on competencies more broadly), though women's ability to use digital financial services over time is very much dependent on access to financial resources **over which they have decision-making power**, as well as digital devices by which they can access DFS. Again, rates of access to digital devices or the Internet are also lower among women than men. Increasing both digital access and financial inclusion among women are pre-requisites to improving their overall digital and financial literacy.

## Financial Inclusion and Literacy

**The majority of Papua New Guineans participate in some level of budgeting and savings behaviour.**

The vast majority of Papua New Guineans (82%) affirm they budget or make plans to manage their income and expenses. In practice, 57% track their finances by keeping receipts or recording their spending. Only a fraction of adults use digital tools to aid with financial management (12% use a banking app or online money management tool to monitor their spending and saving). Savings activities largely pertain to putting money aside for emergencies (76%). There is roughly a fifty percent drop-off between those who say they prefer to save and those who (**can**) save or invest for the long-term. Just 40% of Papua New Guinean adults aged 15 to 74 years say they save or invest for long-term.

## Digital Integration

**Access to smartphones, specifically, and digital devices more broadly is limited in Papua New Guinea.**

Three in five adults (62%) claim access to a smartphone for personal use, either their own or belonging to someone else. Internet use in Papua New Guinea is in line with smartphone access, with 60% of adults having ever used the Internet. Smartphones comprise the most accessible digital device by a wide margin. Access to smartphones, as well as other digital devices, varies considerably between demographic and geographic subgroups with rural, older, and less-educated and lower-SES groups registering significantly lower levels of access to digital devices than Papua New Guineans overall.

Internet usage reflects similar demographic and geographic trends with the addition of greater differences in usage between men and women. Just 32% of women aged 45 to 74 years and 48% of rural women have ever used the Internet compared to 50% of older and 54% of rural men.

**Limited access to digital devices and available Internet connections amongst significant segments of the population contribute to the diminished levels of confidence engaging with digital tools.**

Three-quarters of Papua New Guinean adults (77% agree) feel like technology is leaving them behind. Upwards of three in five adults across demographic and geographic groups worries about their ability to stay apace of evolving technologies with the exception of Papuans (57% agree). Majorities worry technological developments are leaving them behind even amongst groups with the highest levels of digital access – urban men (63%) and younger men (74%).

Participation in online activities, including finance-related activities, is limited beyond news and social media consumption.

One-third of Papua New Guinean adults learned something from an online video or course (32%). Just 22% searched online for information about money matters; 11% bought something online; and 9% completed or submitted a government form online.

Uptake of digital security practices – on- or off-line – varies depending on the practice with several significant areas of concern evident in the data.

The reuse of passwords across online accounts comprises one of the most obvious safety vulnerabilities evaluated, with virus protection and device locking features built-in to most in-market smartphones. Half of Papua New Guineans who use the Internet[1] (55%) admit to reusing the same password across several online accounts or websites; 44% say they do not.

# Perception about Digital Financial Services

Local economies remain cash-based.

Despite Papua New Guineans having access to some kind of financial service or product, roughly half of adults (49%) have a current account they can use to store money and make payments; a similar number (48%) has a payment card of any sort, continued reliance on cast to pay for resugalr expenses is still very much a preference.

With regards to the use of DFS in financial management, just 12% of Papua New Guinean adults use banking apps or online money management tools to monitor their spending and saving (21% among Internet users). Among adults who own current accounts, 11% use banking apps and 11% use bank web services to check account balances, withdraw, or deposit funds associated with their account.

Papua New Guineans understand the inevitability of use of digital financial services at all levels of society, as well as the potential benefits, while at the same time expressing concerns about their ability to navigate these services safely and effectively.

Almost half of adults (47%) believe DFS are risky for "ordinary people". The vast majority would not trust (69%) automated services such as an app or robot advisor to provide financial advice. In addition, two in five adults have grown increasingly wary of financial scams and fraud (39%), not limited to DFS, over time.

Education is required to ensure efficient and safe uptake of DFS for all Papua New Guineans.

More than half of adults who are online[2] (55%) re-use the same password across several online accounts or websites, including 74% of adults who work in finance or technology. Only 11% of adults shop online, but amongst those that do, half (49%) fail to check websites are secure before entering payment details.

# DFS outcomes and Education

Most Papua New Guineans (69%) have not completed a mobile or digital financial transaction to experience either the positive or negative impacts of DFS use.

Positive outcomes are more common than negative outcomes amongst the three in ten adults who have made a financial transaction via a mobile phone or online.[3] Three-quarters (75%) have found it easier to manage their money without help from others; 64% have found it easier to keep track of what they are spending; and 56% of DFS users have saved money on financial transactions by reducing fees or other costs.

Leveraging online resources and channels are essential to deliver digital financial education for Fijian adults

Financial education, including digital financial education, can be delivered online to a portion of the population, but face-to-face education is still required if increases in digital and financial literacy are desired across the full spectrum of society. One-third (32%) of Papua New Guineans learned something from an online video or course in the three months prior to participating in the survey. One-third (32%) of Papua New Guineans learned something from an online video or course in the three months prior to participating in the survey.

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1  [n=954]
2  [n=954]
3  [n=488] (the use of mobile or online banking include checking a current account balance on a phone or via a bank app or owning a DFS such as a digital or mobile wallet)

# Background and Introduction

The growing availability of digital financial services (DFS) and emerging digital platforms in Papua New Guinea can provide unique capital-building tools and resources for accelerating financial inclusion and inclusive growth for the last mile. To realize this potential, strengthening digital and financial literacy (DFL) of all population segments, especially the marginalized and low-income groups is essential.

Improved financial and digital literacy can contribute to strengthen consumer protection and resilience to major financial shocks. The Government of Papua New Guinea recognizes the urgency of equipping the citizens with relevant digital and financial management and decision-making skills so they can harness DFS to the benefit of their financial health and well-being.

To date however, efforts to improve digital and financial literacy and implement targeted interventions have been significantly challenged by a lack of updated DFL data in Pacific Island countries on which to base these efforts. The last attempt to comprehensively measure DFL in the Pacific was in 2012 and at that time, efforts focused on low-income communities in a limited number of markets (Samoa, Fiji, Solomon Islands, and Papua New Guinea). With this in mind, UNCDF partnered with Tebbutt Research, a leader in market research in the Pacific, to conduct quantitative research in seven Pacific Island countries to measure levels of digital and financial literacy within each country. The research explores experiences with traditional and digital financial services to-date, in addition to assessing basic competencies in the areas of digitization and finance. Research findings will be used to develop and target appropriate interventions within Pacific Island countries, with a particular eye to developing interventions and improving digital financial competencies among women, MSMEs, migrant workers, and rural communities. The studies are intended to serve as a baseline from which future changes in competencies, access, and usage can be measured.

# Methodology

## Survey Methodology

UNCDF and UNDP, under its joint Pacific Digital Economy Programme, partnered with Tebbutt Research to roll out and conduct the Digital Financial Literacy Survey in seven Pacific Island countries: Fiji, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tonga, and Vanuatu. This report and the methodology that follows focuses on findings from Papua New Guinea.

**1,587** **Papua New Guineans interviewed** with individuals aged 15-74 years

**62%** **Face-to-face interviews**
- Computer Assisted Personal Interviewing (CAPI)
- Proportional to Size (PPS) Methodology

**38%** **via Mobile Telephones**
- Computer Assisted Telephone Interviewing (CATI)
- Random Digit Dialing (RDD) Methodology

The telephone portion of the field took place between 10 September and 25 October 2022. Face-to-face interviewing took place between 16 November and 29 November 2022. Average interview length was 20 minutes. Interviews were administered in Tok Pisin and English.

Using the most recently available population data from the Papua New Guinea Statistics Department, nested survey quotas by gender and by age within regions (defined by province) were loosely established ($\pm$10%) for the CATI portion of the sample prior to commencing fieldwork. Face-to-face interviewing was conducted according to a PPS methodology utilizing CAPI technology. A Kish grid was used to select respondents within households with only one respondent per household selected for a face-to-face interview. No quotas were applied to face-to-face interviews. Ultimately, Tebbutt Research oversampled in some groups over the course of the CAPI (in-person) survey field; oversamples were weighted at the close of survey field to align with national population statistics for gender and age within province.

The survey sample has a margin of error of +/-2.5% at the 95% confidence level. In interpreting survey results, all samples are subject to possible sampling error. The size of the sampling error depends upon both the total number of survey respondents and the percentage distribution of responses to a particular question. For example, if 50% of respondents in the survey answer "yes" to a particular question, we can be 95% confident that the true percentage will fall within 2.8 percentage points, or from 47.5% to 52.5%. The margin of error decreases the nearer percent distributions are to 0 and 100.

The following table details population statistics upon which telephone sample quotas and back-end weights were based:

|  | Total | Highlands | Islands | Momase | Southern |
|---|---|---|---|---|---|
| Men 15-24 years | **939,014** | 437,770 | 121,012 | 219,174 | 161,058 |
| Men 25-34 years | **656,269** | 305,953 | 84,575 | 153,180 | 112,561 |
| Men 35-44 years | **522,159** | 243,432 | 67,292 | 121,877 | 89,558 |
| Men 45-54 years | **359,944** | 167,806 | 46,388 | 84,016 | 61,734 |
| Men 55+ years | **315,102** | 146,902 | 40,608 | 73,545 | 54,047 |
| Women 15-24 years | **858,046** | 402,168 | 109,624 | 202,586 | 143,668 |
| Women 25-34 years | **675,463** | 316,590 | 86,299 | 159,475 | 113,099 |
| Women 35-44 years | **515,438** | 241,586 | 65,853 | 121,695 | 86,304 |
| Women 45-54 years | **320,139** | 150,050 | 40,901 | 75,582 | 53,606 |
| Women 55+ years | **254,724** | 119,391 | 32,544 | 60,142 | 42,647 |

UNCDF, in conjunction with Tebbutt Research and consulting partner Dr. Adele Atkinson, conceived the multi modal methodology on the basis that:

- A minimum of 60% of interviews in each country including Papua New Guinea should be conducted face-to-face to ensure individuals without access to digital devices, including mobile phones, were accurately captured in the sample frame.
- Interviews should not be administered entirely (100%) in person in order to better reflect the aims of the project – to measure digital financial competencies and increase digital financial inclusion in Pacific Island countries. It was deemed important to incorporate technology into the final methodology in each country, thus the inclusion of CATI in the methodological design.

The ultimate proportion of CAPI to CATI interviews in each country was decided based on mobile penetration figures and the COVID-19 situation in each country at the time of field. Again, it was determined that a minimum of 60% of interviews were to be completed face-to-face in each country. It was further determined that a minimum of 25% of interviews would be completed via telephone with remaining interviews assigned as either CATI or CAPI based on rates of mobile phone penetration in each country.

# Survey Questionnaire

The project was conceived and designed to serve as a template for similar interventions in other regions where UNCDF works. Dr. Adele Atkinson designed the survey questionnaire with input from an advisory team at UNCDF and Tebbutt Research, particularly as the instrument required localisation for Pacific Island audiences. The survey was designed through an iterative process with feedback from participating Central Banks, UN agencies, and UN country representatives, with further review and amendments following pilot tests. The final survey questionnaire has been provided as an appendix to this report.

UNCDF and its implementing partner also intend to conduct a follow-up survey in three to five years' time. Findings from the baseline survey will be compared with those of a follow-up survey to assess the impact of digital and financial literacy programmes designed in response to baseline survey findings and ongoing changes in the market.

## Creation of a Digital Financial Literacy Index

A scoring system was applied to the questionnaire for the purposes of analysis, both in terms of comparing levels of digital and financial competencies between geographic and demographic subgroups and measuring changes in levels of digital and financial literacy over time (by acting as a baseline survey, with a follow-up survey to be conducted in three to five years' time). This includes measuring growth in positive outcomes associated with the usage of digital financial services **and** increased digital and financial literacy over time.

Survey respondents could achieve a maximum of 52 points for digital and financial literacy based on their responses to survey questions.[4] The survey and scoring system was further divided into four subsections to better understand in which specific areas competencies are strongest or where gaps in knowledge are most notable. Access to mobile/digital devices contributes to the scoring framework and constitutes an important component of measuring digital-financial literacy. While the survey explores financial inclusion and access to electronic and digital financial products, inclusion questions do not factor into the scoring framework. These areas are however discussed in the detailed report that follows. Rather, attitudes, awareness, and online behaviours related to finances and financial management comprise the key inputs underpinning the DFL Index and in understanding levels of digital and financial literacy in Papua New Guinea.

Content areas that comprise the DFL index and scoring framework include:

### Digitalisation
**maximum achievable score of 18 points, with a focus on access to digital devices, digital activities performed, Internet access and online activities, awareness of and participation in safe digital/online practices.**

### Financial competencies
**maximum achievable score of 13 points, with a focus on engagement with financial safeguards (e.g., budgeting and savings behaviours) and financial knowledge (i.e., basic understanding of the concept of inflation, how borrowing impacts MSME profitability, etc.).**

### Digital financial competencies
**maximum achievable score of 9 points, with a focus on commonly-held beliefs about digital financial services and DFS behaviours (both practices for keeping financial information safe online and use of DFS for money management).**

### DFS outcomes
**maximum achievable score of 12 points, with a focus on positive and negative outcomes associated with use of mobile or online financial services, including current financial circumstances and the impact of DFS services on financial well-being.**

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4 Not all questions asked in the survey were used in the scoring model. Responses to financial inclusion questions such as ownership and use of financial and digital financial products, experiences sending and receiving remittances, and preferences with regards to cash-based transactions do not contribute to DFL scores.

# General Demographics

The following graphs and information provide a demographic snapshot of the final, weighted survey sample.

## Region and Density



| Region | Percentage of Sample |
|---|---|
| **Highlands** | **47%** |
| **Islands** | **13%** |
| **Momase** | **23%** |
| **Papua** | **17%** |

Graph 1: Town or Village[5]

[Total sample, n=1,587]
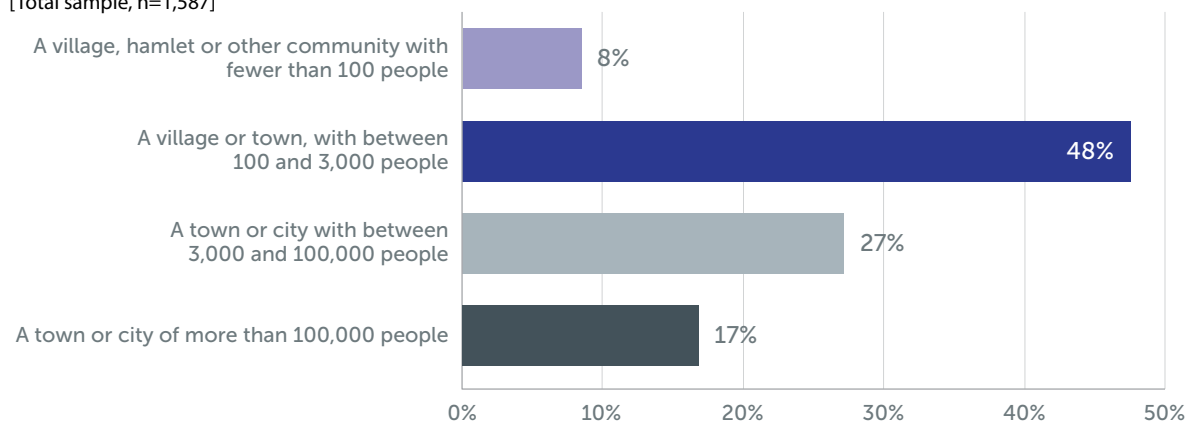
5   The most recent data available from the World Bank (2021) indicates that 86.5% of the Papua New Guinea population currently lives in a rural area: https://data.worldbank.org/indicator/SP.RUR.TOTL?locations=PNG-PG. The World Bank qualifies its urban-rural classifications with the following note: "There is no universal standard for distinguishing rural from urban areas, and any urban-rural dichotomy is an oversimplification. The two distinct images - isolated farm, thriving metropolis - represent poles on a continuum. Life changes along a variety of dimensions, moving from the most remote forest outpost through fields and pastures, past tiny hamlets, through small towns with weekly farm markets, into intensively cultivated areas near large towns and small cities, eventually reaching the center of a megacity. Along the way access to infrastructure, social services, and nonfarm employment increase, and with them population density and income. A 2005 World Bank Policy Research Paper proposes an operational definition of rurality based on population density and distance to large cities (Chomitz, Buys, and Thomas 2005)."

Graph 2: Density[6]
[Total sample, n=1,587]

**61% RURAL**

**39% URBAN**

**61%** of respondents live within one kilometre (1km) of a place to buy basic provisions such as bread, vegetables, bottled water, or soap.

**38%** of respondents live within one kilometre (1km) of an ATM.
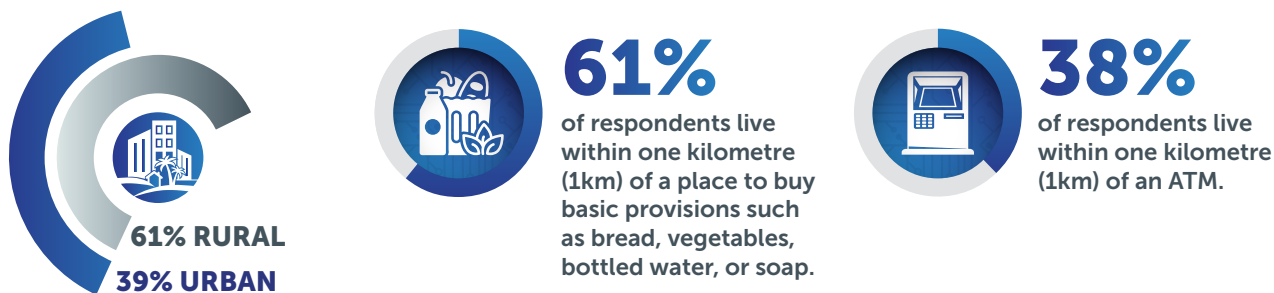
## Demographic Characteristics

**Age Range of Respondents**
**15-74 years**

**33%**
Papua New Guineans aged 15-24 years

**25%**
Papua New Guineans aged 25-34 years

**32%**
Papua New Guineans aged 35-54 years

**10%**
Papua New Guineans aged 55-74 years

**48% : 52%**
Women comprise a slightly smaller proportion of the sample than men

**1 in 5**
Papua New Guineans surveyed have a health condition or disability that limits their day-to-day activities

**46%**
**Papua New Guineans work outside the home**

22% of the overall sample are self-employed with no employees

3% are self-employed or a company owner with employees

**15%**
are unemployed and seeking work

**23%**
are students

**7%**
are caring for children or other family members

**5%**
identify as retired
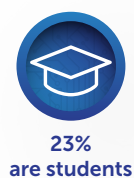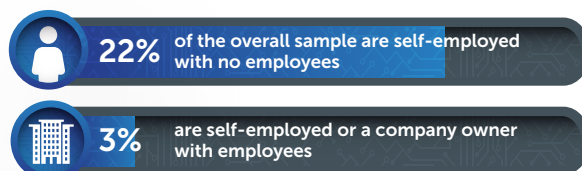
6   For the reasons stated above, several measures were used to determine urban and rural designations in the administration of the survey. For greater accuracy in a local context, the survey analysis refers to urban-rural classifications derived in one of two ways depending on whether interviews were conducted face-to-face or via telephone. Interviewers recorded density for in-person interviews based on actual interview location. Telephone respondents were asked to self-identify whether they live in an urban or rural area with the understanding that not all respondents would be able to recall EA or ward information.

# Digital Financial Literacy Index Scores

**Papua New Guineans possess moderate levels of digital and financial literacy** with significant room for growth in the uptake of digital financial services (DFS), along with familiarity and awareness of practical safeguards for DFS use. Assessments of digital and financial literacy – and the compilation of a digital and financial literacy (DFL) index – were made based on responses to measures in the areas of:

**DFS Outcomes**     **Digitalisation**     **Digital Financial competencies**     **Financial competencies**
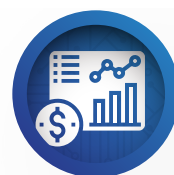
## DIGITAL AND FINANCIAL LITERACY SCORE

**Papua New Guineans achieve a mean score of** **21.12** **out of 52 points**

The majority (65%) achieves DFL (digital and financial literacy) scores which fall within the moderate category, achieving an overall score of between 13 and 26 points A full one in ten score on the low (10%) end, while virtually no one (less than 1%) scores on the high end of the DFL index. Low is defined as scoring between 0 and 12 points and high between 40 and 52 points. One-quarter (24%) achieve an above average score of between 27 and 39 points. Urban males (45%) and university-educated adults (55%) are most likely to score within the above average-to-high range, as are formally employed adults (50%) and adults from the highest income bracket (51%) – demographic groups who are also more likely to be male and higher-educated.

**Graph 3: Scoring Distribution**
[Total sample, n=1,587]
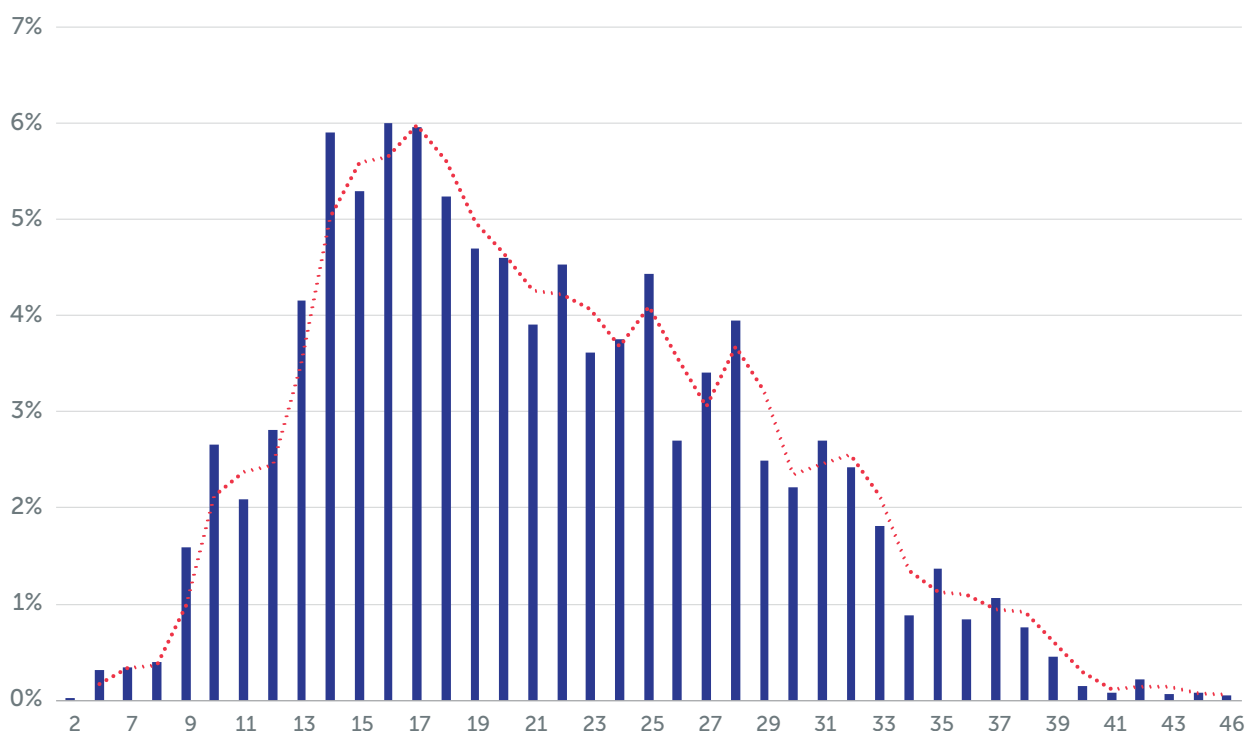
**Graph 4: Scoring Distribution by Density**
[Total sample, n=1,587]
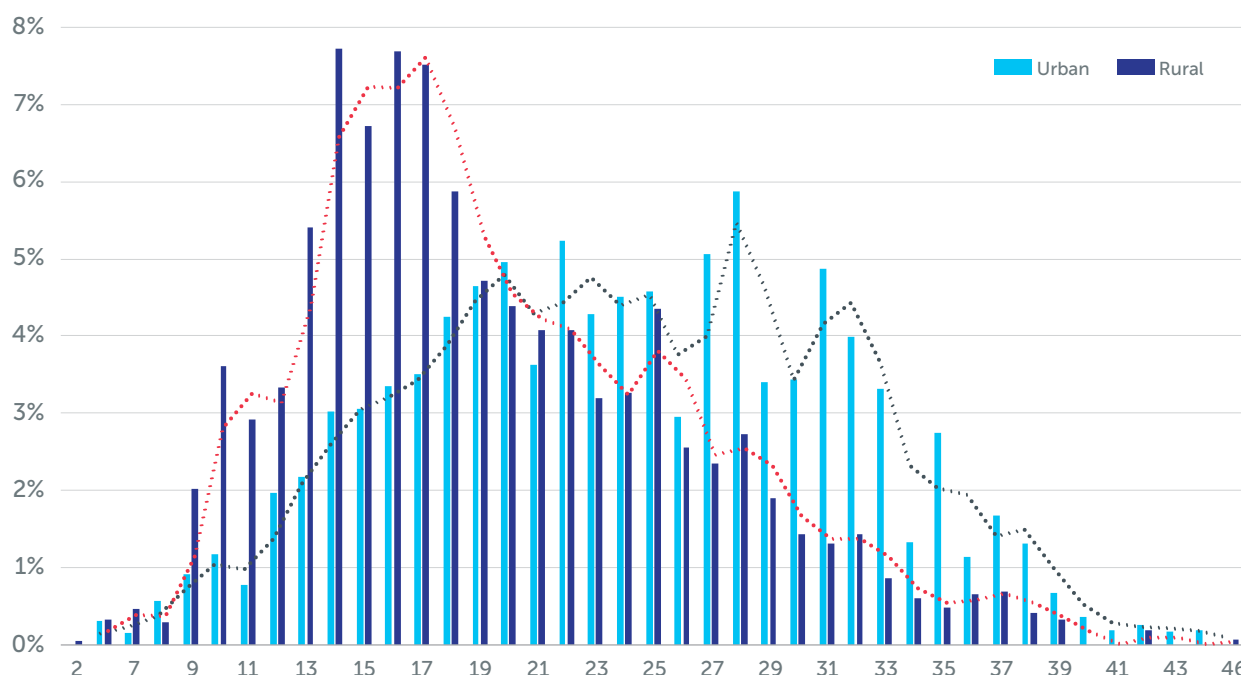


Use of mobile and digital financial services (DFS) in day-to-day transactions is low, as is the awareness and comfort that comes with more frequent and familiar use; comfort referring to both confidence in personal competencies and trust in digital finance providers. At a more generalized level, roughly 31% of Papua New Guinea adults possess or access a mobile or digital financial service to complete financial transactions, but relatively few use these services on a regular or ongoing basis. Adults still largely rely on cash to pay for day-to-day transactions such as groceries, eating out, or paying utility bills. But while relatively few Papua New Guineans currently use DFS to manage financial transactions, increased uptake over the long-term has the potential to substantially improve financial inclusion and provide savings opportunities over the short- and long-term.

**Digital and financial literacy in Papua New Guinea tracks closely with gender, age, region, educational attainment, and socio-economic status.** Residents of urban areas, particularly urban men, men aged 25 to 44 years, residents of the Papua and Islands regions, higher-educated, and higher-income Papua New Guineans perform higher on a number of (but not all) measures than counterpart groups. Tracking with income, adults with formal employment outside the home also perform significantly higher than the average in terms of their overall DFL score, as well as their performance in all assessment areas.

**Women achieve a lower overall digital and financial literacy score than men, driven in large part by lower rates of digitalisation and digital access (access to the Internet).** Differences in financial or digital financial competencies between men and women are slight.

DFL scores do not take into account financial product ownership (the study focussed on competencies more broadly), though women's ability to use digital financial services over time is very much dependent on access to financial resources **over which they have decision-making power**, as well as digital devices by which they can access DFS. At present, the youngest and oldest cohorts of women are less likely to own current accounts or payment cards compared to their male counterparts. Rural women are least likely to own any of the financial or payment products tested compared to adults overall (though rural men also own or access these products at lower rates than adults overall). Again, rates of access to digital devices or the Internet are also lower among women than men. Increasing both digital access and financial inclusion among women are pre-requisites to improving their overall digital and financial literacy.

Demographic and geographic trends aside, **safe and efficient uptake of DFS across Papua New Guinea will require access, education, and repeated use.** This includes increasing access to **and ownership of** digital devices such as smartphones; education around safe online behaviours; and promoting regulated and/or reliable DFS and online financial management tools. At a minimum, individuals who lack access to digital devices or do not use the Internet require basic, foundational skills given their inability to engage with DFS at the present time. Even amongst adults who engage with DFS, more information is required to ensure safe and efficient uptake of digital financial services as DFS become more widely available and accepted in Papua New Guinea. Data clearly substantiates the need for comprehensive, multi-faceted digital and financial literacy programs in Papua New Guinea.

To see a further breakdown of the DFL by demographic and geographic subgroups, refer to Appendix A, Part 1.

# Detailed Findings

## Section 1: Digital Access, Usage, and Literacy

Connectivity, access to and usage of digital devices and attitudes towards technology largely shape the evolving digital life of citizens. The survey looked at these core aspects of digital access, usage, security, experience, and level of digital literacy of the Fijians.

This section elaborates the findings related to (i) Access to and usage of digital devices and the internet, (ii) Attitudes towards technology, (iii) Experience of various digital tasks and online activities and (iv) Digital and online security. The section also elaborates on the Digitalisation Scores, a sub-component of the overall Digital and Financial Literacy Index described at the outset of this report.

### Access to digital devices:

**Smartphones**
**62%**

**Tablet, laptop or desktop computer**
**32%**

**Smart TV**
**14%**

**Internet routers or modems**
**16%**

**Smartwatch**
**24%**

**7 in 10**
**Papua New Guineans aged 15-74 use a smartphone daily**

**77%** of Papua New Guineans worry technology is leaving them behind

### Participation in digital and online activities:

**58%**
set up alarms, reminders, or alerts on a digital device

**42%**
created, edited, or saved a document or image

**44%**
used Bluetooth or AirDrop to send a document or image to a nearby device

**28%**
used formulas in a spreadsheet to make a calculation

**7%**
written programming language or code

**54%**
learned something from an online video or course in the previous three months

**37%**
searched online for information about money matters

**18%**
bought something online

**14%**
completed or submitted a government form online

**11%**
placed an online bet or played an online game with monetary prizes

Looking at smartphone access specifically, residents of the Momase region (55%), adults living in rural areas (55%), adults aged 45 to 74 years (49%), self-employed Papua New Guineans who work independently (51%), non-working adults[7] (46%), and adults with a middle school education or less (44%) are significantly less likely to have access to a smartphone than the average population.

Amongst the adults who have access to a smartphone, 70% report using their device daily (62% several times a day). Another 19% use a smartphone weekly (anywhere from once to several times a week). One in ten adults with access to a smartphone (11%) use the device rarely or never.

Amongst the adults who have ever been online, 47% use the Internet several times or once a day (28% of the overall population). Another 42% of Internet users access the Internet weekly (31% several times a week and 12% up to twice a week) and 10% less than once a week.

Amongst the adults who have ever been online, 47% use the Internet several times or once a day (28% of the overall population). Another 42% of Internet users access the Internet weekly (31% several times a week and 12% up to twice a week) and 10% less than once a week.

A significant number of Papua New Guineans (77% agree) feels that technology is leaving them behind.
- Specifically Residents of the highlands
- Rural inhabitants
- Adults with a middle school education or less
- Individuals working in agriculture, forestry or fishing
- Persons with disabilities

## Access to and usage of digital devices and the Internet

Mobile phone penetration is low in Papua New Guinea compared with other Pacific Island countries. Mobile phone penetration is estimated at 36% in Papua New Guinea or 3.32 million cellular mobile connections out of a total population of roughly 9.21 million Papua New Guineans (of all ages). In 2022 there were 1.66 million Internet users in Papua New Guinea, covering 18% of the population.[8] Data on mobile phone ownership and Internet connections may overcount coverage among some groups while undercounting coverage among others – statistics refer to the number of connections without considering multiple device ownership amongst individual users. Incidence is also calculated amongst the entire population, rather than just the population of young adults and adults. As the table below indicates, mobile phone penetration, a baseline indicator of digital access, is lower in Papua New Guinea than in Australia or in the other Pacific Island countries where the digital and financial literacy survey was conducted.

Table 1: Mobile Penetration by Country

| Country | Mobile Penetration (SIM connections/pop)[9][10] Source: DataReportal 2022 |
|---|---|
| Australia[11] | 123% |
| Fiji | 144.4% |
| Kiribati | 54.2% |
| PNG | 36.0% |
| Samoa | 73.9% |
| Solomon Islands | 71.9% |
| Timor-Leste | 108.4% |
| Tonga | 106.7% |
| Vanuatu | 102.8% |

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7  Defined as individuals who indicate they are unemployed and seeking work, unable to work due to sickness or disability, or caring for children or other family members in response to B6 Occupation.
8  https://datareportal.com/reports/digital-2022-papua-new-guinea
9  These figures may under-report because they are based on total populations and are not restricted to teens/adults.
10 Mobile phone penetration rates above 100% are due to dual sim ownership.
11 Australia is included as a benchmark for comparison between high-, middle- and lower-income economies.

The digital and financial literacy survey measured access to digital devices rather than ownership in order to account for and reflect the shared nature of devices within households. Even by that measure however, access to smartphones specifically and digital devices more broadly is limited in Papua New Guinea. Three in five adults (62%) claim access to a smartphone for personal or work use, either their own or belonging to someone else. This number drops further when considering that 11% of Papua New Guineans who have access to a smartphone use these devices rarely or never. By comparison, 74% of Papua New Guinean adults have access to a mobile phone that is only for calls and text. Smartphones comprise the most accessible digital device by a wide margin, with other digital devices – tablets or computers (32%), smart watches or speakers (24%), Internet routers or modems (16%), and smart TVs (14%) – accessible to far fewer adults.

**Graph 5: Access to Digital Devices**
D1. Do you have access to any of the following, for personal use, whether or not you currently use them? This could be at home or at work. [Asked of the total sample; n=1,587]
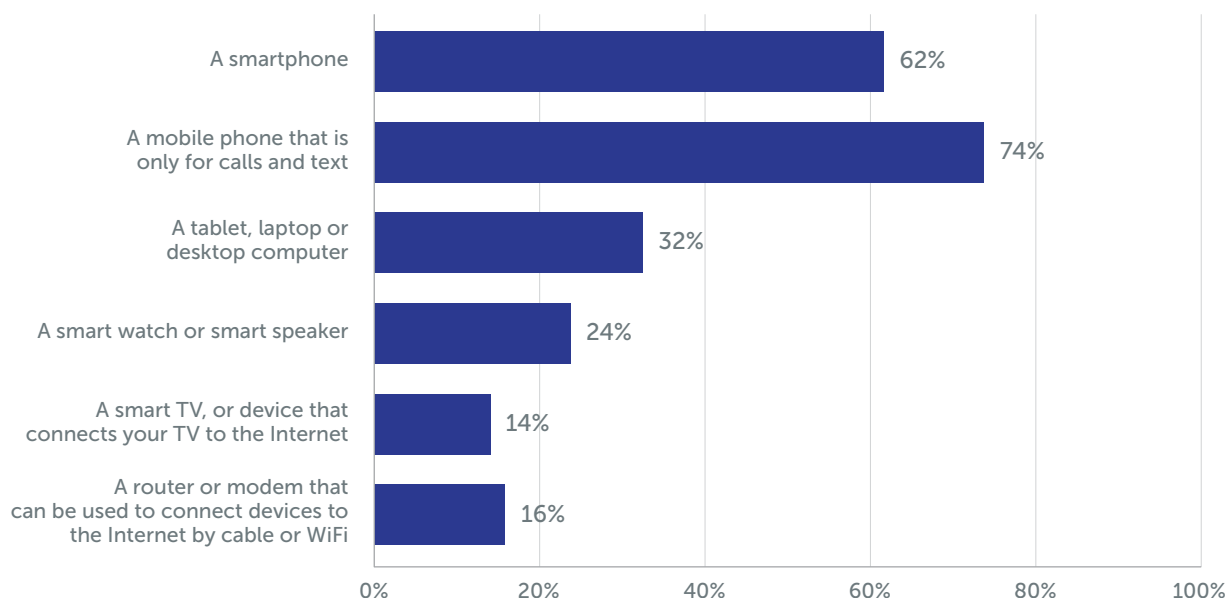


Access to smartphones, as well as other digital devices, varies considerably between demographic and geographic subgroups with rural, older, and less-educated and lower-SES groups registering significantly lower levels of access to digital devices than Papua New Guineans overall. Looking at smartphone access specifically, residents of the Momase region (55%), adults living in rural areas (55% with negligible differences between rural men and women), adults aged 45 to 74 years (49%, dropping to 45% among older women and 39% among retired individuals), self-employed Papua New Guineans who work independently (51%), non-working adults[12] (46%), and adults with a middle school education or less (44%) are significantly less likely to have access to a smartphone than the average population (62%). The same trends apply to other digital devices. With regards to educational attainment in particular, differences between cohort groups exceed forty percentage points in some instances. Whereas 86% of degree-level or university-educated adults have access to a smartphone, just 44% of adults with a middle school education or less have access. Two-thirds (66%) of the former have access to tablet, laptop, or desktop computer compared to 14% of the latter.

Amongst adults living in urban areas, urban males are more likely to have access to smartphones (75% among male and 69% among females) and tablets, laptops, or desktop computers (53% and 43%) than their female counterparts. Gendered differences are less pronounced in rural areas with both men and women experiencing lower levels of access to digital devices than adults living in urban areas. To see a further breakdown of the access to digital devices by density, region, gender, and educational attainment, refer to Appendix A, Part 2.

The **frequency** with which Papua New Guineans use smartphones reflects the shared nature of devices within households and community networks. Amongst the 62% of adults who have access to a smartphone, 70% report using their device daily (62% several times a day). Another 19% use a smartphone weekly (anywhere from once to several times a week). One in ten adults with access to a smartphone (11%) use the device rarely or never[13]. It can be inferred that at a minimum, individuals who use their devices multiple times a day, 62% of smartphone users, personally own the devices they use. Individuals who use smartphones once daily (8%) **may** also own the devices they use but may power them down during the day to conserve battery life or data.

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12 Defined as individuals who indicate they are unemployed and seeking work, unable to work due to sickness or disability, or caring for children or other family members in response to B6 Occupation.
13 Calculated amongst Papua New Guineans who have access to a smartphone [n=978].

Usage of computers or tablets in Papua New Guinea (and elsewhere in the Pacific) is even less common than smartphone usage. One-third of Papua New Guinean adults (32%) have access to a tablet, laptop, or desktop computer. Of those with access, 53% use a tablet or computer daily (accounting for 17% of the overall population); another 27% use a computer weekly (anywhere from once to several times a week). Of those who claim access, one in five (19%) use these devices rarely (15%) or not at all (4%). Urban males (53% use daily), adults earning upwards of K480 fortnightly (68%), university-educated adults (63%), and Papua New Guineans who are formally employed in the fields of finance and technology (59%) or for the public sector (65%) are most likely to access a tablet or computer and to use those devices on a regular basis compared to other cohort groups.[14]

### Graph 6: Frequency of Device Usage

D1. Approximately how often have you used a tablet, laptop or desktop computer/smartphone during the last three months? [Asked of individuals who report access to devices; n=978 smartphones and n=516 computers]



| | Daily | Weekly | Rarely/Never (less than once a week/not at all) |
| --- | --- | --- | --- |
| Smartphone | 70% | 19% | 11% |
| Tablet, Laptop, Desktop Computer | 53% | 27% | 19% |
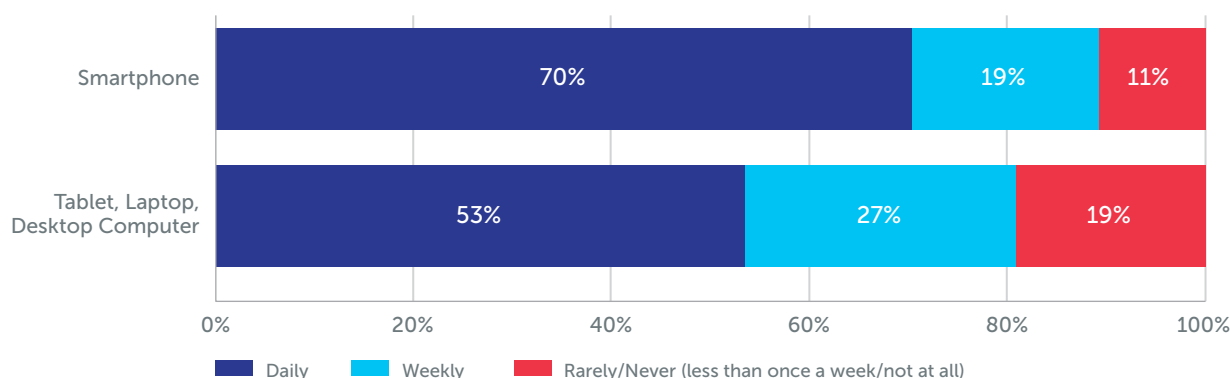
### Table 2: Access to Tablet or Computer and Frequency of Use

D1_3. Do you have access to [a tablet, laptop, or desktop computer], for personal use, whether or not you currently use them? This could be at home or at work. [Total sample, n=1,587]

D1_comp Frequency using computer. Approximately how often have you used a tablet, laptop, or desktop computer during the last three months? [Asked of those with computer/tablet access; n=516]

| % Yes (Shading where p≤0.05) | Total | University+ | Student | Formally Employed | Higher Income (K480+) |
| --- | --- | --- | --- | --- | --- |
| Total access to a tablet, laptop, or desktop computer | 32 | 66 | 27 | 57 | 54 |
| Several times a day | 41 | 54 | 47 | 35 | 60 |
| Once a day | 13 | 10 | 11 | 16 | 8 |
| **NET Daily** | **53** | **63** | **57** | **51** | **68** |
| Several times a week | 22 | 20 | 21 | 23 | 18 |
| No more than twice per week | 6 | 4 | 5 | 5 | 5 |
| Less than once a week | 15 | 9 | 15 | 16 | 8 |
| Not at all | 4 | 4 | 2 | 5 | 2 |

Internet use in Papua New Guinea is in line with smartphone access, with 60% of adults having ever used the Internet. Just one-quarter (28%) of Papua New Guineans however, use the Internet daily. Kepios, a data warehousing service providing global data on mobile, Internet, and social media usage, estimates there were 1.66 million Internet users in Papua New Guinea, accounting for roughly 30% of the population aged 15 years of age or older at the start of 2022.[15] With only 16% of Papua New Guineans aged 15 to 74 years reporting access to an Internet router or modem, it is likely that most adults access the Internet via a smartphone rather than some other digital device. Amongst the 60% of adults who have ever been online, 47% use the Internet several times or once a day (28% of the overall population). Another 42% of Internet users access the Internet weekly (31% several times a week and 12% up to twice a week) and 10% less than once a week.[16]

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14 Calculated amongst Papua New Guineans who have access to a tablet or computer [total n=516, subsamples vary in size].
15 https://datareportal.com/reports/digital-2022-papua-new-guinea
16 Calculated amongst Papua New Guineans who have used the Internet [n=954].

Similar to patterns around device ownership and access, Internet use varies significantly by gender (with older and rural women least likely to have accessed the Internet), region of the country and population density, age, educational attainment, and socio-economic status. Papuans (76%) are up to 22 percentage points more likely to have used the Internet than residents of other regions. Whereas 80% of urban men have used the Internet and among users, 60% use the Internet daily, just 48% of rural women have used the Internet, 35% of whom use it daily. Older women (aged 45 to 74 years) are least likely of demographic groups evaluated to have ever used the Internet (32%) and are 18 percentage points less likely than men of the same age (50%) to have used the Internet. By further comparison, 70% of adults aged 15 to 24 years (73% among young men and 67% among young women) have accessed the Internet. Internet use increases more than two-fold between the least- and most-educated cohort groups.

**Table 3: Internet Access and Frequency of Use by Demographic and Geographic Subgroups**

D3. Can I just check, do you ever use the Internet? For example, do you check email or social media, stream radio or videos, look things up, use apps to send messages or make calls, or work remotely? [Total sample, n=1,587]

D3_time. Approximately how often have you used the Internet or been online for any reason at all over the last three months. You may have been <checking email or social media, streaming radio or videos, looking things up, using apps or working remotely>? [only asked of individuals who use the Internet; n=954]

*Daily is defined as individuals who use the Internet several times to once a day.

| (Shading where p≤0.05) | Ever use the Internet (%) | Daily* (%) [n=954] |
|---|---|---|
| Total | 60 | 47 |
| Men 15-24 years | 73 | 40 |
| Men 25-44 years | 66 | 54 |
| Men 45-74 years | 50 | 60 |
| Women 15-24 years | 69 | 44 |
| Women 25-44 years | 59 | 44 |
| Women 45-74 years | 32 | 47 |
| ≤ Middle school | 40 | 33 |
| Secondary school | 78 | 50 |
| University+ | 88 | 60 |
| Urban men | 80 | 60 |
| Rural men | 54 | 41 |
| Urban women | 67 | 55 |
| Rural women | 48 | 35 |
| Highlands | 57 | 38 |
| Islands | 59 | 59 |
| Momase | 54 | 52 |
| Papua | 76 | 56 |

Cost (60%), as well as the quality or availability of local Internet and/or mobile data services (59%) create barriers to Internet use for a majority of Papua New Guineans. Far fewer adults (34%), though still substantial in number, worry about the security of the services available. Note, the study did not further elaborate on security concerns and whether privacy/surveillance and/or potential data breaches fuel concerns. Cost and quality or availability concerns are highest and significantly higher amongst frequent Internet users. Upwards of seven in ten Papuans (71% cost and 73% availability), urban men (77% and 75%), and degree-level and university-educated adults (71% and 70%) identify cost and availability as barriers.

## Attitudes towards technology

**77%** of Papua New Guineans feel that technology is leaving them behind

Alongside limited access to digital devices and available Internet connections, a significant number of Papua New Guineans (77% agree) feels that technology is leaving them behind. Residents of the Highlands (86% agree), rural inhabitants (85%), adults with a middle school education or less (84%), individuals working in agriculture, forestry, or fishing (86%), and persons with disabilities (85%) are even more likely than adults overall to feel like technology is leaving them behind.

Graph 7: Ability to Stay Apace of Technology

D5_1. Do you agree or disagree with the following statement: I feel like technology is leaving me behind. [Total sample, n=1,587]

| Category | Agree |
|---|---|
| Urban male | 63% |
| Rural male | 84% |
| Urban female | 64% |
| Rural female | 86% |
| Men <25 yrs. | 74% |
| Men 25-44 yrs. | 74% |
| Men 45-74 yrs. | 81% |
| Women <25 yrs. | 77% |
| Women 25-44 yrs. | 77% |
| Women 45-74 yrs. | 82% |

■ Agree
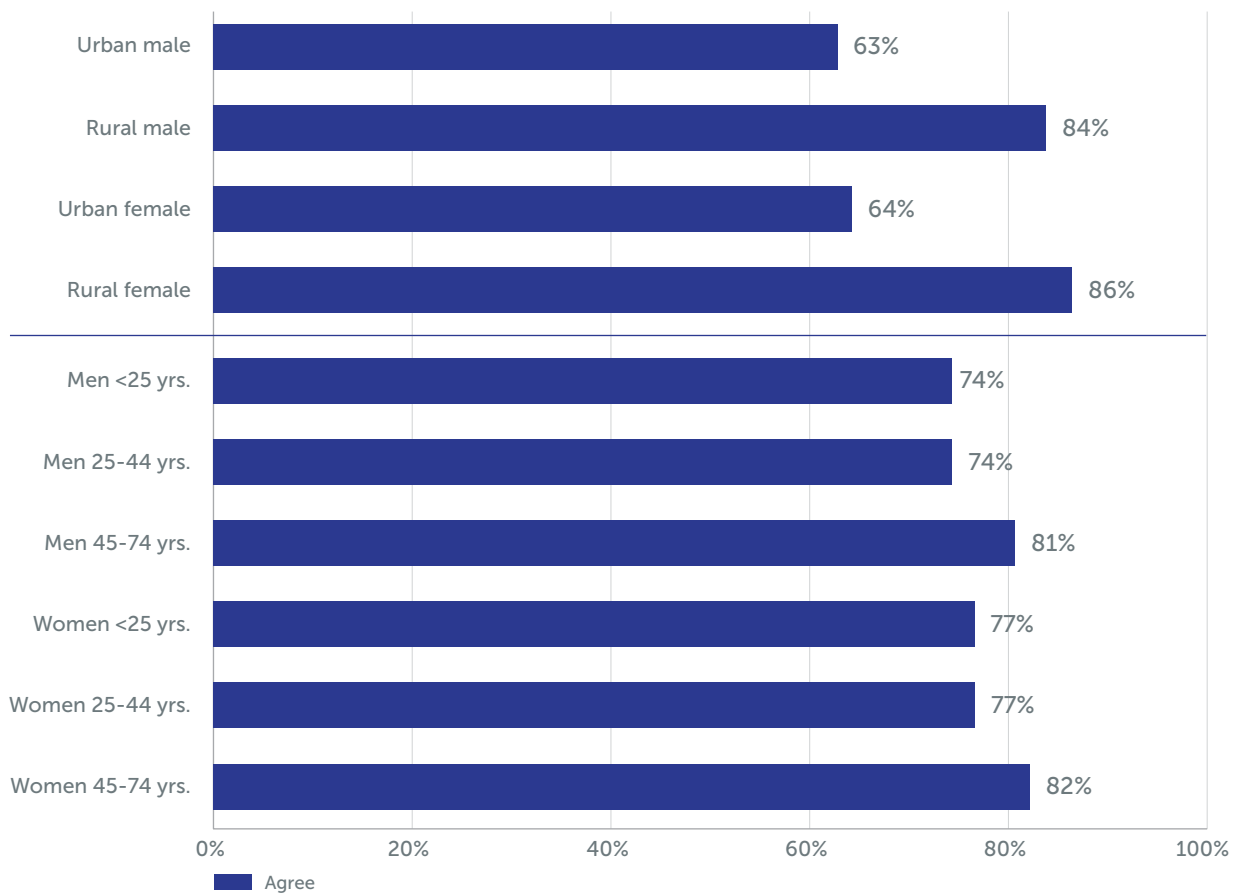
## Experience of various digital tasks and online activities

The survey explored participation in a limited set of digital activities (as distinguished from online activities): used a digital device in the previous three months to set up an alarm, reminder or alert; created, edited, or saved a document or image; used Bluetooth or Airdrop to send a document or image to a nearby device; used formulas in a spreadsheet to make a calculation; or wrote programming language or code.

Roughly half set up alarms, reminders, or alerts on a digital device (58%). Two in five adults report having created, edited, or saved a document or image (42%) or having used Bluetooth or AirDrop to send a document or image to a nearby device (44%). A full 28% reported that they had used formulas in a spreadsheet to make a calculation. Just 7% have written programming language or code.

To some extent, survey respondents may have over-reported completion of tasks given incidences of smartphone (62% access), laptop or desktop computers and tablets (32%), and Internet usage (60%). Nonetheless, trends in participation in digital activities align with access to digital devices, and as Tables 12 and 13 show, adults aged 45 to 74 years, rural dwellers, and adults with a middle school education or less are far less likely to have completed any of the digital activities tested than adults overall and counterpart groups.

**Graph 8: Digital Activities**

D2. Still thinking about technology, please can you tell me if you have personally used a digital device or electronic gadget to do any of the following in the last three months, whether for yourself or someone else? [Total sample, n=1,587]
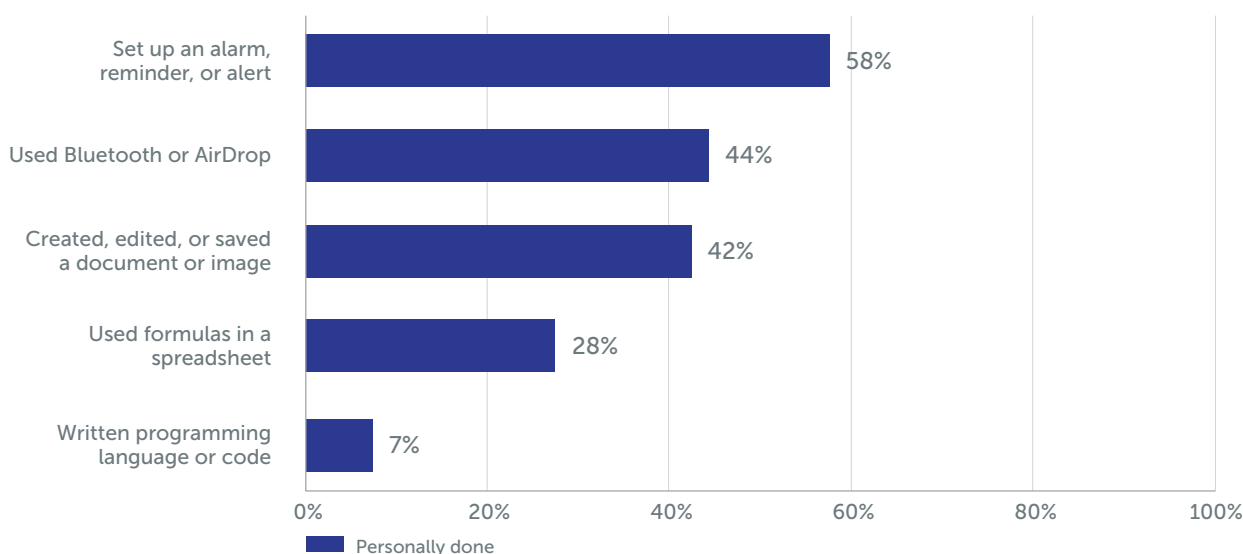


Papua New Guineans were similarly probed regarding participation in a limited set of online activities, including two financial health-related activities: having learned something from an online video or course; completed or submitted a government form online; searched online for information about money matters; bought something online; or placed a bet online or played an online game with money prizes. (The latter was intended to explore participation in an online activity and is not evaluated as a positive financial behaviour.)

The survey did not explore social media habits and usage. Amongst the 60% of adults who have ever used the Internet[17], 54% learned something from an online video or course in the previous three months (accounting for 32% of adults in Papua New Guinea), followed by 37% of Internet users who searched online for information about money matters (22%). Far fewer Internet users bought something online (18% of Internet users, 11% of all adults), completed or submitted a government form online (14% of Internet users, 9% of all adults), or placed an online bet or played an online game with monetary prizes (11% of Internet users, 7% of all adults) in the previous three months.

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17 Online activities question asked only of individuals who use the Internet [n=954]

## Graph 9: Online Activities

D4. I am now going to read out some more digital activities. Please could you tell me whether you have personally done any of these in the last 3 months? [Asked of individuals who use the Internet, n=954]
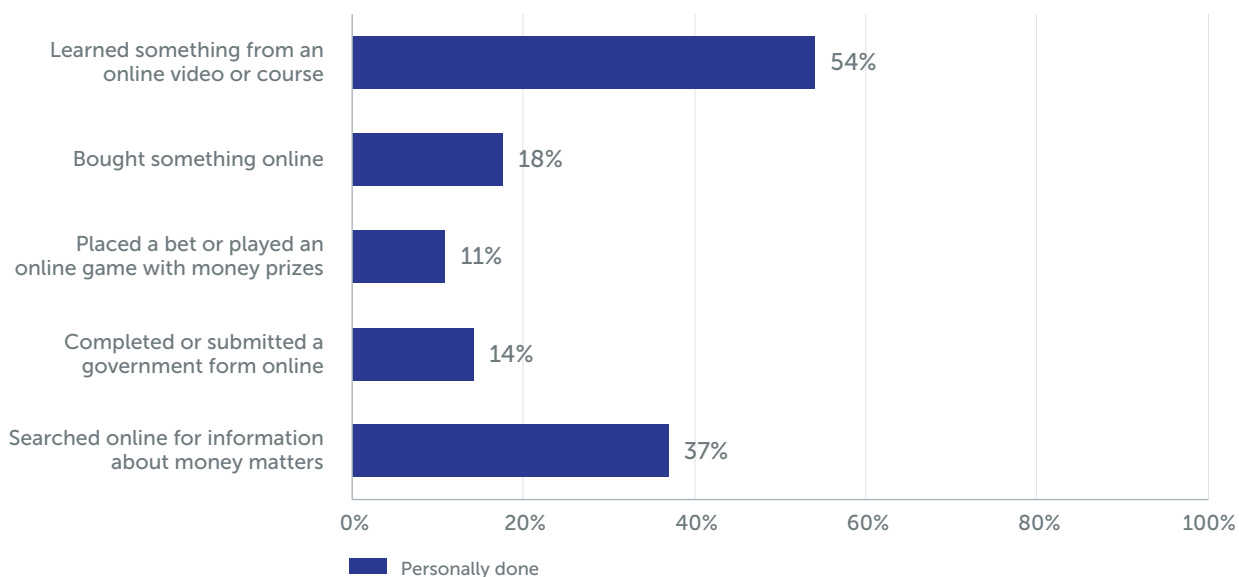


Participation in digital and online activities tracks closely with gender, population density, age, educational attainment, and socio-economic status. Rural dwellers and adults aged 45 to 74 years, particularly rural women and older women, are significantly less likely to have completed any of the digital and online activities assessed than Papua New Guineans overall. Completion of digital activities also correlates with level of educational attainment, with university-educated adults significantly more likely to have completed activities in the previous three months, including searching online for information about money matters. For more information on digital and online activities by gender, age, and educational attainment, please refer to Appendix A, Part 2.

## Digital and online security

Most Papua New Guinean Internet users believe they are proactive in their approach to online safety and to **some** extent they are; 75% agree with the statement, "I take steps to keep my information safe when online".[18] Upwards of two-thirds of Internet users across demographic and geographic subgroups describe themselves as taking necessary safety precautions online. (By way of reminder, 47% of Papua New Guineans use the Internet regularly, defined for these purposes as using the Internet daily or several times a week.) Notwithstanding assertions, uptake of specific digital security practices – on- or off-line – varies depending on the practice. The reuse of passwords across online accounts comprises one of the most obvious safety vulnerabilities evaluated, with virus protection and device locking features built-in to most in-market smartphones.

### Password re-use

Half of Papua New Guineans who use the Internet (55%)[19] admit to reusing the same password across several online accounts or websites, while 44% say they do not. (Given low usage of financial services explored later in this report – traditional or digital – password usage *may* be largely limited to social media accounts.) Reuse of passwords across online accounts is even higher among some groups with greater access to digital devices and data services: 74% of adults who work in finance or technology and 75% of public sector employees use the same password across several online accounts or websites.

### Device locking & deactivation

Digital device users[20] largely lock their devices when not in use (82%), the default setting on most smartphones. Far fewer (55% agree, 43% disagree) however, know how to block or disactivate their smartphone if it gets lost or stolen.[21]

### Virus protection

The vast majority of adults with access to a smartphone, tablet, or computer22 (64%) also say the devices they use have virus protection. One-third (35%) with access to these devices say their devices do not have virus protection. Among smartphones used in market, Samsung Galaxy smartphones (28% of mobile market share)23 come pre-loaded with McAfee virus protection. At the time the survey was completed, Apple's devices (28% of market share) largely prohibited the use of additional virus protection software. (Xiaomi, Huawei, Oppo, Vivo, Realme, and Motorola devices are also available in market.) This is to say that awareness and use of protections may be largely passive rather than active in nature, and many adults may be unfamiliar with the full extent of virus protection built-in or downloaded to the devices they use. (The question did not separate out virus protection on computers versus smartphones.)

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18 Digital landscape question asked only of individuals who use the Internet [n=954].
19 [n=954]
20 Digital landscape question asked only of individuals who have access to a smartphone, tablet, laptop, or computer [n=1,033]
21 Digital landscape question asked only of individuals who have access to a smartphone [n=978]
22 Digital landscape question asked only of individuals who have access to a smartphone, tablet, laptop, or computer [n=1,033]
23 https://gs.statcounter.com/vendor-market-share/mobile/papuanewguinea

# Section 2: Financial Inclusion[24] & Literacy

## Access to payment products and services

**The Papua New Guinean economy remains largely cash-based with limited uptake to-date of electronic and digital payment services**

**Public Transport Card or Debit Card**
**48%**

**Digital/Electronic/ or Mobile Wallet**
**10%**

**Current Accounts**
**49%**
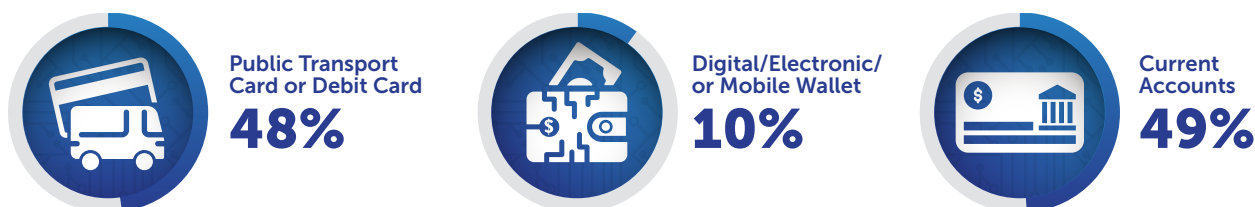
Though it is unclear how frequently they use this digital service and for what types of purchases. A negligible number of adults use their mobile/electronic/digital wallet to purchase groceries, pay for meals out or takeaway food, or pay utility bills. Access to and use of digital financial services is explored more thoroughly in Section 3 of this report. There is greater, though as yet still limited, use of payment cards – contactless or non-contactless – in the afore-referenced transactions.

Similar to digital access, disparities in current account ownership between sub-groups occurs at the levels of geography, age, educational attainment, and socio-economic status. A significant gender divide also emerges within age categories and area of residence.

## Papua New Guineans who are significantly less likely to own a current account:

| **31%** | **36%** | **36%** | **40%** | **43%** |
|---|---|---|---|---|
| Adults with a middle school education or less | Individuals aged 15 to 24 years | Adults with fortnightly incomes that fall within the lowest income bracket | Residents of the Momase region | Adults living in rural areas |

Conversely, two in five adults (40%) do not have a bank account or digital financial service they can use to store money or make payments. Cash-reliant Papua New Guineans (40% of adults)[25] identify preference (53%) as the predominant reason for their lack of financial service products and reliance on cash-based financial transactions. Another 8% of individuals who do not have a bank account or other financial service for storing money or making payments say they don't know how to use other payment methods; 5% say someone else in their household handles non-cash transactions; 3% say they don't have the ID or proof of address required to engage with traditional banking and payment services; and just 1% identify a lack of trust in financial providers as their primary reason for preferring cash to other payment methods. A further 28% of cash-reliant Papua New Guineans generally broadly identify "another reason" for their preference.[26] For a more detailed snapshot of current account by gender, age, density, educational attainment, and region, refer to Appendix A, Part 3.

Fewer than one in ten current account holders use online banking services (9%) or banking apps (9%) to check account balances or to withdraw or deposit money.[27] Papua New Guinean current account holders are most likely to use ATMs (91%) or in-branch services (80%) for these purposes. A further 56% of Papua New Guinean current account owners execute transactions via an agent at a post office or local shop, 40% by mobile phone, and 42% via SMS.

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24 For the purposes of this report, financial inclusion refers to the concept that all working-age adults have effective access to banking, credit, savings, payments, and insurance services from formal service providers.
25 Defined as individuals who do not own or use any of the financial products or services tested and who confirm they do not have a bank account or digital financial service they can use to store money or make payments; n=627.
26 The question response did not include an open-ended follow-up.
27 F5_beh Current account behaviour was asked only of individuals who have a current account [n=776], with app and online (not using an app) usage asked only of current account holders who ever use the Internet [n=611]. Responses recalculated amongst all current account holders [n=776].

# Cash-based economy & experiences with remittances

**Papua New Guineans largely rely on cash to pay for commonly accessed household items and services** (defined for the purposes of the survey as groceries, paid meals out, or utility bill payments).

> Nonetheless, use of payment cards is higher in Papua New Guinea than other Pacific Island nations where the survey fielded, including Fiji.

As the graph below indicates, majorities report having used cash for their most recent grocery purchase (76%), meal out (69%), or utility bill payment (46%). Between 13% and 19% used a payment card to complete transactions; with very few paying with a digital or mobile wallet or via an online card or automatic payment despite 10% of Papua New Guineans possessing an electronic, mobile, or digital wallet. While utility companies would be most likely to have the necessary infrastructure to support electronic or digital payments, most users continue to pay their utility bills in cash.[28] This is true even in the Papua region (61% cash, 25% payment card – contactless or card payment with a chip and pin or swipe and sign).

Graph 10: Recent Payment Behaviour
F6_1. Thinking about the last time that you bought groceries, please could you tell me how you paid? [Total sample, n=1,587]
F6_2. And how did you pay your last household utility bill such as water or electricity? [Total sample, n=1,587]
F6_3. And the last time you bought food or drink to eat in a restaurant or take-away – how did you pay? [Total sample, n=1,587]
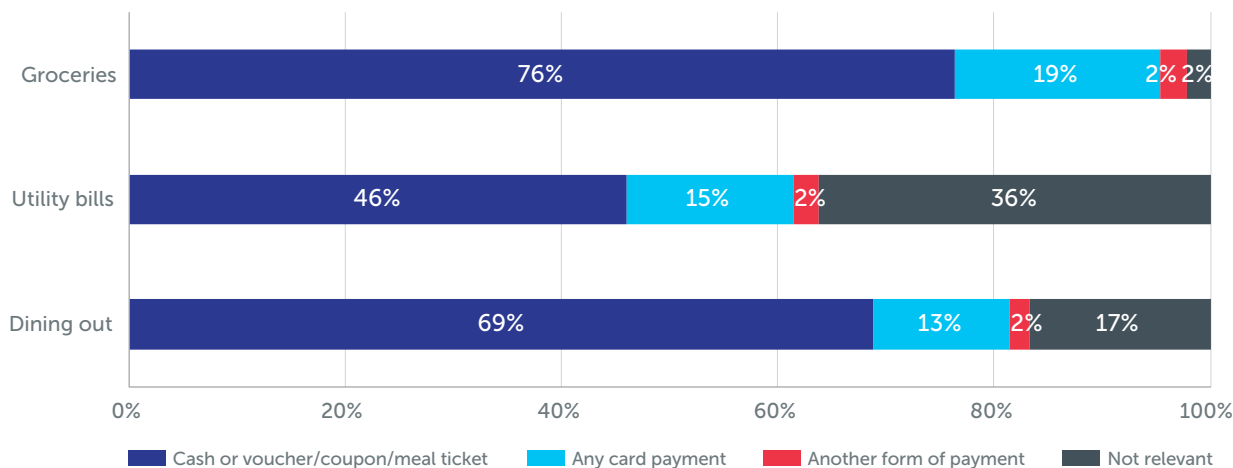


Papua New Guineans have less experience sending and receiving overseas remittances than other Pacific Island nations like Tonga and Samoa, where higher incidences of the local population participate in labour mobility schemes. Just one in ten Papua New Guinea adults sent (12%) or received (11%) remittances in the previous three months. Degree-level or university-educated adults (20%), individuals who are formally employed (24%), and self-employed Papua New Guineans who employ others to work for them (60%)[29] are significantly more likely to send remittances than the overall population (12%).

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28 The survey did not probe whether households reside in locations with no formal utility provider. It is possible that some responses other than "not relevant" also include preferred methods of payment for fuel, generators, et cetera.
29 Small Sample Size [n=40], results tested for statistical significance.

## Table 4: Remittances Received and Sent by Gender, Gender by Age, and Gender by Density

F4. Have you, personally, received money from abroad in the last three months? [Total sample, n=1,587]

F4. Have you, personally, sent money from one country to another in the last three months? [Total sample, n=1,587]

| (Shading where p≤0.05) | Yes – Received (%) | Yes – Sent (%) |
|---|---|---|
| Total | 11 | 12 |
| Men 15-24 years | 8 | 10 |
| Men 25-44 years | 14 | 14 |
| Men 45-74 years | 15 | 13 |
| Women 15-24 years | 8 | 7 |
| Women 25-44 years | 12 | 15 |
| Women 45-74 years | 8 | 8 |
| Urban men | 14 | 15 |
| Rural men | 11 | 11 |
| Urban women | 12 | 15 |
| Rural women | 8 | 9 |

Whether individuals sent or received remittances, the speed of transfers, ease of collecting transfers, and exchange rates and fees all played a role in the transaction process – both in terms of how individuals chose to send remittances and satisfaction with the process on the receiving end. The survey did not probe how individuals send and receive remittances and whether they use mobile solutions or continue to send and receive cash payments. That said, 68% of Papua New Guinean adults believe digital financial services are essential for sending remittances.

## Graph 11: Considerations when Sending and Receiving Remittances

F4_pay. Did you consider any of the following the last time you sent money from one country to another? You can just say yes or no for each one. [Asked of individuals who sent remittances in the previous three months; n=185]

F4_exp. Could you tell me whether you were happy with the following the last time you received money from abroad, please? You can just say yes or no for each one. [Asked of individuals who received remittances in the previous three months; n=175]



Speed of the transfer: Remittance sent 69%, Remittance received 73%

Exchange rate and fees: Remittance sent 66%, Remittance received 70%

Ease of making/collecting the transfer: Remittance sent 58%, Remittance received 62%
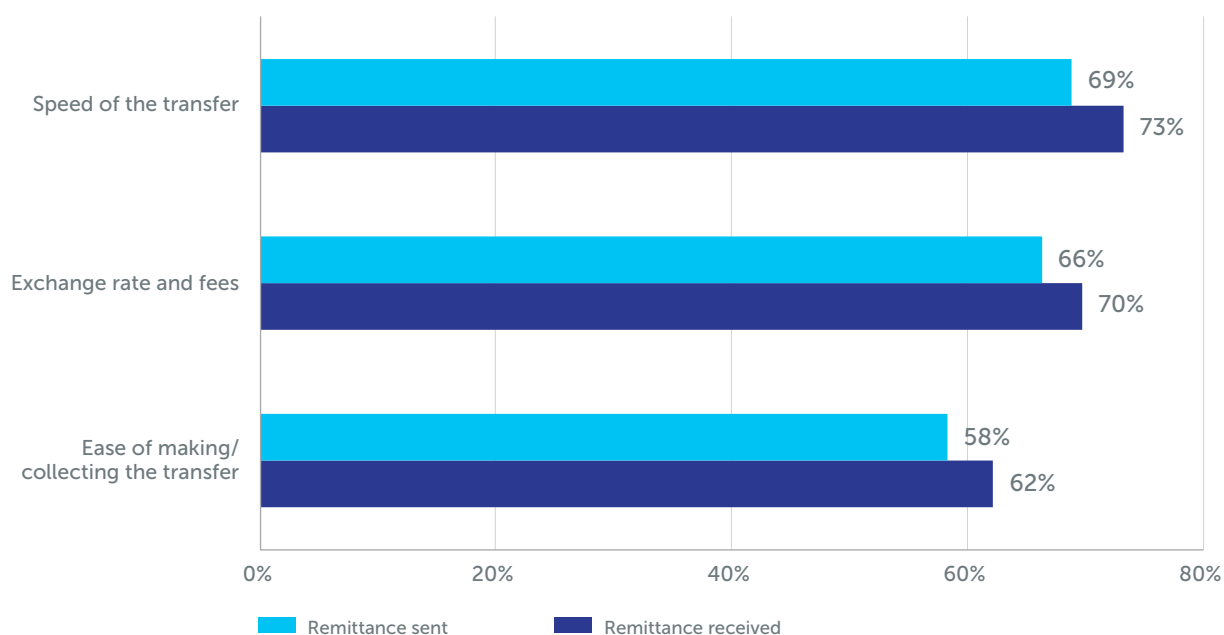
# Financial well-being

**Financial uncertainty pervades most households in Papua New Guinea, and 76% of adults worry that their money will not last** (Table 18). Nonetheless, financial concerns co-exist with financial optimism, and a majority of Papua New Guineans (63%) believe their level of financial security will improve over the coming years. Similarly, most (79%) also seem to have some disposable income left over for discretionary expenses, though the extent of "extra" funds is unknown. Of note, young women aged 15 to 24 years are least hopeful (48%) that their financial situation will improve in the next five years.

Agree/disagree measures explored in the survey and detailed below include:

1. "I am often worried that my money won't last."
2. "I have some money to spend on myself from time to time."
3. "Five years from now I will be financially secure."

Table 5: Financial Circumstances

F2. Do you agree or disagree with the following statements? [Agree as a percentage of total sample, n=1,587]

| % Agree (Shading where p≤0.05) | Worried money won't last | Extra money to spend | Financially secure in 5 yrs. |
|---|---|---|---|
| Total | 76 | 79 | 63 |
| Men | 76 | 80 | 64 |
| Women | 77 | 79 | 61 |
| Men 15-24 years | 80 | 79 | 57 |
| Men 25-44 years | 77 | 81 | 68 |
| Men 45-74 years | 67 | 80 | 68 |
| Women 15-24 years | 83 | 77 | 48 |
| Women 25-44 years | 78 | 81 | 65 |
| Women 45-74 years | 65 | 75 | 73 |
| Urban men | 75 | 80 | 76 |
| Rural men | 76 | 80 | 57 |
| Urban women | 80 | 77 | 70 |
| Rural women | 75 | 80 | 56 |
| ≤ Middle school | 84 | 78 | 57 |
| Secondary school | 68 | 78 | 68 |
| University+ | 68 | 86 | 71 |
| ≤K95 | 77 | 78 | 53 |
| K96-K287 | 82 | 73 | 66 |
| K288-K479 | 79 | 79 | 72 |
| K480+ | 68 | 88 | 74 |

# Financial management — budgeting and savings behaviours

**The vast majority of Papua New Guineans (82%) affirm they budget or make plans to manage their income and expenses.** In practice, 57% track their finances by keeping receipts or recording their spending. Just 43% of self-employed Papua New Guineans however, keep track of their self-employed earnings and expenditures. Self-employed women (42%) are equally likely to keep records of their employment earnings as their male counterparts (44%). A full 26% of adults use loyalty cards to reduce costs or earn rewards in an effort to manage resources, the highest incidence seen in the region.

The majority of adults across demographic groups appear to engage in budgeting behaviours, with the exception of the lowest SES groups (referring to both income and educational attainment), young men aged 15 to 24 years, and adults residing in the Papua region (50%).

Table 6: Budgeting and Savings Behaviour

F1. Do you do any of the following, either alone or with someone else? [Total sample, n=1,587; "keep records of self-employed earnings" asked to those who are self-employed, n=391]

*Small Sample Size [n<50]

| % Yes (Shading where p≤0.05) | Make a plan to manage income and expenses | Keep receipts/ records of spending [n=1,587] | Keep records of self-employed earnings [n=391] | Use loyalty cards |
|---|---|---|---|---|
| Total | 82 | 57 | 43 | 26 |
| Men | 81 | 55 | 44 | 27 |
| Women | 83 | 58 | 42 | 26 |
| Men 15-24 years | 76 | 46 | 26* | 19 |
| Men 25-44 years | 86 | 61 | 46 | 31 |
| Men 45-74 years | 79 | 58 | 50 | 30 |
| Women 15-24 years | 78 | 55 | 43* | 17 |
| Women 25-44 years | 89 | 64 | 48 | 31 |
| Women 45-74 years | 76 | 53 | 30 | 27 |
| Urban men | 81 | 59 | 53 | 43 |
| Rural men | 81 | 53 | 38 | 16 |
| Urban women | 85 | 58 | 42 | 40 |
| Rural women | 81 | 58 | 42 | 17 |
| ≤ Middle school | 78 | 50 | 44 | 16 |
| Secondary school | 83 | 58 | 40 | 28 |
| University+ | 89 | 73 | 46 | 50 |
| ≤K95 | 76 | 49 | 29 | 15 |
| K96-K287 | 87 | 55 | 34 | 30 |
| K288-K479 | 85 | 65 | 52 | 31 |
| K480+ | 93 | 73 | 69 | 47 |

Most Papua New Guineans self-describe as "savers" rather than "spenders". Four in five adults (83%) agree with the statement, "If I have money left over, I **prefer** to save it than spend it." Upwards of seven in ten adults say they prefer to save rather than spend leftover monetary resources across demographic and geographic subgroups, with the exception of small business owners who manage employees[30], only half of whom (46%) agree. (It is possible that small business owners use additional resources to reinvest in their businesses.)

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30 Small business owners who have employees supporting their businesses comprise a small sample size [n=40]. Exercise caution when interpreting results.

That said, **there is a wide gap between savings behaviours and stated *preferences***. Savings activities largely pertain to putting money aside for emergencies (76%). There is roughly a fifty percent drop-off between those who say they prefer to save and those who (can) save or invest for the long-term with just 40% of Papua New Guinean adults aged 15 to 74 years saying they save or invest for the long-term. One in five (20%) contribute to savings and loans clubs (either for the purposes of short- or long-term savings). Financial and logistical limitations – a lack of monetary resources left over after paying for necessities or access to formal or informal savings vehicles – may dictate participation, or lack thereof, in activities commonly associated with money management and saving.

**Participation in savings activities varies along generational lines and population density, with some notable gender differences arising within generational and urban-rural groupings**. Adults aged 15 to 24 years are significantly less likely than older cohort groups to participate in short- (in the form of putting aside money for emergencies) (64%) or long-term savings-related activities (25%) with young women aged 15 to 24 years least likely to save for the longer-term (20%). Urban men (53%) are most likely and significantly more likely than their rural (34%) or female counterparts (42% among urban women) to save for the long-term, whereas rural women (37% save for the longer-term, and 81% save for emergencies) are most likely to put aside money for emergencies.

**Savings behaviours (and ability to save) over the short- and long-term also track closely with educational attainment and income.** University-educated (89%, 68%, 40%) and higher-income earners (92%, 72%, 45%) are significantly more likely to save for emergencies and the long-term, as well as participate in savings and loan clubs, than other cohort groups.

**Participation in savings and loans clubs specifically is highest among formally employed adults (48%), adults with fortnightly incomes exceeding K480 (45%), self-employed adults who manage employees (42%)[31], and degree-level and university-educated adults (40%).** It is also higher among residents of the Islands (30%) region and among urban men (29% compared to 23% among urban women) than adults residing in other areas.

Table 7: Savings Behaviour
F1. Do you do any of the following, either alone or with someone else? [Total sample, n=1,587]

| % Yes (Shading where p≤0.05) | Put money aside for emergencies | Contribute to a savings & loan club | Save or invest for the longer-term |
|---|---|---|---|
| Total | 76 | 20 | 40 |
| Men | 74 | 20 | 41 |
| Women | 79 | 19 | 39 |
| Men 15-24 years | 62 | 11 | 30 |
| Men 25-44 years | 80 | 24 | 44 |
| Men 45-74 years | 79 | 26 | 53 |
| Women 15-24 years | 67 | 12 | 20 |
| Women 25-44 years | 85 | 23 | 48 |
| Women 45-74 years | 84 | 20 | 49 |
| Urban men | 70 | 29 | 53 |
| Rural men | 76 | 14 | 34 |
| Urban women | 76 | 23 | 42 |
| Rural women | 81 | 16 | 37 |
| ≤ Middle school | 71 | 11 | 29 |
| Secondary school | 77 | 20 | 42 |
| University+ | 89 | 40 | 68 |
| ≤K95 | 69 | 7 | 28 |
| K96-287 | 75 | 19 | 34 |
| K288-479 | 83 | 23 | 46 |
| K480+ | 92 | 45 | 72 |

31 Small business owners who have employees supporting their businesses comprise a small sample size [n=40]. Exercise caution when interpreting results.

Relatively few Papua New Guineans have or have been able to purchase insurance products to protect themselves (17%) or their businesses (12% of self-employed adults[32], 3% of the overall population) from financial shocks. Roughly one-quarter (26%) of business owners who employ other adults have purchased business insurance.[33] Papua New Guineans most likely to have purchased a personal insurance product include self-employed business owners with employees (41%), individuals with fortnightly incomes exceeding K480 (33%), university-educated adults (31%), and formally employed adults (31%). Men (18%) and women (15%) access insurance products in relatively equal numbers.

## Knowledge and skills related to money management

There is both significant need and opportunities for increasing foundational financial knowledge. Graph 12 illustrates perceptions towards five different statements, and what Papua New Guineans believe to be true.

1. "When people talk about inflation, they mean that prices have gone up."
2. "Banks pay more interest on savings than they charge on loans."
3. "If someone offers you the chance to make a lot of money it is likely that there is also a chance that you will lose a lot of money."
4. "If a shopkeeper borrows money to stock her shelves, she cannot make a profit."
5. "It is possible to earn the same income by selling many items at a low price or selling one item at a high price."

> **Levels of engagement with financial services and digital financial services in Papua New Guinea is low; along with limited uptake of formal or informal financial services, there are gaps in knowledge around basic economic and financial principles.**

On the most basic level, almost all Papua New Guinean adults understand inflation's impacts on the cost of living (94%). Most (69%) also tend to understand that "if someone offers you the chance to make a lot of money it is likely there is also a chance that you will lose a lot of money." There is greater confusion with regards to differences in interest rates paid on savings versus those incurred on loans (e.g., 60% believe banks pay more interest on savings than they charge on loans) and the costs-benefits of borrowing to turn a profit.

Graph 12: Financial Knowledge
F3. Could you tell me if you think the following are typically true or false? [Total sample, n=1,587]



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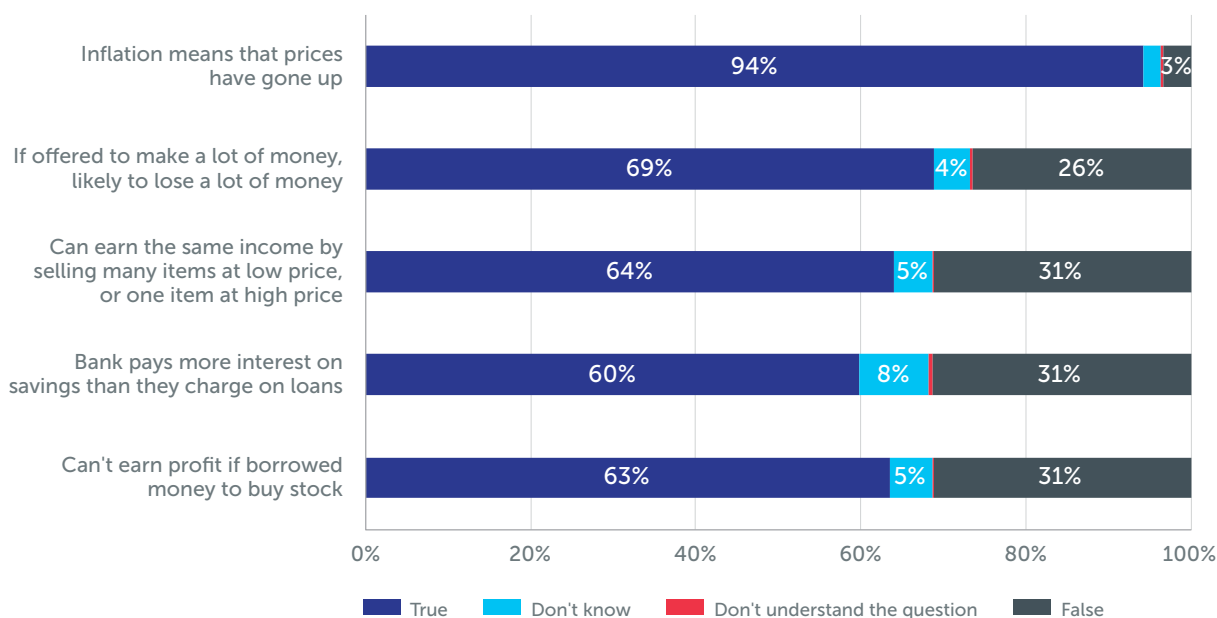
**Table 8: Financial Knowledge**

F3. Could you tell me if you think the following are typically true or false? [Total sample, n=1,587]

| % (Shading where p≤0.05) | Banks pay more interest on savings than they charge on loans | | | If offered to make a lot of money, likely to lose a lot of money | | | Can't earn profit if borrowed money to buy stock | | |
|---|---|---|---|---|---|---|---|---|---|
| | True | False | DK34 | True | False | DK | True | False | DK |
| Total | 60 | 31 | 8 | 69 | 26 | 4 | 63 | 31 | 5 |
| Men | 60 | 31 | 9 | 70 | 25 | 4 | 62 | 33 | 6 |
| Women | 60 | 32 | 8 | 68 | 28 | 4 | 65 | 29 | 5 |
| Men 15-24 years | 61 | 31 | 8 | 72 | 22 | 6 | 63 | 31 | 5 |
| Men 25-44 years | 62 | 29 | 9 | 75 | 22 | 2 | 64 | 31 | 5 |
| Men 45-74 years | 53 | 35 | 12 | 59 | 34 | 6 | 55 | 38 | 7 |
| Women 15-24 years | 65 | 30 | 4 | 78 | 19 | 3 | 73 | 25 | 2 |
| Women 25-44 years | 58 | 33 | 9 | 65 | 30 | 4 | 66 | 30 | 4 |
| Women 45-74 years | 56 | 33 | 11 | 57 | 37 | 6 | 52 | 36 | 12 |
| Urban men | 52 | 40 | 8 | 68 | 28 | 4 | 58 | 35 | 7 |
| Rural men | 65 | 25 | 10 | 72 | 23 | 5 | 64 | 31 | 5 |
| Urban women | 58 | 36 | 5 | 69 | 29 | 2 | 62 | 34 | 4 |
| Rural women | 61 | 29 | 10 | 66 | 27 | 6 | 67 | 27 | 6 |

Financial education can be delivered online to a portion of the population, but **face-to-face education is still required if increases in digital and financial literacy are desired across the full spectrum of society.** Half of Papua New Guineans who use the Internet (54%) learned something from an online video or course in the three months prior to completing the survey.[35] Participation in online learning tools drops to 44% among rural women who use the Internet (21% of all rural women), while peaking at 65% among men living in urban areas who use the Internet. Use of online learning tools is similarly low amongst women aged 15 to 24 years (42% among Internet users, 28% of all women aged 15 to 24 years). Just 22% of all adults searched online for information about money matters, rising to 37% among Internet users.

34 DK= Don't know
35 Question asked only of adults who have ever used the Internet [n=954].

# Section 3: Digital Finance

## Beliefs About Digital Financial Services

Papua New Guineans are conflicted in their views of digital financial services, understanding benefits to, and the inevitability of, their use in business, government, and personal finance, while at the same time expressing significant concerns about their ability to navigate these services safely and effectively. A lack of experience with more traditional banking tools may be driving hesitancies with regards to non-traditional and digital tools. Survey data indicates lagging trust in the tools, as well as personal confidence using DFS:

**47%** **believe Digital Financial Services are risky for ordinary people**

**45%** disagree   **8%** do not know

- Self-employed adults with employees (76%)[36], formally employed adults (58%), men aged 25 to 44 years (57%), university-educated adults (56%), urban men (56%), and residents of the Islands (55%) are even more likely to believe that DFS pose a risk for "ordinary people" than adults overall.
- Around one-quarter of Papua New Guineans would trust an automated service such as an app or robot advisor to provide financial advice (24% agree, 69% disagree, 7% not sure). That proportion drops to 19% among rural Papua New Guineans. Adults currently working in finance and technology (40%) are more likely to trust AI tools for financial advice than adults overall, though even amongst this more tech-savvy cohort, appropriate trust in the tools needs to be grown over time.

Nevertheless, there is acknowledgement that digital financial services are the 'way of the future' and are both beneficial and essential to many adults, particularly small business owners, adults who send remittances, and Papua New Guineans receiving government payments. Four in five adults (79%) agree digital financial services like mobile payments, online banking, and digital wallets may soon replace cash in Papua New Guinea (8% are unsure); 68% agree digital financial services are essential for people sending remittances (17%); and 69% agree digital financial services make it easier to receive benefits payments from government (15%), despite relatively few Papua New Guineans receiving government payments at this time.

Many adults also see the benefit of DFS to their long-term financial health in the form of potential savings, despite nervousness or hesitancy in using these services. Perceptually, 63% of Papua New Guineans agree that digital financial services help keep costs down for small businesses, including 62% of self-employed adults without employees and 82% of self-employed adults who have employees (82%)[37]. Half (54%) of self-employed Papua New Guineans (with or without employees) who have access to or have used digital financial services previously,[38] attest to having saved money on their financial transactions by reducing fees or other costs.

Papua New Guinean adults (64%) largely refute the notion that digital financial services are designed largely for men rather than also benefitting women. That said, one-quarter of adults (25%) believe that "digital financial services are designed for men more than women", including 32% of men aged 25 to 44 years and 34% of formally employed adults. Another 11% are unsure.

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36 [n=40]
37 Self-employed adults with employees comprise a small sample size [n=40].
38 Question DF4 DFS outcomes asked only of adults who say they use or own digital financial services previously in the survey, accounting for 32% of self-employed adults [n=488 among the overall sample and n=127 among self-employed adults].

## Access to and Use of Digital Financial Services

As briefly described in the financial services section of this report, ownership and use of digital financial products is limited in Papua New Guinea. Half of Papua New Guinean adults (48%) have an electronic payment card, the majority of which are associated with a current account. Beyond electronic payment cards, uptake of digital financial products is low, and just 10% have a mobile or digital wallet. Another one in ten (11%) claim to have a parametric insurance policy that makes automatic, mobile payments to people affected by cyclones or other climate disasters. A similar number (9%) have another kind of insurance policy they took out online or via an app; 5% owned cryptocurrency at the time of survey field. It is important to note that parametric insurance policies were not available in market at the time of survey field. Respondents may have confused these policies with some other form of insurance.

With regards to financial services other than payment products, banking apps and online money management tools are popular with 21% of Papua New Guineans who access the Internet[39] for monitoring spending and saving (12% of the overall population). In addition, among adults who own current accounts, 9% use banking apps and 9% go online (not using an app) to check account balances, withdraw, or deposit funds associated with their account.[40] Refer to Appendix A, Part 3 for more reference.

## Safety Measures and Awareness Related to Safe and Efficient Use of DFS

Papua New Guineans need more information that would allow them to make smart choices about which digital financial service providers to use as uptake of DFS grows and what precautionary measures are required of them. Three-quarters of adults believe digital financial services are regulated like banks (78% agree). Just 12% recognize not all DFS are regulated like banks, and 11% are unsure. Upwards of seven in ten adults across demographic and geographic subgroups believe DFS are regulated like banks, including high SES groups.

Papua New Guineans also need to know to **look for "https" in a website's URL** before providing secure information online, like payment information. Only a segment of Papua New Guineans aged 15 to 74 years shop online (11%), but amongst those that do, **half (49%) fail to check websites are secure before entering payment details.** An equal number (48%) of online shoppers check that websites are secure before entering payment details when making an online purchase. Another 3% do not know or did not understand the question.[41]

At present, the majority of Internet users are susceptible to online phishing scams. Papua New Guinean adults were provided a common scenario for bank customers and asked how a hypothetical consumer should respond:

Sera has just received an email message from her bank. She didn't even know that the bank had her email address! She reads the message carefully. It tells her that her account has been frozen because of suspicious activity. It apologises for the inconvenience and then says she should follow the link in the email as soon as possible to reactivate the account. Sera isn't sure whether to reply to the message, delete it or follow the link.

Which of Sera's three ideas would be safest in this instance?

In response, just 12% say they would delete the email, while three-quarters would either follow the link (37%) or reply to the email (38%). Another 13% are unsure how they would respond, do not understand, or refuse to answer the question. Adults living in rural areas are even more likely to follow the link or reply to the email (42% and 36%) than adults living in urban areas (29% and 40%) though majorities of both groups are susceptible to phishing scams. Residents of the Papua region (29%), urban men (24% compared to 16% of urban women), individuals who work in finance or technology (22%), and individuals earning between K96 and K479 fortnightly (21%) would be most likely to delete the email, but the proportions are still dangerously low. Just 15% of university-educated adults and 14% adults falling within the highest income group would delete the email.

With just 11% of Papua New Guineans engaging in online shopping, very few have been subject to lending practices online in the form of Buy Now, Pay Later options (4% of all adults). Of those who purchased something online in the previous three months, 39% however, had used a Buy Now, Pay Later option, suggesting there is some appetite for digital credit products. As digital financial transactions become more popular or accessible over time, even greater numbers of Papua New Guineans may opt for deferred payment plans, highlighting a potential future risk of overindebtedness.

39 [n=954]
40 [n=776]
41 [n=168]

## DFS Personal Outcomes – Positive and Negative

**Most Papua New Guineans (~70%) have not completed a mobile or digital financial transaction to experience either the positive or negative impacts of DFS use.** Amongst the approximately 31% of adults who have completed a financial transaction via a mobile phone or online, adults are more likely to have experienced positive, rather than negative, outcomes of DFS to date.[42] Three-quarters (75%) have found it easier to manage their money without help from others; 64% have found it easier to keep track of what they are spending; and 56% of DFS users have saved money on financial transactions by reducing fees or other costs. Older adults are more likely to claim having benefitted from DFS usage than their younger counterparts.

Table 9: DFS outcomes

DF4. And since accessing a financial service online or using your phone to make payments have you: [Asked of individuals who have used a mobile phone or digital financial product to make a financial transaction; n=488]

| % Yes (Shading where p≤0.05) | Found it easier to manage your money without help from others | Found it easier to keep track of your spending |
|---|---|---|
| Total | 75 | 64 |
| Men 15-24 years | 61 | 56 |
| Men 25-44 years | 75 | 66 |
| Men 45-74 years | 86 | 62 |
| Women 15-24 years | 68 | 74 |
| Women 25-44 years | 74 | 68 |
| Women 45-74 years | 82 | 53 |
| Urban men | 81 | 67 |
| Rural men | 68 | 58 |
| Urban women | 73 | 71 |
| Rural women | 75 | 60 |
| ≤K95 | 71 | 55 |
| K96-287 | 60 | 55 |
| K288-479 | 79 | 78 |
| K480+ | 84 | 72 |
| Total Self-employed | 79 | 67 |
| Self-employed w/employees[43] | 58 | 48 |

DFS owners/users[44] are less likely to have experienced negative outcomes evaluated in the survey, with 37% saying they were locked out of a financial account for more than a day because they could not remember access details and 27% saying that they lost money because of online scams or phishing attacks.

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42 [n=488] (the use of mobile or online banking include checking a current account balance on a phone or via a bank app or owning a DFS such as a digital or mobile wallet)
43 Small sample size [n=33]. Use caution when interpreting results.
44 [n=488]

## Graph 13: DFS outcomes

DF4. And since accessing a financial service online or using your phone to make payments have you: [Asked of individuals who have used a mobile phone or digital financial product to make a financial transaction; n=488]

| Outcome | Personally done |
|---|---|
| Found it easier to manage your money without help from others | 75% |
| Found it easier to keep track of what you are spending | 64% |
| Saved money on financial transactions | 56% |
| Locked out of your account for 1+ days because forgot access details | 37% |
| Lost money because of online scams | 27% |

Personally done
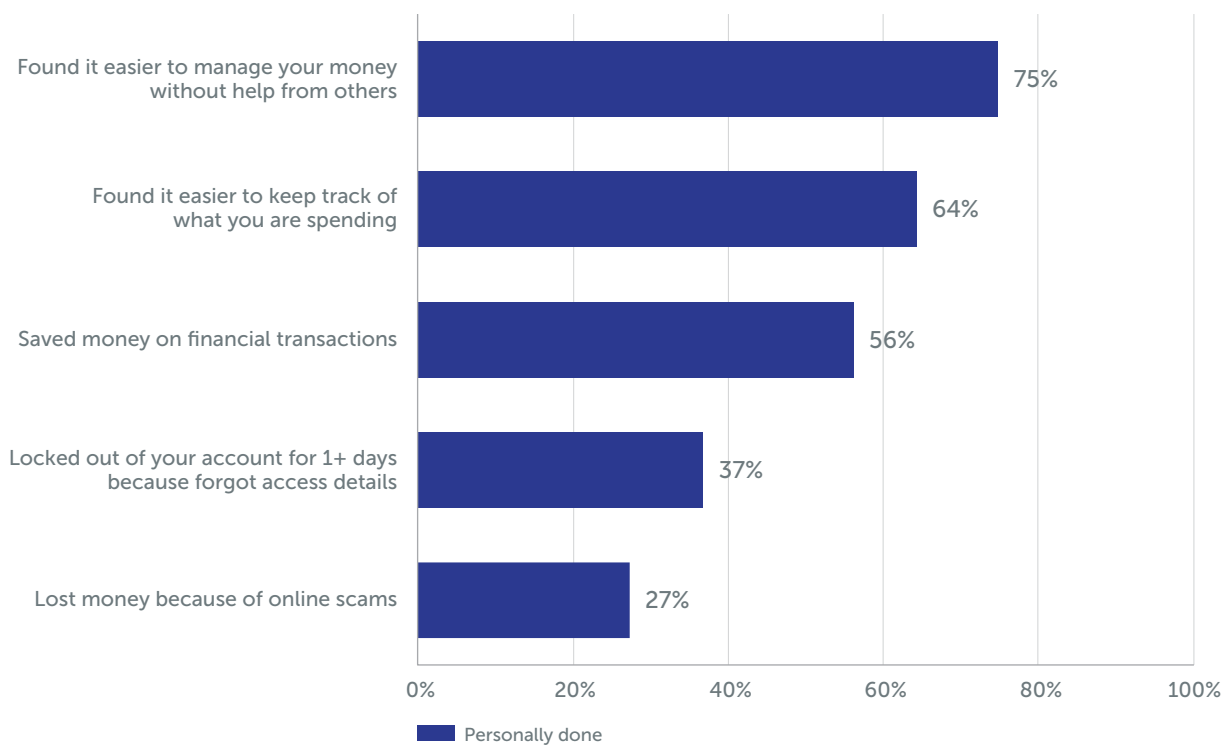
# Summary & Conclusions

**Papua New Guinean adults have acquired moderate levels of digital and financial literacy** to date, achieving a mean of 21.12 points out of a possible 52 points on a DFL index devised for the purposes of this study. The index was designed with the intent of comparing DFL levels across the Pacific and tracking growth in access and skills over time. Significant differences in DFL competencies exist between geographic and demographic subgroups at the levels of region, population density (urban-rural), age, educational attainment, and income levels. Gender differences are also apparent, with rural and older women achieving significantly lower DFL scores than adults overall and lower than their male counterparts. DFL scores are significantly lower among residents of the Highlands and Momase regions, rural adults, particularly rural women, women aged 15 to 24 and 45 to 74 years, adults with a middle school education or less, adults who fall within the lowest income bracket, and current students (who tend to be younger), than Papua New Guineans overall.

**Increasing access to smartphones or other digital devices and corresponding data services should complement digital and financial literacy efforts.** Use of digital financial services in Papua New Guinea is in part constrained by limited access to digital tools (smartphones) and Internet. Digitalisation scores, a measure of access to digital devices and the Internet, as well as engagement with digital and online activities, are lowest among rural women (mean score of 4.68 compared to 8.68 among urban men), women aged 45 to 74 years (4.05), and individuals with a middle school education of less (4.06). There is also a significant gap in digitalisation scores between self-employed individuals who work alone (5.07) and those who employ others in their work (8.38). DFL efforts including increased access to digital tools will be important to improving financial outcomes for both groups, though the two different segments of the MSME marketplace will be starting from different places in their DFL journeys.

**Digital financial services, including mobile money accounts, provide significant opportunity to ensure more women have access to capital-building tools.** To date, women have participated in the traditional financial sector at lower rates than men in Papua New Guinea, as evidenced in the data by rates of current account ownership. The youngest and oldest cohorts of women are less likely to own current accounts or payment cards compared to their male counterparts. Rural women are least likely to own any of the financial or payment products tested compared to adults overall.

However, women **may** be limited in their ability to use DFS if they are required to borrow shared household devices to complete financial transactions or participate in educational efforts designed to increase digital and financial competencies. Ownership, or access outside the household, may be required for some groups of women[45] to be able to use digital devices for the purposes of savings and financial management. An understanding of digital safety however, is even more important within the context of shared digital devices.

**Notwithstanding lower rates of financial inclusion and digitalisation among women and lower-SES groups, DFL is required across geographic and demographic subgroups**. Though most necessary among low- SES and among the oldest cohort groups, efforts are required among higher-educated and upper-income adults, as well within and outside Papua. Higher-educated and upper-income Papua New Guineans are considerably more likely to have access to digital and financial tools and resources. These groups are just as vulnerable, if not more, to the potential risks (as well as benefits) of DFS use simply because their financial means may provide greater exposure to DFS over time. Lower-SES groups require increased access to digital tools and foundational knowledge with regards to services available and their potential benefits in order to reap positive outcomes associated with DFS.

Limited experience with DFS to-date has constrained exposure to DFS outcomes, positive or negative. DFL interventions and education efforts could potentially be used to **raise awareness of the broad range of DFS available to Papua New Guineans** *and* **make a clear case for the positive benefits of DFS usage** – i.e., potential cost savings, efficient and lower-cost option for sending and receiving remittances, greater control, management, and security of financial resources, no matter how limited – to all adults. While it will be important to educate Papua New Guineans to the potential risks of DFS usage and practices for safe usage, adults will also need to be persuaded as to why they should deviate from current practices in favour of DFS usage.

In addition to building confidence in adults' ability to use DFS to their economic benefit, education efforts should **build awareness of and trust in verified or regulated service providers**. Interventions should address potential scepticism of DFS providers, alongside efforts to build specific skills or grow awareness in specific areas. Three-quarters of adults (76%) would not trust an automated service to provide financial advice, a particularly cost-effective and useful tool in rural and remote areas where access to in-person financial services may be scarce. Almost half of adults (47%) believe "digital financial services are risky for ordinary people."

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45 https://about.businesslinkpacific.com/womens-access-to-finance-in-the-pacific-a-challenge-and-an-opportunity/

Education efforts should seek to identify the risks to DFS usage while simultaneously providing simple measures for diffusing and managing potential risks. Papua New Guineans have general concerns about their ability to use and the risks associated with DFS but have limited awareness of the specific risks to consider beyond potential scams and fraud. Again, at a basic level, adults need more information that would allow them to make smart choices about *which* digital financial service providers and types of services to use. The use of financial apps and AI constitute important financial management and savings tools **if** adults are empowered to differentiate between legitimate and illegitimate tools, especially with regards to the use of AI. **Password protection and online banking security**, identifying and responding to **phishing attempts**, how to identify **verified, secure websites** for the purposes of online financial transactions, and the use of **virus protection** and **device-locking services** are additional areas for potential education.

Online resources and easily downloadable apps provide an opportunity to deliver digital financial education to adults, but face-to-face education will still need to occur in conjunction with online efforts. One-third of adults (32%) attest to having learned something from an online video or course in the three months prior to completing the survey. Despite having used the Internet in higher numbers than adults overall, just 28% of women aged 15 to 24 years report having learned something from an online video or course. Again, one-quarter (24%) of Papua New Guineans would trust an automated service to provide financial advice, underscoring a general wariness amongst most of the population and lack of trust in some online financial tools. Appropriate trust in the tools must be grown over time.

**Finally, most Papua New Guineans (69%) have not completed a mobile or digital financial transaction to experience either the positive or negative impacts of DFS use.** Amongst the approximately 31% of adults who have completed a financial transaction via a mobile phone or online, three-quarters (75%) have found it easier to manage their money without help from others; 64% have found it easier to keep track of what they are spending; and 56% of DFS users have saved money on financial transactions by reducing fees or other costs. On the flip side, 37% were locked out of a financial account for more than a day because they could not remember access details and 27% say they lost money because of online scams or phishing attacks. The percentage of adults who have suffered negative consequences will likely increase as more adults engage with DFS over time, unless user uptake occurs in conjunction with education efforts.

Moving forward, this study will continue to monitor changes in DFL index scores between survey rounds as well as track progress on specific measures related to financial well-being, trust in financial service providers, money management and savings behaviours, and outcomes from DFS use.

# Appendix A

## Part 1

**Table 1: DFL Index Score by Gender by Density**
[Scores calculated of the total sample, n=1,587]

| (Shading where p≤0.05) | Total | Urban Men | Rural Men | Urban Women | Rural Women |
|---|---|---|---|---|---|
| Total DFL Score (0-52) | 21.12 | 24.99 | 19.62 | 22.95 | 18.92 |
| 1. Digitalisation (0-18) | 6.15 | 8.68 | 5.23 | 7.28 | 4.68 |
| 2. Financial competencies (0-13) | 7.16 | 7.47 | 6.96 | 7.39 | 7.01 |
| 3. Digital financial competencies and DFS outcomes (0-21) | 7.82 | 8.84 | 7.44 | 8.28 | 7.23 |
| % Low (0-12 points) | 10 | 3 | 13 | 9 | 13 |
| % Moderate (13-26 points) | 65 | 52 | 71 | 57 | 72 |
| % Above Average (27-39 points) | 24 | 44 | 15 | 33 | 15 |
| % High (40-52 points) | 1 | 1 | 1 | 1 | 0 |

**Table 2: DFL Index Score by Region**

| (Shading where p≤0.05) | Total | Highlands | Islands | Momase | Papua |
|---|---|---|---|---|---|
| Total DFL Score (0-52) | 21.12 | 19.85 | 23.38 | 20.23 | 24.17 |
| 1. Digitalisation (0-18) | 6.15 | 5.45 | 6.93 | 5.81 | 7.94 |
| 2. Financial competencies (0-13) | 7.16 | 7.06 | 7.88 | 6.80 | 7.37 |
| 3. Digital financial competencies and DFS outcomes (0-21) | 7.82 | 7.34 | 8.57 | 7.62 | 8.86 |
| % Low (0-12 points) | 10 | 10 | 6 | 14 | 7 |
| % Moderate (13-26 points) | 65 | 71 | 62 | 63 | 52 |
| % Above Average (27-39 points) | 24 | 18 | 31 | 22 | 39 |
| % High (40-52 points) | 1 | 0 | 1 | 0 | 2 |

**Table 3: DFL Index Score by Gender by Age**

| (Shading where p≤0.05) | Total | Men 15-24 yrs. | Men 25-44 yrs. | Men 45-74 yrs. | Women 15-24 yrs. | Women 25-44 yrs. | Women 45-74 yrs. |
|---|---|---|---|---|---|---|---|
| Total DFL Score (0-52) | 21.12 | 20.49 | 22.74 | 21.62 | 19.76 | 21.71 | 19.02 |
| 1. Digitalisation (0-18) | 6.15 | 6.64 | 7.03 | 5.67 | 5.88 | 6.34 | 4.05 |
| 2. Financial competencies (0-13) | 7.16 | 6.58 | 7.44 | 7.48 | 6.71 | 7.46 | 7.18 |
| 3. Digital financial competencies and DFS outcomes (0-21) | 7.82 | 7.27 | 8.27 | 8.47 | 7.17 | 7.91 | 7.78 |
| % Low (0-12 points) | 10 | 11 | 9 | 9 | 15 | 7 | 15 |
| % Moderate (13-26 points) | 65 | 69 | 60 | 62 | 64 | 68 | 66 |
| % Above Average (27-39 points) | 24 | 20 | 31 | 28 | 21 | 24 | 20 |
| % High (40-52 points) | 1 | 0 | 1 | 2 | 0 | 1 | 0 |

**Table 4: DFL Index Score by Educational Attainment and Work Status**

| (Shading where p<0.05) | Total | < Middle School | Secondary School | University+ | Student | All Self-Employed | SE w/ employee* | Formally Employed |
|---|---|---|---|---|---|---|---|---|
| Total DFL Score (0-52) | 21.12 | 17.74 | 23.32 | 26.88 | 19.61 | 20.71 | 23.99 | 26.17 |
| 1. Digitalisation (0-18) | 6.15 | 4.06 | 7.67 | 9.44 | 6.23 | 5.41 | 8.38 | 9.00 |
| 2. Financial competencies (0-13) | 7.16 | 6.77 | 7.29 | 8.01 | 6.31 | 7.29 | 7.40 | 7.98 |
| 3. Digital financial competencies and DFS outcomes (0-21) | 7.82 | 6.91 | 8.36 | 9.43 | 7.07 | 8.01 | 8.21 | 9.18 |
| % Low (0-12 points) | 10 | 17 | 4 | 1 | 16 | 10 | 6 | 1 |
| % Moderate (13-26 points) | 65 | 74 | 65 | 44 | 65 | 69 | 67 | 49 |
| % Above Average (27-39 points) | 24 | 10 | 31 | 53 | 19 | 20 | 27 | 48 |
| % High (40-52 points) | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 2 |

*Self-employed w/employees. Small sample size [n=40].

**Table 5: DFL Index Score by Income and Disability Status**

| (Shading where p<0.05) | Total | <K95 | K96-K287 | K288-K479 | K480+ | PWD* |
|---|---|---|---|---|---|---|
| Total DFL Score (0-52) | 21.12 | 18.89 | 20.52 | 22.59 | 26.11 | 21.60 |
| 1. Digitalisation (0-18) | 6.15 | 5.20 | 5.84 | 6.69 | 8.50 | 6.73 |
| 2. Financial competencies (0-13) | 7.16 | 6.63 | 7.02 | 7.65 | 8.26 | 7.24 |
| 3. Digital financial competencies and DFS outcomes (0-21) | 7.82 | 7.06 | 7.66 | 8.25 | 9.36 | 7.64 |
| % Low (0-12 points) | 10 | 13 | 13 | 5 | 0 | 12 |
| % Moderate (13-26 points) | 65 | 73 | 68 | 61 | 49 | 60 |
| % Above Average (27-39 points) | 24 | 14 | 19 | 33 | 48 | 28 |
| % High (40-52 points) | 1 | 0 | 0 | 0 | 3 | 1 |

*Persons with Disabilities

# Part 2

## Table 6: Access to Digital Devices by Gender by Age

D1. Do you have access to any of the following, for personal use, whether or not you currently use them? This could be at home or at work. [Asked of the total sample; n=1,587]

| % Yes (Shading where p≤0.05) | Total | Men 15-24 yrs. | Men 25-44 yrs. | Men 45-74 yrs. | Women 15-24 yrs. | Women 25-44 yrs. | Women 45-74 yrs. |
|---|---|---|---|---|---|---|---|
| Smartphone | 62 | 70 | 63 | 51 | 70 | 62 | 45 |
| Mobile phone, only for calls or texts | 74 | 70 | 74 | 79 | 71 | 75 | 75 |
| Tablet, laptop, desktop computer | 32 | 31 | 40 | 33 | 26 | 34 | 25 |
| Router or modem | 16 | 16 | 20 | 14 | 12 | 17 | 11 |
| Smart watch or speaker | 24 | 26 | 26 | 22 | 23 | 25 | 16 |
| Smart TV | 14 | 13 | 13 | 16 | 12 | 18 | 11 |

## Table 7: Access to Digital Devices by Density and Region

| % Yes (Shading where p≤0.05) | Total | Urban | Rural | Highlands | Islands | Momase | Papua |
|---|---|---|---|---|---|---|---|
| Smartphone | 62 | 72 | 55 | 62 | 63 | 55 | 70 |
| Mobile phone, only for calls or texts | 74 | 71 | 75 | 79 | 65 | 77 | 61 |
| Tablet, laptop, desktop computer | 32 | 48 | 22 | 26 | 38 | 29 | 51 |
| Router or modem | 16 | 24 | 10 | 14 | 14 | 14 | 24 |
| Smart watch or speaker | 24 | 35 | 17 | 22 | 19 | 20 | 38 |
| Smart TV | 14 | 26 | 6 | 7 | 20 | 17 | 26 |

## Table 8: Access to Digital Devices by Educational Attainment

| % Yes (Shading where p≤0.05) | Total | ≤ Middle School | Secondary School | University+ |
|---|---|---|---|---|
| Smartphone | 62 | 44 | 77 | 86 |
| Mobile phone, only for calls or texts | 74 | 75 | 72 | 73 |
| Tablet, laptop, desktop computer | 32 | 14 | 42 | 66 |
| Router or modem | 16 | 7 | 18 | 34 |
| Smart watch or speaker | 24 | 14 | 28 | 42 |
| Smart TV | 14 | 7 | 16 | 30 |

**Table 12: Digital and Online Activities by Gender by Age**

D2 and D4. Please could you tell me whether you have personally done any of these in the last 3 months? [D2 asked of the total sample, n=1,587; D4 asked of individuals who use the Internet, n=954]

| % Yes (Shading where p≤0.05) | Total | Men 15-24 yrs. | Men 25-44 yrs. | Men 45-74 yrs. | Women 15-24 yrs. | Women 25-44 yrs. | Women 45-74 yrs. |
|---|---|---|---|---|---|---|---|
| Set up an alarm, reminder, or alert | 58 | 59 | 66 | 57 | 54 | 57 | 44 |
| Created, edited, or saved a document or image | 42 | 48 | 52 | 35 | 39 | 44 | 26 |
| Used Bluetooth or AirDrop | 44 | 53 | 54 | 33 | 42 | 46 | 22 |
| Used formulas in a spreadsheet | 28 | 30 | 31 | 25 | 28 | 30 | 14 |
| Written programming language or code | 7 | 10 | 8 | 7 | 7 | 7 | 4 |
| Total Use Internet: | 60 | 73 | 66 | 50 | 67 | 59 | 32 |
| Bought something online | 18 | 12 | 21 | 24 | 11 | 22 | *16 |
| Learned something from an online video | 54 | 54 | 60 | 55 | 42 | 53 | *65 |
| Placed a bet or played an online game with money prizes | 11 | 8 | 15 | 9 | 11 | 12 | *0 |
| Completed or submitted a government form online | 14 | 10 | 20 | 18 | 4 | 17 | *16 |
| Searched online for information about money matters | 37 | 26 | 43 | 52 | 20 | 41 | *58 |

*Small sample size [n=54 among the population of women aged 45 to 74 who have ever used the Internet]

**Table 9: Digital and Online Activities by Density and Educational Attainment**

| % Yes (Shading where p≤0.05) | Total | Urban Men | Rural Men | Urban Women | Rural Women | ≤ Middle School | Secondary | Uni+ |
|---|---|---|---|---|---|---|---|---|
| Set up an alarm, reminder, or alert | 58 | 76 | 52 | 66 | 45 | 45 | 71 | 73 |
| Created, edited, or saved a document or image | 42 | 66 | 34 | 51 | 31 | 27 | 56 | 66 |
| Used Bluetooth or AirDrop | 44 | 67 | 37 | 55 | 30 | 36 | 50 | 58 |
| Used formulas in a spreadsheet | 28 | 45 | 19 | 39 | 17 | 16 | 35 | 46 |
| Written programming language or code | 7 | 14 | 5 | 9 | 5 | 3 | 10 | 15 |
| Total Use Internet: | 60 | 80 | 54 | 67 | 48 | 40 | 78 | 88 |
| Bought something online | 18 | 20 | 16 | 16 | 18 | 11 | 14 | 29 |
| Learned something from an online video | 54 | 65 | 49 | 57 | 44 | 41 | 58 | 65 |
| Placed a bet or played an online game with money prizes | 11 | 10 | 12 | 11 | 9 | 10 | 11 | 12 |
| Completed or submitted a government form online | 14 | 16 | 16 | 14 | 10 | 8 | 12 | 23 |
| Searched online for information about money matters | 37 | 44 | 33 | 41 | 30 | 20 | 40 | 53 |

# Part 3

**Table 10: Current Account by Gender by Age and Gender by Density**

F5. Do you have a current account? This could be with a bank or credit union, for example, or with an online provider. [Total sample, n=1,587]

| (Shading where p≤0.05) | Yes (%) | No (%) |
|---|---|---|
| Total | 49 | 50 |
| Men 15-24 years | 38 | 62 |
| Men 25-44 years | 59 | 41 |
| Men 45-74 years | 58 | 41 |
| Women 15-24 years | 33 | 66 |
| Women 25-44 years | 55 | 44 |
| Women 45-74 years | 46 | 52 |
| Urban men | 64 | 35 |
| Rural men | 44 | 56 |
| Urban women | 52 | 47 |
| Rural women | 42 | 57 |

**Table 11: Current Account by Educational Attainment, Income, Employment and Disability Status**

| (Shading where p≤0.05) | Yes (%) | No (%) |
|---|---|---|
| Total | 49 | 50 |
| ≤ Middle school | 31 | 69 |
| Secondary school | 59 | 41 |
| University + | 83 | 17 |
| ≤K95 | 36 | 64 |
| K96-K287 | 47 | 52 |
| K288-K479 | 59 | 40 |
| K480+ | 75 | 24 |
| Persons with disabilities | 55 | 44 |
| Self-employed | 52 | 47 |
| Formally employed | 83 | 16 |
| Student | 33 | 67 |

**Table 12: Current Account by Region**

| (Shading where p≤0.05) | Yes (%) | No (%) |
|---|---|---|
| Total | 49 | 50 |
| Highlands | 47 | 52 |
| Islands | 61 | 39 |
| Momase | 40 | 58 |
| Papua | 57 | 43 |

**Table 13: DFS Products**

DF2. And do you, personally, have any of the following? [Data for digital/electronic/mobile wallets and payment cards re-calculated out of the overall sample, n=1,587]

| % Yes (Shading where p≤0.05) | Payment card | Other insurance | Digital/Mobile wallet | Crypto-currency |
|---|---|---|---|---|
| Total | 48 | 9 | 10 | 5 |
| Men | 52 | 10 | 12 | 6 |
| Women | 44 | 7 | 9 | 4 |
| Men 15-24 years | 37 | 7 | 10 | 7 |
| Men 25-44 years | 60 | 12 | 14 | 6 |
| Men 45-74 years | 61 | 10 | 13 | 5 |
| Women 15-24 years | 31 | 9 | 6 | 3 |
| Women 25-44 years | 54 | 8 | 9 | 5 |
| Women 45-74 years | 42 | 2 | 11 | 2 |
| Urban men | 69 | 12 | 19 | 10 |
| Rural men | 42 | 9 | 8 | 3 |
| Urban women | 56 | 10 | 12 | 6 |
| Rural women | 36 | 6 | 6 | 2 |
| ≤ Middle school | 32 | 6 | 5 | 3 |
| Secondary school | 55 | 9 | 12 | 6 |
| University+ | 80 | 15 | 21 | 8 |
| ≤K95 | 34 | 6 | 6 | 3 |
| K96-287 | 51 | 13 | 11 | 7 |
| K288-479 | 57 | 10 | 15 | 6 |
| K480+ | 77 | 10 | 17 | 5 |
| Self-employed | 54 | 8 | 12 | 5 |

# Appendix B: Digital and Financial Literacy Questionnaire

## Introduction

We would like to find out more about your experiences with technology and money these days. Would you be willing for us to spend around 20 minutes talking about this? *Your answers will be confidential, and you can stop at any time.*

This questionnaire is about you, and all your experiences. If you run a business, please also think about your experiences as a business owner. Please don't tell us about things that other people in your household do, though – this is an opportunity to focus on you!

### Section 1 Background demographics

Thank you for agreeing to take part in this survey. I am going to start by asking some general questions. This helps us to make sure we have spoken to a cross section of the population.

#### A1 Method

Automatic entry, or interviewer to record data collection method

| Filter? | Options | Variable label | Values | Note to agency |
|---------|---------|----------------|--------|----------------|
| No | Face-to-face | A1 | 1 | |
| | Telephone | | 2 | |
| | Other | | 3 | Please record and inform us if any other method is used |

#### A2 Timestamp at start

Automatic entry, or interviewer to record date and start-time of survey

| Filter? | Options | Variable label | Values |
|---------|---------|----------------|--------|
| No | | A2 | Day/Month/Year HH:MM |

#### B1 Language of interview

Interviewer to record primary language of interview

| Filter? | Options | Variable label | Values | Note to agency |
|---------|---------|----------------|--------|----------------|
| No | English | B1 | 1 | |
| | Tok Pisin | | 2 | |

#### B2_classify Urban or rural

For CAPI, interviewer to record based on sample. For CATI, ask: **Do you live in an urban or rural area?**

| Filter? | Options | Variable label | Values |
|---------|---------|----------------|--------|
| No | Urban | B2_classify | 1 |
| | Rural | | 2 |

## B2 Town or village

For classification purposes, we would like to know what kind of area you live in. Do you live in a city, a town, or a village/settlement?

[If city, probe]: **Is it a city with more than 100,000 people** (code 1), **or is it a smaller city** (code 2)?

[If town, probe]: **Is it a town with more than 3,000 people** (code 2), **or is it a smaller town** (code 3)?

[If village/settlement]: **Is it a village with more than 100 people** (code 3), **or less than 100 people** (code 4)?

| Filter? | Options | Variable label | Values | Notes |
|---|---|---|---|---|
| No | A town or city of more than 100,000 people | B2 | 1 | |
| | A town or city with between 3,000 and 100,000 people | | 2 | |
| | A village or town, with between 100 and 3,000 people | | 3 | |
| | A village, hamlet or other community with fewer than 100 people | | 4 | |

## B2_local Local access

Interviewer to record local access to services, or ask:

Do you live within 1km of...?

| Filter? | Options | Variable label | Values | Note to interviewer/agency |
|---|---|---|---|---|
| Ask if B2=3 or 4 | A neighbour | B2_local_1 | No=0; Yes=1 | A different household. Mark Yes without asking if the answer is obvious. |
| No | A place to buy basic provisions such as <bread, vegetables, bottled water or soap> | B2_local_2 | No=0; Yes=1 | This could be a market, shop or café. Use local examples |
| | An <ATM> | B2_local_3 | No=0; Yes=1 | Use local terminology for an automated teller machine or cashpoint |

## B3 Gender

Interviewer to record gender

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| No | Male | B3 | 0 |
| | Female | | 1 |
| | Other response/other gender | | 2 |

Refused=-99

## B4 Age

Please could you tell me how old you were at your last birthday?

| Filter? | Options | Variable label | Values | Note to interviewer/agency |
|---|---|---|---|---|
| No | [Do not read out: Whole years: 0-110] | B4 | [Whole numbers] | If respondent is under 15 or over 74 years of age, terminate interview |
| | Refused | | -99 | Continue to next question |

### B4_cat Age

Instead, please could you tell me which of the following age categories you are in?

| Filter? | Options | Variable label | Values | Note to interviewer/agency |
|---|---|---|---|---|
| | 0-14 | B4_cat | 14 | Terminate interview |
| | 15-24 | | 24 | |
| | 25-34 | | 34 | |
| | 35-44 | | 44 | |
| Ask if B4 = -99 | 45-54 | | 54 | |
| | 55-64 | | 64 | |
| | 65-74 | | 74 | |
| | 75+ | | 75 | Terminate interview |
| | Refused | | -99 | Terminate interview |

### B5 Household composition

Do you live…? [Read each one in turn unless lives entirely alone, and record all responses - provide examples if needed]

| Filter? | Options | Variable label | Values | Note to interviewer/agency |
|---|---|---|---|---|
| No | Entirely alone | B5_1 | No=0; Yes=1 | Alternative wording can be used to clarify, such as 'Is there only you living here'. |
| | With a partner/spouse | B5_2 | No=0; Yes=1 | Including partners who are currently working overseas |
| | With the family that brought you up | B5_3 | No=0; Yes=1 | i.e. are they still living parents, grandparents, etc. |
| Ask if B5_1=0 | With children that you are raising | B5_4 | No=0; Yes=1 | e.g... your children, step-children, foster children |
| | With other relatives or in-laws | B5_5 | No=0; Yes=1 | e.g. aunt, cousin, brother-in-law etc. |
| | With friends or colleagues | B5_6 | No=0; Yes=1 | |

Refused=-99

### B6 Occupation

Which of these *best* describes your main occupation? [Read each one in turn, and record 1 response – provide examples if needed; if the respondent feels that they have two or more 'main' occupations, choose the first one in the list]. Other employment options can be added.

| Filter? | Options | Variable label | Values | Note to interviewer/agency |
|---|---|---|---|---|
| | Self-employed, without employees | B6 | 1 | Includes working on own account or contributing to family business. This can be formal or informal work, e.g. market stall holder, taxi driver, factory owner, IT company. Includes those temporarily absent from work due to sickness or maternity/paternity leave. Probe as necessary to find out about employees |
| | Self-employed or company owner, with employees | | 2 | |
| | Employed | | 3 | Working for another person or company, full time or part time. Includes those temporarily absent from work due to sickness or maternity/paternity leave |
| | A regular <overseas> worker | | 4 | To be edited in countries to use local terminology, and where abroad is not overseas, or where seasonal work is not undertaken abroad. |
| No | Unemployed and seeking work | | 5 | |
| | Unable to work due to sickness or disability | | 6 | |
| | Student | | 7 | |
| | Caring for children or other family members | | 8 | |
| | Retired | | 9 | |
| | Other | | 10 | e.g. not working and not looking for work |

Refused=-99

## B6_sector Employment sector

In the last year, have you worked in any of the following sectors?

| Filter? | Options | Variable label | Values | Note to interviewer/agency |
|---|---|---|---|---|
| Ask all | Agriculture, farming or fishing or forestry | | No=0; Yes=1 | Directly responsible for raising crops or animals or fishing; or work related to the infrastructure around food production, farming etc. including manufacturing animal fodder, packaging, storage, haulage |
| | Finance | | No=0; Yes=1 | e.g. Work relating to banking, credit, insurance, accountancy |
| | Public sector including military | | No=0; Yes=1 | e.g. Policy maker, teacher, police, fire crew, refuse collector, higher education |
| | Technology | | No=0; Yes=1 | e.g. Developing software, maintaining IT equipment, creating websites |
| | Tourism, food and beverages and related services | | No=0; Yes=1 | e.g. Work related to travel; accommodation, preparing and serving food, tourist trips and activities |

Refused=-99

## B7_education Highest level of education

What is the highest level of education you have completed? [Read out if necessary and record 1 response].

| Filter? | | Variable label | Values | Note to interviewer |
|---|---|---|---|---|
| No | | B7_education | | Formal education or training includes school, college and university, as well as medical school, professional training, military college etc. |
| | Postgraduate | | 1 | e.g., master's degree, PhD or advanced professional training |
| | University/degree-level education | | 2 | e.g., first degree or equivalent vocational training |
| | Upper secondary/high school | | 3 | |
| | Lower secondary/middle school | | 4 | |
| | Primary school | | 5 | |
| | No formal education | | 6 | |

Not relevant/didn't attend school -96; Don't know=-97; Refused=-99

## B8 Income

Thinking now about all the different sources of income that you [add and your <partner> if B5_2=1] have access to, would you say that it is usually…

| Filter? | Statements | Variable label | Values | Note to interviewer/agency |
|---|---|---|---|---|
| No | No income | B8 | 0 | Income may include pay from work, government support, retirement benefits etc.<br>If asked, please state that this is before tax is deducted. |
| | Less than K95 per fortnight but not 0 | | 1 | |
| | Between K96 and K191 per fortnight | | 2 | |
| | Between K192 and K287 per fortnight | | 3 | |
| | Between K288 and K383 per fortnight | | 4 | |
| | Between K384 and K479 per fortnight | | 5 | |
| | More than K480 per fortnight | | 6 | |

Don't know=-97; Refused=-99

Thank you. I have a few more background questions.

**B9 General characteristics**

Please could you tell me if any of the following statements apply to you? You can just say yes or no to each one. [Read each one in turn and record all responses]

| Filter? | Statements | Variable label | Values | Note to interviewer |
|---|---|---|---|---|
| No | I enjoy learning new skills | B9_1 | No=0; Yes=1 | Record negative responses such as 'Not really' as No. Record positive responses such as **Sometimes**, or **a little bit** as Yes. |
| | I am comfortable doing sums in my head, such as calculating change | B9_2 | No=0; Yes=1 | |
| | I have a health condition or disability that limits my day-to-day activities | B9_3 | No=0; Yes=1 | |
| | I find it easy to memorise things like phone numbers, birthdays, or passwords | B9_4 | No=0; Yes=1 | |
| | I receive most of my income from family members <overseas> | B9_5 | No=0; Yes=1 | |
| Ask if B6 NOT= 4 | I intend to start temporary or seasonal work <overseas> | B9_6 | No=0; Yes=1 | |
| No | I intend to move <overseas> permanently | B9_7 | No=0; Yes=1 | |

Don't know=-97; Refused=-99

Thank you.

The next section of the questionnaire looks at various sorts of technology. There are no right and wrong answers, and it doesn't matter if you never use technology – the important thing is that your answers reflect your actual thoughts, experiences or behaviours. Remember that we want to know about you!

## Section 2 Digital integration

### D1 Digital devices

Do you have access to any of the following, _for personal use_, whether or not you currently use them [*if B6=1,2,3 or 4* add This could be at home or at work] [Read each one in turn and record all responses].

| Filter? | Options | Variable label | Values | Note to interviewer |
|---|---|---|---|---|
| No | A smartphone | D1_1 | No=0; Yes=1; | 'Access' should be interpreted broadly, to include living in a household where somebody else has such a device |
| | A mobile phone that is only for calls and text | D1_2 | No=0; Yes=1; | |
| | A tablet, laptop or desktop computer | D1_3 | No=0; Yes=1; | |
| | A router or modem that can be used to connect devices to the Internet by cable or WiFi | D1_4 | No=0; Yes=1; | |
| | A smart watch or smart speaker | D1_5 | No=0; Yes=1; | |
| | A smart TV, or device that connects your TV to the Internet | D1_6 | No=0; Yes=1; | |

Don't understand the question =-98; Refused=-99

- A **mobile (cellular) telephone** refers to a portable telephone subscribing to a public mobile telephone service using cellular technology, which provides access to the PSTN.
- A **smart telephone (or smartphone)** refers to a mobile handset with smart capabilities, including Internet-based services, and performs many of the functions of a computer, including having an operating system capable of downloading and running applications, also those created by third-party developers.
- **Tablet (or similar handheld computer):** a tablet is a computer that is integrated into a flat touch screen, operated by touching the screen rather than (or as well as) using a physical keyboard.
- **Computer** refers to either
  - **Laptop** (portable) computer: a computer that is small enough to carry and usually enables the same tasks as a desktop computer; it includes notebooks and netbooks but does not include tablets and similar handheld computers. It may have a touchscreen.
  - **Desktop**: a computer that usually remains fixed in one place, and typically has a separate screen and keyboard.
- A **portable modem**, (MiFi, mobile hotspot, dongle), connects devices to the Internet via a mobile network.
- A **fixed router or modem** provides cabled or wireless connection to the Internet in buildings such as homes or offices via a fixed-line cable.
- A **smart watch** is a wearable device with similar features to a smartphone, including access to the Internet.
- A **smart speaker** is a voice-controlled device that can access the Internet and may be used to connect and control other smart devices such as smart lightbulbs or robot cleaners.
- A **smart TV** (digital TV) is a TV with access to the Internet [a specific TV 'box' can be used for the same purpose].

### D1_comp Frequency using computer

Approximately how often have you used a tablet, laptop or desktop computer during the last three months? [Read each one in turn and record 1 response; use can be personal or work-related]

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| Ask if D1_3=1 | Not at all | D1_comp | 0 |
| | Less than once a week | | 1 |
| | No more than twice a week | | 2 |
| | Several times a week, but not every day | | 3 |
| | Once a day | | 4 |
| | Several times a day | | 5 |

Don't know=-97; Refused=-99

### D1_phone Frequency using smartphone

Approximately how often have you used a smartphone during the last three months? [Read each one in turn and record 1 response; use can be personal or work-related]

| Filter? | Options | Variable label | Values |
|---------|---------|----------------|--------|
| Ask if D1_1=1 | Not at all | D1_phone | 0 |
| | Less than once a week | | 1 |
| | No more than twice a week | | 2 |
| | Several times a week, but not every day | | 3 |
| | Once a day | | 4 |
| | Several times a day | | 5 |

Don't know=-97; Refused=-99

### D2 Digital activities

Still thinking about technology, please can you tell me if you have personally used a digital device or electronic gadget to do any of the following in the last three months, whether for yourself or someone else?) ...[Read each one in turn and record all responses; can be personal or work-related. If necessary, specify that a digital device could be a computer, tablet, laptop, smartphone or some other tool]

| Filter? | Options | Variable label | Values | Note to interviewer |
|---------|---------|----------------|--------|---------------------|
| No | Set up an alarm, reminder or alert | D2_1 | No=0; Yes=1 | |
| | Created, edited or saved a document or image | D2_2 | No=0; Yes=1 | |
| | Used Bluetooth or Airdrop to send a document or image to a nearby device | D2_3 | No=0; Yes=1 | |
| | Used formulas in a spreadsheet to make a calculation | D2_4 | No=0; Yes=1 | |
| | Written programming language or code | D2_5 | No=0; Yes=1 | Any type of programming – e.g. Java, Python, C++ |

Don't know=-97; Don't understand the question=-98; Refused=-99

### D3_internet Accessing the Internet

Can I just check, do you ever use the Internet? For example, do you check email or social media, stream radio or videos, look things up, use apps to send messages or make calls, or work remotely?

| Filter? | Options | Variable label | Values | Note to agency |
|---------|---------|----------------|--------|----------------|
| No | No | D3_internet | 0 | See notes below. Add examples if needed |
| | Yes | | 1 | |

Refused=-99

- The **Internet** is a worldwide public computer network. It provides access to communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer - it may also be by smartphone, tablet, games console, smart TV etc.).
- Access can be via a fixed or mobile network.

### D3_limit Limits to personal connectivity

Do any of the following limit your Internet use or prevent you from using it? [Read each one in turn and record response]

| Filter? | Options | Variable label | Values | Note to agency/interviewer |
|---------|---------|----------------|--------|----------------------------|
| No | The cost of connecting to the Internet or using mobile data services | D3_limit_1 | No=0; Yes=1 | |
| | The quality or availability of Internet and mobile data services in your area | D3_limit _2 | No=0; Yes=1 | |
| | Concerns about the security of the services available | D3_limit _3 | No=0; Yes=1 | |

Don't understand the question =-98; Refused =-99

### D3_time Frequency accessing the Internet

Approximately how often have you used the Internet or been online for any reason at all over the last three months. You may have been < checking email or social media, streaming radio or videos, looking things up, using apps or working remotely>?
[Read each one in turn and record 1 response]

| Filter? | Options | Variable label | Values | Note to agency |
|---|---|---|---|---|
| Ask if D3_internet=1 | Less than once a week | D3_time | 1 | Provide alternative examples of Internet use if needed |
| | No more than twice a week | | 2 | |
| | Several times a week, but not every day | | 3 | |
| | Once a day | | 4 | |
| | Several times a day | | 5 | |

Don't know=-97; Refused=-99

### D4 Online activities

I am now going to read out some more digital activities. Please could you tell me whether you have personally done any of these *in the last 3 months*? [Read each one in turn and record all responses]

| Filter? | Options | Variable label | Values | Note to agency/ interviewer |
|---|---|---|---|---|
| Ask if D3_internet=1 | Bought something online | D4_1 | No=0; Yes=1 | Examples can be provided |
| | Learned something from an online video or course | D4_2 | No=0; Yes=1 | |
| | Placed a bet online or played an online game with money prizes | D4_3 | No=0; Yes=1 | |
| | Completed or submitted a government form online, such as a tax return, benefit claim or application for national identification documents | D4_4 | No=0; Yes=1 | |
| | Searched online for information about money matters | D4_5 | No=0; Yes=1 | |

Don't know=-97; Don't understand the question =-98; Refused=-99

### D5 Digital landscape

Please could you tell me if you agree or disagree with the following statements? [Read each one in turn and record all responses]

| Filter? | Statements | Variable label | Values | Note to interviewer |
|---|---|---|---|---|
| No | I feel like technology is leaving me behind | D5_1 | Disagree=0; Agree=1 | |
| | I would trust an automated service, such as an app or robot-advisor to provide financial advice | D5_2 | Disagree=0; Agree=1 | |
| Ask if D3_internet=1 | I take steps to keep my information safe when online | D5_3 | Disagree=0; Agree=1 | |
| | I use the same password across several online accounts or websites | D5_4 | Disagree=0; Agree=1 | |
| Ask if D1_1=1 or D1_3=1 | My devices (e.g., smartphone, computer) are always locked when not in use | D5_5 | Disagree=0; Agree=1 | If respondent locks 'some' devices, mark as agree |
| | I have virus protection on my devices | D5_6 | Disagree=0; Agree=1 | If respondent has virus protection on 'some' devices, mark as agree |
| Ask if D1_1=1 | I know how to block or disactivate my smartphone if it gets lost or stolen | D5_7 | Disagree=0; Agree=1 | |

Don't know=-97; Don't understand the question=-98; Refused=-99

## Section 3 Financial literacy

These questions are more focused on money matters, but some also discuss the role of technology

### F1 Budgeting behaviour

Do you do any of the following, either alone or with someone else? [Read each one in turn and record all responses]

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| No | Make a plan to manage your income and expenses | F1_1 | No=0; Yes=1 |
| | Keep receipts, or record your spending | F1_2 | No=0; Yes=1 |
| | Buy insurance to protect yourself from financial shocks | F1_3 | No=0; Yes=1 |
| Ask if B6=1 or 2 | Keep records of your self-employed earnings and expenditure | F1_4 | No=0; Yes=1 |
| | Buy insurance to protect your business from financial shocks | F1_5 | No=0; Yes=1 |

Not relevant -96; Refused=-99

### F1_sav Savings behaviour

And do you do any of the following, either alone or with someone else? [Read each one in turn and record all responses]

| Filter? | Options | Variable label | Values | Note to agency |
|---|---|---|---|---|
| No | Put money aside for emergencies | F1_sav_1 | No=0; Yes=1 | |
| | Use <loyalty cards> to reduce the cost of your shopping or earn <vouchers/coupons/cash back> | F1_sav_2 | No=0; Yes=1 | Use local term |
| | Contribute to a <savings and loans> club | F1_sav_3 | No=0; Yes=1 | |
| | Save or invest for the longer-term | F1_sav_4 | No=0; Yes=1 | Any kind of savings or investment, it does not have to be through a financial service provider |

Not relevant -96; Refused=-99

### F2 Financial circumstances

Do you agree or disagree with the following statements? [Read each one in turn and record all responses]

| Filter? | Statements | Variable label | Values | Note to interviewer |
|---|---|---|---|---|
| No | I tend to live for today and let tomorrow take care of itself | F2_1 | Disagree=0; Agree=1 | |
| | I am often worried that my money won't last | F2_2 | Disagree=0; Agree=1 | |
| | I have some money to spend on myself from time to time | F2_3 | Disagree=0; Agree=1 | |
| | I am the kind of person who ignores the small print unless something goes wrong | F2_4 | Disagree=0; Agree=1 | 'small print' refers to the Terms and Conditions (T&C). |
| | 5 years from now I will be financially secure | F2_5 | Disagree=0; Agree=1 | |
| | If I have money left over, I prefer to save it than spend it | F2_6 | Disagree=0; Agree=1 | |

Not relevant -96; Refused=-99

## F2_change Recent changes

And thinking about the last three months, do you agree or disagree with the following [Read each one in turn and record all responses]

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| No | I am managing my money better now than I was three months ago | F2_change_1 | Disagree=0; Agree=1 |
| | I worry more about scams and fraud than I did three months ago | F2_change_2 | Disagree=0; Agree=1 |
| | I borrow more money now than three months ago | F2_change_3 | Disagree=0; Agree=1 |
| | I trust financial service providers more than I did three months ago | F2_change_4 | Disagree=0; Agree=1 |

Don't know=-97; Refused=-99

## F3 Financial knowledge

Could you tell me if you think the following are typically true or false? [Read each one in turn and record all responses. Each statement can be read twice if required. Do not elaborate or define any words]

| Filter? | Statements | Variable label | Values |
|---|---|---|---|
| No | When people talk about inflation, they mean that prices have gone up | F3_1 | False=0; True=1 |
| | Banks pay more interest on savings than they charge on loans | F3_2 | False=0; True=1 |
| | If someone offers you the chance to make a lot of money it is likely that there is also a chance that you will lose a lot of money | F3_3 | False=0; True=1 |
| | If a shopkeeper borrows money to stock her shelves, she cannot make a profit | F3_4 | False=0; True=1 |
| | It is possible to earn the same income by selling many items at a low price or selling one item at a high price | F3_5 | False=0; True=1 |

Don't know=-97; Don't understand the question=-98; Refused=-99

## F4_sent Remittance sent

The next question is about remittances. Have you, personally, sent money from one country to another in the last three months?

| Filter? | Options | Variable label | Values | Note to interviewer |
|---|---|---|---|---|
| No | No | F4_sent | 0 | Includes sending money home whilst working abroad |
| | Yes | | 1 | |

Refused=-99

## F4_pay Remittance payment

Did you consider any of the following the last time you sent money from one country to another? You can just say yes or no for each one.

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| Ask if F4_sent=1 | The speed of the transfer | F4_pay_1 | No=0; Yes=1 |
| | The exchange rate and fees | F4_ pay _2 | No=0; Yes=1 |
| | The ease of making the transfer | F4_ pay _3 | No=0; Yes=1 |

Don't know=-97; Don't understand the question=-98; Refused=-99

## F4_rec Remittance received

Have you, personally, received money from abroad in the last three months?

| Filter? | Options | Variable label | Values | Note to interviewer |
|---|---|---|---|---|
| | No | F4_rec | 0 | |
| | Yes | | 1 | |

Refused=-99

### F4_exp Remittance experience

Could you tell me whether you were happy with the following the last time you received money from abroad, please? You can just say yes or no for each one.

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| Ask if F4_rec=1 | The speed of the transfer | F4_exp_1 | No=0; Yes=1 |
| | The exchange rate and fees | F4_ exp _2 | No=0; Yes=1 |
| | The ease of collecting the transfer | F4_ exp _3 | No=0; Yes=1 |

Don't know=-97; Don't understand the question=-98; Refused=-99

### F5 Current account

And could you tell me, do you have a <current account>? This could be with a bank or credit union, for example, or with an online provider.

| Filter? | Options | | Variable label | Values | Note to interviewer |
|---|---|---|---|---|---|
| No | No | | F5 | 0 | This question refers to an account with a financial institution. Do not include accounts such as MyCash. |
| | Yes | | | 1 | |

Refused=-99

### F5_card Payment card

Do you have a <payment card> with this account? That is a card that you can use instead of cash to make payments in person or remotely.

| Filter? | Options | | Variable label | Values | Note to interviewer |
|---|---|---|---|---|---|
| Ask if F5=1 | No | | F5_card | 0 | Do not include a card that can only be used to withdraw cash, such as an ATM card |
| | Yes | | | 1 | |

Don't know=-97; Refused=-99

### F5_beh Current account behaviour

In the last 3 months, have you checked the balance of your <current> account, or made deposits or withdrawals in any of these ways: (mark all that apply).

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| Ask if F5=1 | In a branch | F5_beh_1 | No=0; Yes=1 |
| | At an ATM | F5_beh_2 | No=0; Yes=1 |
| | Via an agent (e.g. post office, local shop providing access to your account) | F5_beh_3 | No=0; Yes=1 |
| | By SMS | F5_beh_4 | No=0; Yes=1 |
| | By phone | F5_beh_5 | No=0; Yes=1 |
| Ask if F5=1 and D3_ internet =1 | With an app | F5_beh_6 | No=0; Yes=1 |
| | Online (not using an app) | F5_beh_7 | No=0; Yes=1 |

Refused=-99

### F6_1 Paying for groceries

Thinking about the last time that you bought groceries, please could you tell me how you paid? [Listen carefully to response and prompt as required. Record one response]:

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| No | Cash or <voucher/coupon/meal ticket> | F6_1 | 1 |
| | <Contactless> card (credit, debt, pre-paid) | | 2 |
| | Card payment with <chip and pin or swipe and sign> (credit, debit, pre-paid) | | 3 |
| Include if D3_internet=1 | Online card payment (credit, debit, pre-paid, virtual card) | | 4 |
| No | Payment from a <digital/mobile/electronic> wallet | | 5 |
| | Store credit/arranged to pay later | | 6 |
| Include if D1_1=1 or D1_2=1 | Payment using <airtime/phone credit> from a mobile phone | | 7 |
| No | Smartphone tap to pay (e.g. Samsung Pay, Apple Pay) or contactless sticker (e.g. Beep and Go). | | 8 |
| | QR code payment | | 9 |
| | Cryptocurrency | | 10 |
| Include if F5=1 | Automatic bill payment from your <bank> account (e.g. Direct Debit, Standing Order) | | 11 |
| No | Paid in kind or by bartered food or goods | | 12 |
| Include if D1_1=1 or D1_2=1 | SMS payment | | 13 |
| No | Sent money to a friend's phone or account for them to pay | | 14 |
| | Something else | | 111 |

Not relevant/has never shopped for groceries -96; Refused=-99

### F6_2 Paying utility bills

And how did you pay your last household utility bill such as water or electricity:

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| No | Cash | F6_2 | 1 |
| | <Contactless> card (credit, debt, pre-paid) | | 2 |
| | Card payment with <chip and pin or swipe and sign> (credit, debit, pre-paid) | | 3 |
| Include if D3_internet=1 | Online card payment (credit, debit, pre-paid) | | 4 |
| No | Payment from a <digital/mobile/electronic> wallet | | 5 |
| | Could not pay/requested a delayed payment | | 6 |
| Include if D1_1=1 or D1_2=1 | Payment using <airtime/phone credit> from a mobile phone | | 7 |
| No | Smartphone tap-to-pay (e.g. Samsung Pay, Apple Pay) or contactless sticker (e.g. Beep and Go). | | 8 |
| | QR code payment | | 9 |
| | Cryptocurrency | | 10 |
| Include if F5=1 | Automatic bill payment from your <bank> account (e.g. Direct Debit, Standing Order) | | 11 |
| Include if D1_1=1 or D1_2=1 | SMS payment | | 13 |
| No | Sent money to a friend's phone or account for them to pay | | 14 |
| | Something else | | 111 |

Not relevant/has never paid a utility bill -96; Refused=-99

**F6_3 Paying to eat out**

And the last time you bought food or drink to eat in a restaurant or take-away - how did you pay?:

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| No | Cash or <voucher/coupon/meal ticket> | F6_3 | 1 |
| | <Contactless> card (credit, debt, pre-paid) | | 2 |
| | Card payment with <chip and pin or swipe and sign> (credit, debt, pre-paid) | | 3 |
| Include if D3_internet=1 | Online card payment (credit, debt, pre-paid) | | 4 |
| No | Payment from a <digital/mobile/electronic> wallet | | 5 |
| | Store credit/arranged to pay later | | 6 |
| Include if D1_1=1 or D1_2=1 | Payment using <airtime/phone credit> from a mobile phone | | 7 |
| No | Smartphone tap to pay (e.g. Samsung Pay, Apple Pay) or contactless sticker (e.g. Beep and Go). | | 8 |
| | QR code payment | | 9 |
| | Cryptocurrency | | 10 |
| Include if D1_1=1 or D1_2=1 | SMS payment | | 13 |
| No | Sent money to a friend's phone or account for them to pay | | 14 |
| | Something else | | 111 |

Not relevant/has never bought food or drink to eat in or take away -96; Refused=-99

## Section 4 Digital finance

### DF1 DFS beliefs

This next question is about digital financial services, things like mobile payments, online banking or <digital/mobile/electronic> wallets. Please let me know your opinion, even if you don't use any of those services yourself.

| Filter? | Statements | Variable label | Values | Note to interviewer |
|---|---|---|---|---|
| No | Keep costs down for small businesses | DF1_1 | Disagree=0; Agree=1 | Costs here refers to the cost of financial services/banking |
| | Are risky for ordinary people | DF1_2 | Disagree=0; Agree=1 | |
| | Are designed for men more than women | DF1_3 | Disagree=0; Agree=1 | |
| | Will soon replace cash in this country | DF1_4 | Disagree=0; Agree=1 | |
| | Are all regulated like banks | DF1_5 | Disagree=0; Agree=1 | |
| | Make it easier to receive Government payments | DF1_6 | Disagree=0; Agree=1 | |
| | Are essential for people sending remittances | DF1_7 | Disagree=0; Agree=1 | |

**Do you agree or disagree that digital financial services:** [Read each one in turn and record all responses]

Don't know=-97; Don't understand the question=-98; Refused=-99

### DF2 Digital financial services

**And do you, personally, have any of the following?** [Read each one in turn and record all responses]

| Filter? | Options | Variable label | Values | Note to agency |
|---|---|---|---|---|
| Ask unless F5_card=1 Or any F6_1; F6_2; F6_3=2,3,4 | A payment card of any sort, including public transport card, cash card or debit card for example. | DF2_1 | No=0; Yes=1 | Add examples if needed |
| | A <parametric> insurance policy that makes automatic payments to people affected by cyclones or other climate disasters | DF2_2 | No=0; Yes=1 | |
| | Any other kind of insurance policy that you took out online or via an app | DF2_3 | No=0; Yes=1 | |
| Ask unless any F6_1; F6_2; F6_3=5 | A <digital, mobile or electronic> wallet (e.g. MyCash) | DF2_4 | No=0; Yes=1 | |
| Ask unless any F6_1; F6_2; F6_3=10 | Any kind of cryptocurrency, such as Bitcoin or Chainlink | DF2_5 | No=0; Yes=1 | |

Don't know=-97; Don't understand the question=-98; Refused=-99

• A **cryptocurrency** is a currency that only exists virtually, and uses innovative technology to provide secure transactions.

### DF3 DFS behaviours

Still thinking about digital financial services and money management, please could you tell me if you do any of the following? [Read each one in turn and record all responses] **Do you..**

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| Ask if F5=1 or any DF2=1 | Keep a record of pin numbers or passwords for financial services | DF3_1 | No=0; Yes=1 |
| Ask if D3_internet=1 | Use a banking app or online money management tool to monitor your spending and saving | DF3_2 | No=0; Yes=1 |
| Ask if D4_1=1 | Check that a website is secure before entering payment details | DF3_3 | No=0; Yes=1 |
| | Buy things using a Buy Now, Pay Later option | DF3_4 | No=0; Yes=1 |

Don't know=-97; not applicable=-98, refused=-99

**DF4 DFS outcomes**

And since accessing a financial service online or using your phone to make payments have you: [Read each one in turn and record all responses]

| Filter? | Statements | Variable label | Values |
|---|---|---|---|
| Ask if F5_beh_5=1 or F5_beh_6=1 or any F6_1; F6_2; F6_3=4,5,8,9, 10 or any DF2_2 to _5=1 | Been locked out of your account for more than a day because you couldn't remember your access details (e.g., username, password, pin number) | DF4_1 | No=0; Yes=1 |
| | Lost money because of online scams, phishing attacks or similar | DF4_2 | No=0; Yes=1 |
| | Saved money on your financial transactions by reducing fees or other costs | DF4_3 | No=0; Yes=1 |
| | Found it easier to manage your money without help from others | DF4_4 | No=0; Yes=1 |
| | Found it easier to keep track of what you are spending | DF4_5 | No=0; Yes=1 |

Don't know=-97; refused=-99

**DF4_safety Email safety**

In this next question I am going to describe a common scenario for bank customers. I would like to know your opinion at the end, please.

Sera has just received an email message from her bank. She didn't even know that the bank had her email address! She reads the message carefully. It tells her that her account has been frozen because of suspicious activity. It apologises for the inconvenience and then says she should follow the link in the email as soon as possible to reactivate the account. Sera isn't sure whether to reply to the message, delete it or follow the link.

Which of Sera's three ideas would be safest in this instance? [Read each option again if necessary and record response]

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| No | Reply to the email | DF4_safety | 1 |
| | Delete the email | | 2 |
| | Follow the link | | 3 |

Don't know=-97; Don't understand the question=-98; Refused=-99

**DF5 Cash-based check**

If I understand correctly, you don't have a bank account or digital financial service that you can use to store money or make payments. Can I check please, does this mean that you only use cash?

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| Ask if F5=0 and F6_1 =1 and F6_2 =1 and F6_3 =1 and DF2_1; DF2_4 and DF2_5=0 | No | DF5 | 0 |
| | Yes, just cash | | 1 |
| | No money use of any kind, including cash | | 2 |

Don't know=-97; refused=-99

**DF5_other Other payments**

Could you tell me what other payment methods you use besides cash, please?

| Filter? | Options | Variable label | Values | Note to agency/ interviewer |
|---|---|---|---|---|
| Ask if DF5=0 | Open ended (MAX 40 characters) | DF5_other | {TEXT} | Do not provide examples. |

Don't know=-97; refused=-99

**DF5_why Cash-based reason**

Do any of the following statements explain why you, personally, only use cash? Please choose the option that is most relevant to you. [Record or read each one in turn and record primary reason]

| Filter? | Options | | Variable label | Values |
|---|---|---|---|---|
| Ask if DF5=1 | You prefer to use cash | | DF5_why | 1 |
| | You don't have ID or proof of address | | | 2 |
| | Someone else handles non-cash transactions in your household | | | 3 |
| | You don't know how to use other payment methods | | | 4 |
| | You don't trust financial service providers | | | 5 |
| | Another reason | | | 6 |

Don't know=-97; refused=-99

**A3 Follow-up**

Would you be happy for us to contact you in 3 or 4 years to find out how things have changed?

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| No | No | A3 | 0 |
| | Yes | | 1 |

**A3_contact Contact details**

Thank you. Please could you let me know the best way to contact you to invite you to take part in the next survey?

| Filter? | Options | Variable label | Values | Note to interviewer |
|---|---|---|---|---|
| Ask if yes at A3 | | A3_contact | <open text> | Please ask for a phone number or email address. Read these details back to the respondent |

**A4 Timestamp at end**

Automatic entry, or interviewer to record date and end-time of survey

| Filter? | Options | Variable label | Values |
|---|---|---|---|
| No | | A4 | Day/Month/Year HH:MM |

*This is the end of the survey. Thank you for your participation. Do you have any questions?*

# Appendix C: Scoring Guide

| Section | Subsection | Question | Points awarded |
|---------|-----------|----------|----------------|
| **Digitalisation** (0-18 points) | Access to Digital Devices (0-5) | QD1_1. Do you have access to any of the following, <u>for personal use</u>, whether or not you currently use them? | Awarded 1 point for every type of device owned: Smartphone/mobile phone Computer/laptop or tablet Router or modem to connect devices to the internet Smart watch or smart speaker Smart TV |
| | Digital Activities (0-5) | QD2. Still thinking about technology, please can you tell me if you have personally used a digital device or electronic gadget to do any of the following in the last three months, whether for yourself or someone else? | Awarded 1 point for every action taken: Set up an alarm, reminder or alert Created, edited or saved a document or image Used Bluetooth or Airdrop Used formulas in a spreadsheet to make calculations Written programming language or code |
| | Online Activities (0-3) | QD4. I am now going to read out some more digital activities. Please could you tell me whether you have personally done any of these in the last 3 months? | Awarded 1 point for every action taken: Bought something online by shopping or gaming Sought information or guidance online Completed a government form online |
| | Digital Safety (0-5) | QD5. Please could you tell me if you agree or disagree with the following statements? | Awarded 1 point for every action taken: I take steps to keep my information safe when online My devices are locked when not in use I have virus protection on my devices I know how to block/disactivate smartphone if lost/stolen I <u>don't</u> use the same password across several accounts |
| **Financial competencies** (0-13 points) | Financial safeguards (0-5) | QF1/QF1_sav. Do you do any of the following, either alone or with someone else? | Awarded 1 point for every action taken: Make a plan to manage income and expenses Keep receipts or records of spending Buy insurance as a protection from financial shocks Put money aside for emergencies or contribute to a savings club Save or invest for the longer-term |
| | Financial attitudes (0-3) | QF2. Do you agree or disagree with the following statements? | Awarded 1 point for every action taken: <u>Disagree</u> with I tend to live for today and let tomorrow take care of itself <u>Disagree</u> with I am the kind of person who ignores the small print unless something goes wrong Agree that if I have money left over, I prefer to save it than spend it |
| | Financial knowledge (0-5) | QF3. Could you tell me if you think the following are typically true or false? | Awarded 1 point for each of the following: **True:** when people talk about inflation, they mean that prices have gone up **True:** if there's a chance to make a lot of money, it is likely that you could also lose a lot of money **True:** it is possible to earn the same income by selling many items at a low price or selling one at a high price **False:** banks pay more interest on savings than they charge on loans **False:** if a shopkeeper borrows money to stock shelves, they cannot make a profit |

| Section | Question | | Points awarded |
|---|---|---|---|
| **Digital financial competencies** (0-9 points) | DFS behaviour (0-3) | DF3. Still thinking about digital financial services and money management, please could you tell me if you do any of the following? | Awarded 1 point for every action taken: <u>Don't</u> keep records of pin numbers/passwords for financial services<br>Use a banking app/online money management tool to monitor spending and saving<br>Check that a website is secure before entering payment details |
| | DFS attitudes (0-4) | DF1. Please let me know your opinion, even if you don't use any of those services yourself. Do you agree or disagree that digital financial services: | Awarded 1 point for each of the following: Agree that DFS keep costs down for small businesses<br>Agree that DFS make it easier to receive government payments<br>Disagree that DFS are risky for ordinary people<br>Disagree that DFS are designed for men more than women |
| | DFS knowledge (0-2) | DF1. Do you agree or disagree that digital financial services:<br>DF4. Which of <Sera's> three ideas would be safest in this instance? | Awarded 1 point for each of the following: Disagree that DFS are all regulated like banks<br>Agree that Sera deleting the email would be the safest option |
| **Desired outcomes** (0-12 points) | Financial wellbeing (0-3) | QF2. Do you agree or disagree with the following statements? | Awarded 1 point for each of the following: <u>Not</u> often worried that my money won't last<br>Has some money to spend on myself from time to time<br>Agree that in 5 years I will be financially stable |
| | Improved outcomes (0-4) | QF2_change. And thinking about the last three months, do you agree or disagree with the following? | Awarded 1 point for each of the following: Managing money better now than three months ago<br>Trust financial service providers more than three months ago<br><u>Don't</u> worry more about scams and fraud than three months ago<br><u>Don't</u> borrow more money now than three months ago |
| | DFS contribution to wellbeing (0-5) | QDF4. And since accessing a financial service online or using your phone to make payments have you: | Awarded 1 point for every action taken: Saved money on financial transactions by reducing fees/costs<br>Found it easier to manage your money without help from others<br>Found it easier to keep track of spending<br><u>Haven't</u> been locked out of account for more than a day due to forgetting access details<br><u>Haven't</u> lost money because of online scams |

## About UNCDF

UNCDF makes public and private finance work for individuals living in poverty in the world's 46 least developed countries. UNCDF has launched the "Leaving No One Behind in the Digital Era" strategy to equip people in the Pacific region with access to and the ability to use innovative digital services in their daily lives, encouraging an Inclusive Digital Economy. UNCDF's financing models work through three channels: 1) inclusive digital economies, which connects individuals, households, and small businesses with financial eco-systems that catalyse participation in the local economy and provide tools to climb out of poverty and manage financial lives; 2) local development finance, which capacitates localities through fiscal decentralization, innovative multiple finance, and structured project finance to drive local economic expansion and sustainable development; and 3) investment finance, which provides catalytic financial structuring, de-risking, and capital deployment to drive Sustainable Development Goals (SDG) impact and domestic resource mobilization.

## About Tebbutt Research

Tebbutt Research has partnered with UNCDF in its efforts to design and implement a digital and financial literacy study in seven Pacific Island nations. Tebbutt Research specializes in conducting market and social research in Pacific Island countries and Timor-Leste. Its social research portfolio includes work in digital and financial inclusion. UNCDF has provided a grant to Tebbutt Research to undertake the data collection, analysis, and reporting for the 2022 project.