



Impact Capital
for Development



ASSESSING DIGITAL AND FINANCIAL LITERACY IN TONGA

A Survey on Knowledge,
Skills and Access



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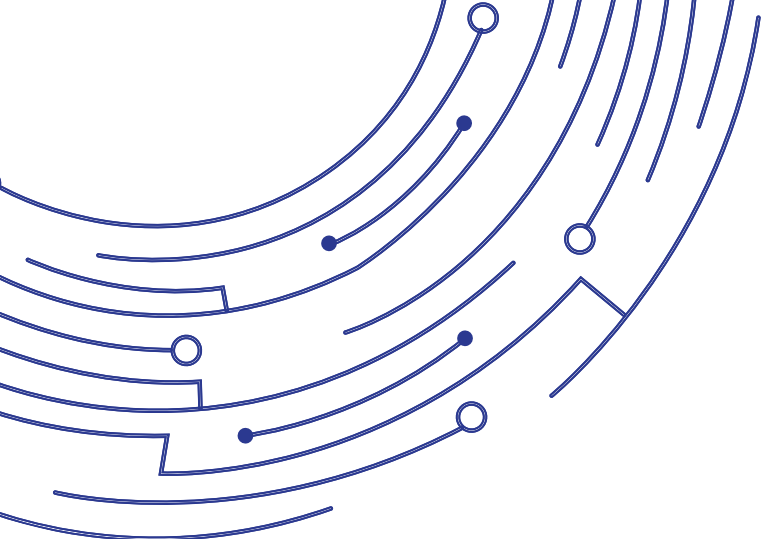
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List of Acronyms and Designations

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
TOP	Tongan Pa'anga
TCC (U-Call) and Digicel	Mobile networks operating in Tonga
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:

Tongans and **Tongan adults** refer to individuals aged 15 to 74 years living in Tonga.

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 Tongans aged 15 to 74 years of age.

Youths refers to Tongans aged 15 to 24 years.

Older Adults refers to Tongans aged 45 to 74 years.

High(est) income earners refer to Tongans who say they and their partner have access to a combined income of 478 Tongan Tālā or greater fortnightly. Income categories are based on a percentage of GNI.

Low(est) income earners refer to Tongans with a combined fortnightly income (personal income plus income from a spouse/partner) of less than 95 Tongan Tālā.

Formal employment 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.

Note on Significance Testing

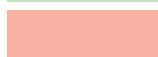
Shading indicates statistically significant differences between the sub-group (e.g., females) vs the total (average) result at the 95% confidence level. We have used a two-tailed Z-test, $p \leq 0.05$.

To further clarify, 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.



Significantly greater than the average



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 and Financial Literacy Index Scores

Tongans 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.

In the Digital and Financial Literacy (DFL) Index scores Tongans achieved a mean score of 23.22 points out of a possible 52 points on a DFL index devised for the purposes of this study, substantiating the need for comprehensive digital and financial literacy programs in Tonga.¹ Moderate levels of DFL are in large part a result of more limited uptake of digital financial services (DFS) thus far, as well as familiarity and engagement with practical safeguards for DFS use.

Digital and financial literacy in Tonga tracks closely with age, region, educational attainment, and socio-economic status. Tongans aged 25 to 44 years, higher-educated, and higher-income Tongans perform higher on all measures than their older and lower-SES counterparts. Tongans who live on the main island (23.57) and those in Ha'apai (25.08) have significantly greater DFL scores than those that live in 'Eua (20.60) or Vava'u (21.34). Targeted interventions for strengthening DFL are required to address these gaps.

Overall DFL index scores are similar between Tongan women and men. Tongan men and women do not differ substantially in their approach to budgeting and savings behaviours, their financial knowledge, or digital savvy. The one exception being digitalisation; older (aged 45 to 74 years) and rural women register lower levels of access to some digital devices (other than smartphones) and participate in online activities at lower rates than counterpart groups. That said, women, including rural women, demonstrate relatively equal levels of financial competencies as Tongan men.

Financial Inclusion and Literacy

Tonga's economy remains largely cash-based with limited uptake of traditional payment services, let alone digital financial services.

Almost all Tongans report having used cash for their most recent grocery purchase (97%), meal out (97%), or utility bill payment (96%). Just 3% of Tongans at most, used a payment card to pay for any of the aforementioned transactions; with very few paying with a digital or mobile wallet or via an online card or automatic payment. With regards to financial inclusion, ownership of a financial service or payment product is largely comprised of current accounts (54%), rather than a digital financial service. Payment services other than a current account accessed and used by Tongans include: a payment card of any sort, including public transport card or debit card (32% payment card of any sort), a payment card associated specifically with a current account (29% of all Tongans, 54% of current account holders), a digital/electronic/mobile wallet (4%), or cryptocurrency (1%).

The majority of Tongans participate in some level of budgeting and savings behaviour

Three-in-five Tongans (62%) put aside money for emergencies. On the other hand, very few Tongans use digital tools to aid with financial management. 42% participate in informal savings and loans clubs, men are significantly more likely to contribute to savings and loans clubs than women (+7 percentage points), with rural women least likely to contribute to savings and loan clubs in Tonga. Savings behaviours (and ability to save) over the short – and long-term also track closely with educational attainment and income. The vast majority of Tongans (69%) insist they budget or make plans to manage their income and expenses. In practice, half (52%) track their finances by keeping receipts or recording their spending.

Digital Integration

Access to smartphones is high in Tonga though far from universal among some groups; Internet access and most digital transactions are conducted on smartphones with lower levels of Tongans having access to other digital devices.

Upwards of four-in-five Tongan adults (85%) have access to a smartphone for personal or work use, either their own or belonging to someone else. Smartphones comprise the most accessible digital device by a wide margin, with other digital devices – tablets or computers (48%), smart watches or speakers (23%), Internet routers or modems (21%), or smart TVs (20%).

Access to digital devices (smartphones) and available Internet connections outpace digital proficiencies and levels of confidence engaging with digital tools.

Half (50%) worry that technology is leaving them behind and participation in online activities, including finance-related activities, is limited beyond news and social media consumption. Two-in-five Tongan adults learned something from an online video or course (38%). Just 18% of Tongans bought something online; 11% completed or submitted a government form online; and 11% searched online for information about money matters.

Tongans cite the cost of connections as a limiting factor in internet usage, especially for those in the rural areas.

¹ Low is defined as scoring between 0 and 12 points and high between 40 and 52 points in the DFL Index scoring.

Cost (34%) and connection quality/stability (36%) pose the greatest obstacles to regular Internet use for roughly one-third of Tongans. Cost and the quality or availability of Internet or mobile data services pose even greater obstacles to accessing the Internet than concerns about the security of Internet services available (26%).

Uptake of digital security practices – on – or off-line – varies considerably depending on the practice.

Just 32% of Tongans with access to a smartphone, tablet, or computer say the devices they use have virus protection. One-third (33%) of Tongan Internet users reuse passwords across online accounts. Given low usage of financial services – traditional or digital – password usage may be largely limited to social media accounts, and education in this area may be largely pro-active rather than reactive.

Perception about Digital Financial Services

Local economies remain cash-based

Few Tongans use DFS to complete day-to-day financial transactions or for financial management purposes. Common purchases – groceries, meals out, and the payment of utility bills – are near universally transacted in cash. With regards to the use of DFS for the purposes of financial management, just 7% of Tongans use banking apps or online money management tools to monitor their spending and saving.

Among Tongans who own current accounts and access the Internet, 5% use banking apps and 10% go online (not using an app) to check account balances, withdraw, or deposit funds associated with their account.

This indicated there is considerable room for growth in knowledge and comfort for wider adoption of digital payments, especially merchant payments for daily transactions.

Tongans 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.

Tongans generally worry about their ability to keep up with evolving technologies (50% agree with the statement, “I feel like technology is leaving me behind”), as well as their ability to manage or mitigate risks associated with the use of digital financial tools. With regards to the latter, survey data indicates lagging trust in digital financial tools, but may also speak to levels of personal confidence using DFS.

Nevertheless, there is acknowledgement that digital financial services are the ‘way of the future’; and are both beneficial and essential to many Tongans, particularly small business owners and Tongans who send remittances. Half of Tongans (55%) agree digital financial services like mobile payments, online banking, and digital wallets will soon replace cash in Tonga. Two-thirds agree digital financial services are essential for people sending remittances (65%) and help keep costs down for small businesses (63%).

DFS Outcomes and Education

Most Tongans (80%) have not completed a mobile or digital financial transaction to experience either the positive benefits or unintended negative outcomes of DFS use.

Amongst the 20% of Tongans who have completed a financial transaction via a mobile phone or used an online financial service, DFS users are more likely to have experienced positive benefits of DFS usage to date. DFL interventions will need to promote the potential benefits of DFS usage, including cost savings, to a potentially sceptical audience.

Education is required to ensure efficient and safe uptake of DFS for all Tongans. While Tongans have general concerns about their ability to use and the risks associated with DFS, they are only somewhat familiar of what specifically to look out for in their online financial dealings specifically and with regards to online safety more broadly.

Leveraging online resources and channels are essential to deliver digital financial education for Tongans.

Financial education, including digital financial education, can be delivered online to a significant portion of the population given that 49% of Tongans learned something from an online video or course in the three months prior to completing the survey. But the survey does also show that participation in online learning tools drops to 37% among rural women (while peaking at 59% among women living in urban areas). Just 22% of Tongans would trust an automated service to provide financial advice, underscoring a general wariness towards and lack of trust in some financial tools.

This illustrates the evolving opportunities of greatly improving and **leveraging online resources and channels to promote digital and financial literacy to Tongans**. That said, face-to-face education will likely need to occur in conjunction with online education to cover the full spectrum of Tongan society, particularly population segments with limited access to internet and digital devices.

Background and Introduction

If harnessed properly, the growing availability and use of digital financial services (DFS) worldwide provide unique capital-building tools and resources for fighting poverty in countries and regions where there are significant barriers to accessing traditional financial services, particularly amongst marginalized and low-income groups. The United Nations Capital Development Fund Pacific Digital Economy Programme (UNCDF PDEP) recognize the opportunity to and importance of harnessing digital financial services to help Pacific Island countries build capital and grow their economies over the long-term. As such, a focus on improving the digital and financial literacy (DFL) of all population segments is essential in contributing to a more strengthened consumer protection and resilience of the people of Tonga.

The Government of Tonga 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, rather than detriment, of their financial health and well-being. So, the Government of Tonga is finalizing the Tonga National Financial Inclusion Strategy xxxx having 'Consumer Protection and Financial Competencies' as one of the four core strategic objectives, with the aim of integrating financial literacy into the product design and service delivery by Financial Service Providers (FSPs) and increase awareness about the product and services including digital financial services.

In this context, it is essential to assess the status of financial and digital literacy in Tonga to design and implement evidence backed interventions. To date however, efforts to improve digital and financial literacy and implement target interventions have been significantly challenged by a lack of updated DFL data in Tonga and other Pacific Island countries on which to base these efforts and track the progress. To address this gap, UNCDF PDEP partnered with Tebbutt Research to conduct Digital and Financial Literacy Survey in Tonga and six other Pacific Island Countries (Papua New Guinea, Fiji, Vanuatu, Samoa, Timor-Leste and Solomon Islands) to assess the current state 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 digitalization and finance.

The survey findings will be used to develop and implement targeted interventions for improving digital financial competencies among women, MSMEs, youth, migrant workers, and rural communities. The survey results are intended to serve as a baseline from which future changes in competencies, access, and usage can be measured by the regulators and development partners.

Methodology

Survey Methodology

UNCDF and UNDP, under its joint Pacific Digital Economy Programme, partnered with Tebbutt Research to roll out and conduct the Digital and 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 Tonga.



1,212
Tongans
interviewed

with individuals
aged 15-74 years



60%
Face-to-face
interviews

- Computer Assisted Personal Interviewing (CAPI)
- Proportional to Size (PPS) Methodology



40%
via Mobile
Telephones

- Computer Assisted Telephone Interviewing (CATI)
- Random Digit Dialing (RDD) Methodology

The telephone portion of the field took place between 27 August and 20 September 2022. Face-to-face interviewing took place between 24 September and 18 October 2022. Average interview length was 20 minutes. Interviews were administered in Tongan and English.

Using the most recently available population data from the Tonga 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 $\pm 2.8\%$ 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 47.2% to 52.8%. 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	‘Eua	Ha‘apai	Ongo Niua	Tongatapu	Vava‘u
Men 15-24 years	10,573	433	477	70	8,386	1,207
Men 25-34 years	7,193	287	340	44	5,718	804
Men 35-44 years	6,076	278	314	44	4,626	814
Men 45-54 years	4,453	200	222	49	3,384	598
Men 55+ years	5,869	292	351	76	4,225	925
Women 15-24 years	10,132	393	427	59	8,000	1,253
Women 25-34 years	7,913	339	348	47	6,289	890
Women 35-44 years	6,268	260	293	48	4,845	822
Women 45-54 years	4,419	213	224	46	3,343	593
Women 55+ years	6,642	289	337	64	4,934	978

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 Tonga 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. In Tonga and other higher mobile ownership countries the remaining 15% of interviews were completed by CATI (and by CAPI in lower mobile ownership countries). Mobile penetration is calculated at 106.7% in Tonga (DataReportal, 2022). Mobile ownership is calculated as the percentage of mobile phone subscribers amongst the general population. Data for mobile penetration exceeds 100% in some countries, including Tonga, as a result of dual or multiple-SIM ownership amongst some individuals.

Survey Questionnaire

The questionnaire 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 and 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.² 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 Tonga.

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.

² 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

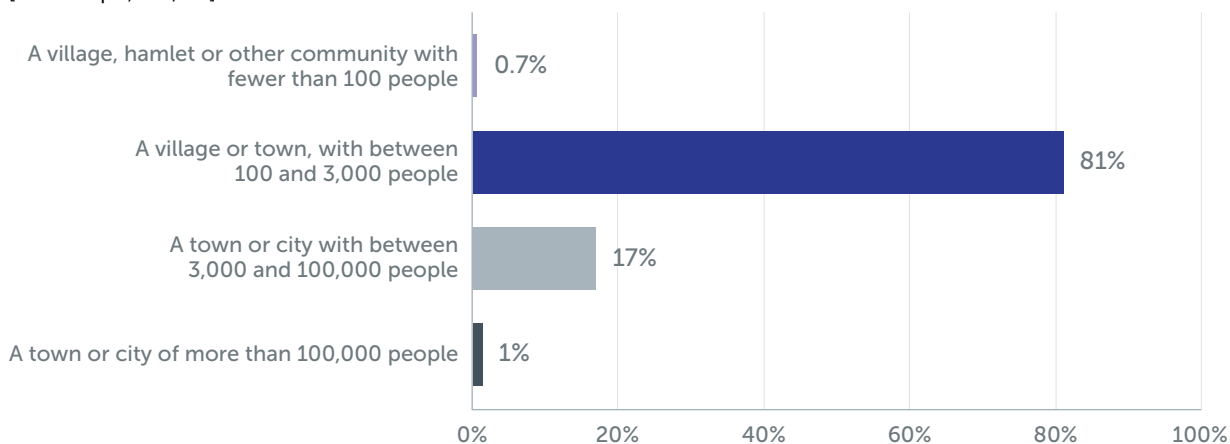


Region	Percentage of Sample
'Eua	4%
Ha'apai	5%
Tongatapu	78%
Vava'u	13%



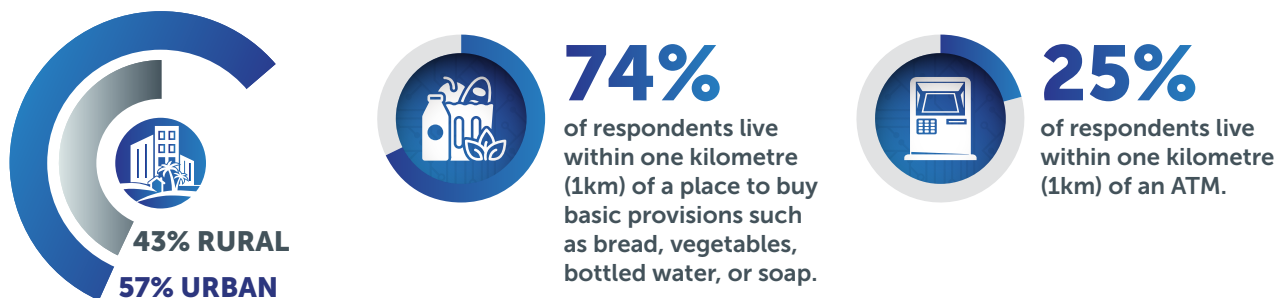
Graph 1: Town or Village³

[Total sample, n=1,212]

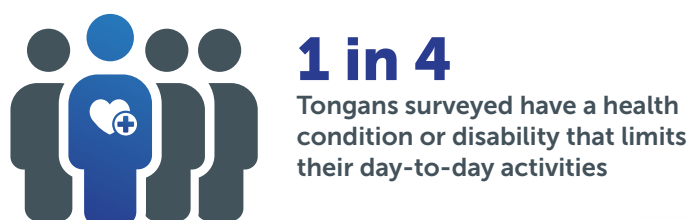
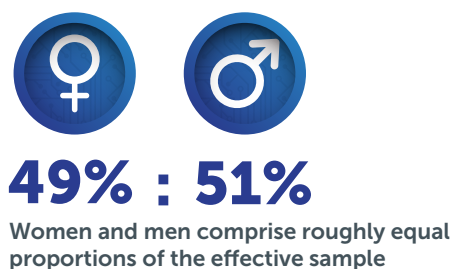
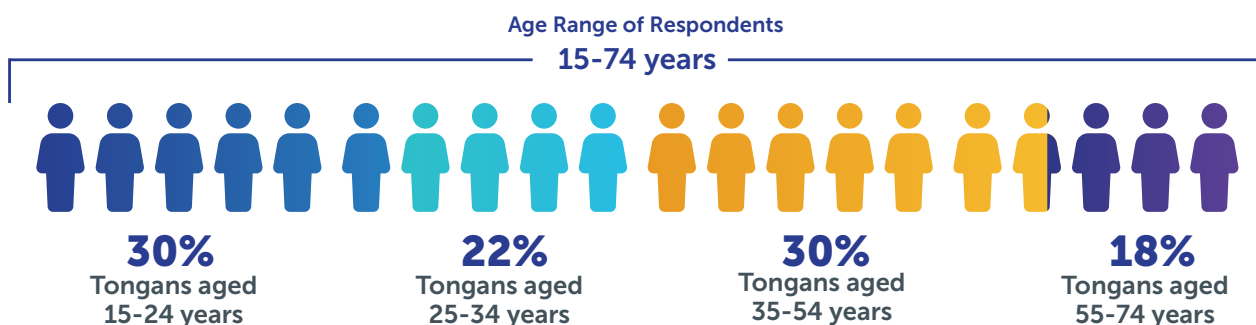


³ The most recent data available from the World Bank (2021) indicates that 77% of the Tongan population currently lives in a rural area: <https://data.worldbank.org/indicator/SP.UR.TOTL?locations=TO>. The World Bank qualifies its urban-rural classifications with the following note: "There is no universal 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)."

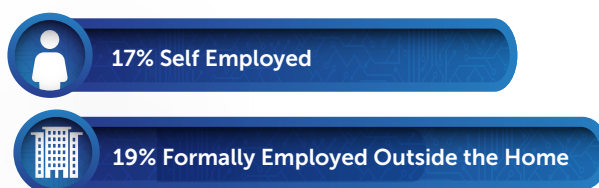
Graph 2: Density⁴
[Total sample, n=1,212]



Demographic Characteristics



38%
Tongans work outside the home



⁴ 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 and Financial Literacy Index Scores

Tongans 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:



DFS Outcomes



Digitalisation



Digital Financial competencies



Financial competencies

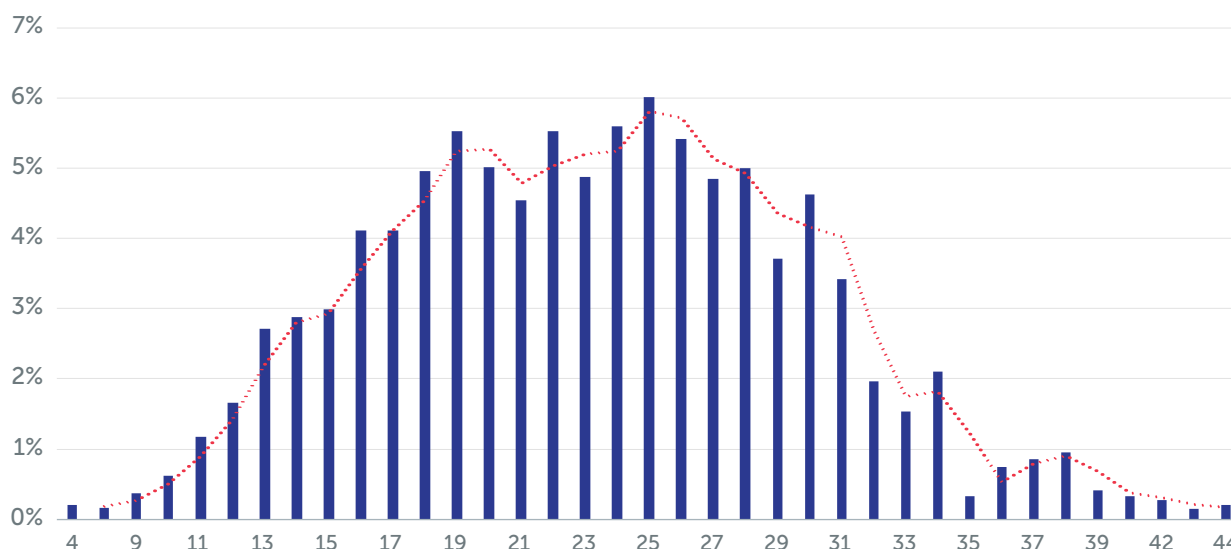
DIGITAL AND FINANCIAL LITERACY SCORE

Tongans achieve a mean score of 23.22 out of 52 points

The majority of Tongans (64%) achieve DFL (digital and financial literacy) scores which fall in the moderate category, achieving an overall score of between 13 and 26 points. A very small percentage of Tongans score on the low (4%) or the high end of the DFL index (1%). Low is defined as scoring between 0 and 12 points and high between 40 and 52 points. Three-in-ten (31%) achieve an above average score of between 27 and 39 points.

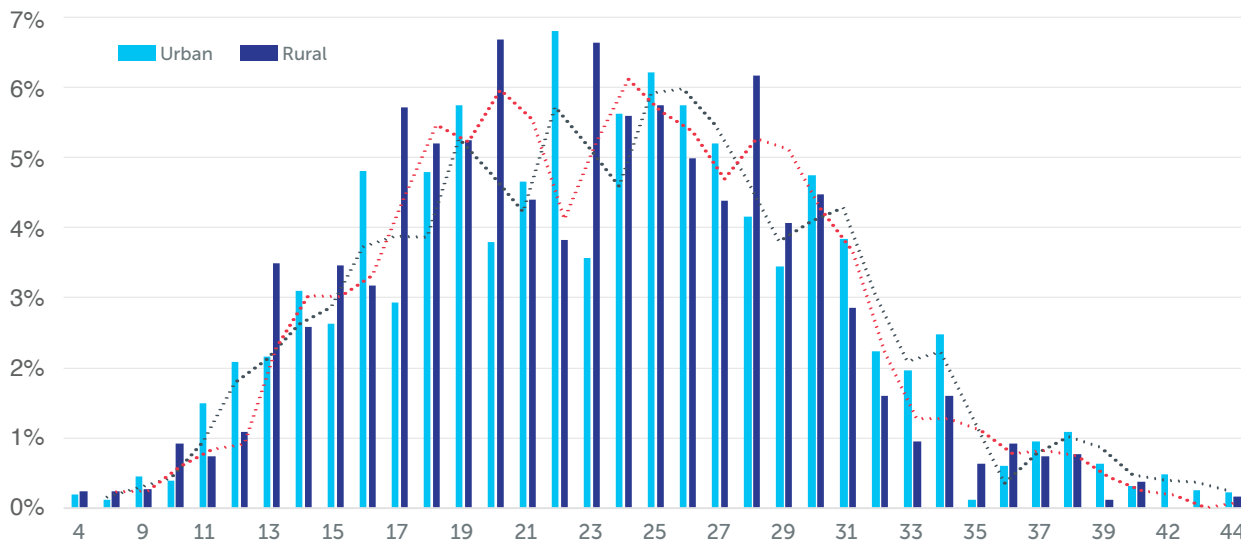
Graph 3: Scoring Distribution

[Total sample, n=1,212]



Graph 4: Scoring Distribution by Density

[Total sample, n=1,212]



Use of mobile and 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 one-in-five Tongans access an online financial service or use their mobile phone to complete financial transactions.

Tongans are near universal in their use of cash to pay for day-to-day transactions such as groceries, eating out, or paying utility bills. But while relatively few Tongans currently use DFS to manage financial transactions, increased uptake over the long-term has the potential to substantially address financial inclusion (for the positive) and provide savings opportunities over the short – and long-term.

Digital and financial literacy in Tonga tracks closely with age, region, educational attainment, and socio-economic status. Tongans aged 25 to 44 years, higher-educated, and higher-income Tongans perform higher on all measures than their older and lower-SES counterparts. Tongans who live on the main island (23.57) and those in Ha'apai (25.08) have significantly greater DFL scores than those that live in 'Eua (20.60) or Vava'u (21.34).

For the most part, data differences between subgroups exist in relation to all measures – digitalisation, financial competencies, digital financial competencies, and outcomes. However, at the generational level, Tongans between the ages of 15 and 24 years score significantly lower in the area of financial competencies than Tongans overall, whereas adults aged 45 to 74 years, particularly older women, score significantly lower in relation to digitalisation (and digital access) specifically. Persons with also score significantly lower for DFL than the overall population largely as a result of significantly lower levels of digital access – both access to a smartphone and the Internet.

Tongans most likely to achieve above-average or high total DFL scores (32% of all adults) include self-employed Tongans (39%)⁵, Tongans aged 25 to 34 years (40%), Tongans with a university or degree-level education or higher (53%), Tongans with formal employment outside the home (53%), and higher-income earners (43%)⁶.

Overall DFL index scores are similar between Tongan women and men. Tongan men and women do not differ substantially in their approach to budgeting and savings behaviours, their financial knowledge, or digital savvy. The one exception being digitalisation; older (aged 45 to 74 years) and rural women register lower levels of access to some digital devices (other than smartphones) and participate in online activities at lower rates than counterpart groups. That said, **women, including rural women, demonstrate relatively equal levels of financial competencies as Tongan men.** Nonetheless, increasing access to financial products as well as digital technologies for women will continue to be as important to overall financial health as improving DFL.

That said, **safe and efficient uptake of DFS will require access, education, and repeated use.** There is a need to increase access to and ownership of digital devices such as smartphones; educate around safe online behaviours; and promote 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 most likely require basic, foundational skills given their inability to engage with DFS at the present time. Even amongst Tongans who engage with DFS however, more information is required to ensure safe and efficient uptake of digital financial services as DFS become more widely available and used across the whole of Tongan society. Data clearly substantiates the need for comprehensive, multi-faceted digital and financial literacy programs in Tonga.

For a more detailed snapshot of DFL index performance by geographic and demographic subgroups, see Appendix 1, Part 1.

⁵ Roughly 60% of small business owners who manage employees achieve an above average (score of 27-39 points out of a possible 52 points) or high DFL score (score of 40-52 points). Note, the sample of small business owners with employees is small (n=29).

⁶ Defined as individuals who along with their spouse or partner, earn upwards of 571 TOP fortnightly.

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 Tongans.

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 subcomponent of the overall Digital and Financial Literacy Index described at the outset of this report.

Access to smartphones is high in Tonga though far from universal among some groups; Internet access and most digital transactions are conducted on smartphones with lower levels of Tongans having access to other digital devices.

Upwards of four-in-five Tongan adults (85%) have access to a smartphone for personal or work use, either their own or belonging to someone else. More than seven-in-ten Tongan adults across all demographic and geographic subgroups have access to a smartphone, with the exception of retirees (63%).

Smartphones comprise the most accessible digital device by a wide margin, with other digital devices – tablets or computers (48%), smart watches or speakers (23%), Internet routers or modems (21%), or smart TVs (20%) – accessible to fewer, though still substantial numbers of, adults. Tongan adults are almost twice as likely to have a smartphone (85%) than a mobile phone that is only used for calls or texts (46%).

Access to digital devices (smartphones) and available Internet connections outpace digital proficiencies and levels of confidence engaging with digital tools. Despite most Tongans having access to a smartphone (85% access) and or having used the Internet (78% have gone online), half (50%) worry that technology is leaving them behind, including a majority of self-employed Tongans (68%). Moreover, participation in online activities, including finance-related activities, is limited beyond news and social media consumption. Two-in-five Tongan adults learned something from an online video or course (38%), which drops to 29% among rural women. Just 18% of Tongans bought something online; 11% completed or submitted a government form online; and 11% searched online for information about money matters.

Uptake of digital security practices – on – or off-line – varies considerably depending on the practice. Results more likely highlight gaps in information – a lack of familiarity with digital safety measures – than an ambivalence towards digital security. Pro-active use or awareness of existing virus protection on devices, smartphones and tablets or computers, comprises the most obvious vulnerability tested in the survey. Just 32% of Tongans with access to a smartphone, tablet, or computer say the devices they use have virus protection. One-third (33%) of Tongan Internet users reuse passwords across online accounts. Given low usage of financial services – traditional or digital – password usage may be largely limited to social media accounts, and education in this area may be largely pro-active rather than reactive. Nevertheless, social media provides a wealth of personal information and is even used to create alternative credit scores in some jurisdictions, so steps should be taken to protect this data.

Access to and usage of digital devices and the Internet

As a lower-middle-income country, mobile phone penetration is relatively high in Tonga compared with other Pacific Island countries, and even wealthy nations like Australia. Mobile phone penetration is estimated at 106.7% in Tonga or 114,500 cellular mobile connections out of a total population of roughly 107,000 Tongans. By most recent counts, there are 44,200 Internet users in Tonga, covering 41% of the population.⁷ Counts of 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 taking into account multiple device ownership amongst individual users. As the table below indicates, mobile phone penetration, a baseline indicator of digital access, is higher in Tonga than in Pacific Island countries such as Papua New Guinea, Samoa, and the Solomon Islands, but lower than in Fiji where penetration is highest.

⁷ <https://datareportal.com/reports/digital-2022-tonga>

Table 1: Mobile Penetration by Country

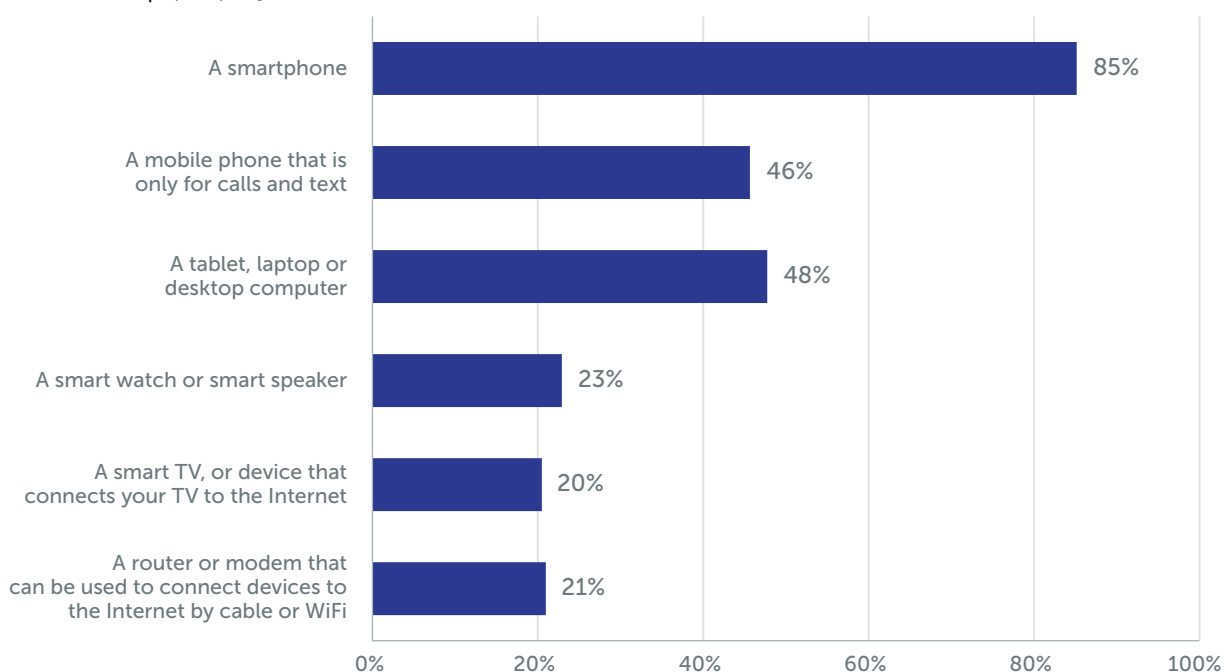
Country	Mobile Penetration (SIM connections/pop) ^{8,9} Source: DataReportal 2022
Australia ¹⁰	123%
Fiji	144.4%
Kiribati	54.2%
PNG	36.0%
Samoa	73.9%
Solomon Islands	71.9%
Timor-Leste	108.4%
Tonga	106.7%
Vanuatu	102.8%

More than four-in-five Tongan adults (85%) have access to a smartphone for personal or work use, either their own or belonging to someone else. Smartphones comprise the most accessible digital device by a wide margin, with other digital devices – tablets or computers (48%), smart watches or speakers (23%), Internet routers or modems (21%), or smart TVs (20%) – accessible to far fewer Tongans. Tongan adults are almost twice as likely to have access to a smartphone (85%) than they are a mobile phone that is only used for calls or texts (46%).

Access to smartphones in Tonga is high across demographic and geographic groups but drops off considerably amongst the oldest cohort group compared to working-age adults. Tongans aged 45 to 74 years (75% have access to a smartphone and 46% a mobile phone for calls and texts only), retirees in particular (63%), access smartphones at a significantly lower rate than Tongans aged 15 to 44 years (89% among Tongans aged 15 to 24 years and 91% among Tongans aged 25 to 44 years). Smartphone access is also significantly lower among Tongans with a middle school education or less (74%) compared to higher-educated adults (93% among Tongans with a university – or degree-level education). Nonetheless, access to smartphones is still high amongst these and other cohort groups. This includes 77% of individuals living with disability who have access to a smartphone.

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=1,212]



⁸ These figures may under-report because they are based on total populations and are not restricted to teens/adults.

⁹ Mobile phone penetration rates above 100% are due to dual sim ownership.

¹⁰ Australia is included as a benchmark for comparison between high-, middle- and lower-income economies.

Access to digital devices other than smartphones varies significantly by age, region of the country, educational attainment, and socio-economic status. Individuals with a middle school education or less, lower-income, and older Tongans (aged 45 to 74 years) are considerably less likely to have access to tablets/computers or smart devices other than a phone, than their higher-educated, higher-SES, and younger counterparts.

The aforementioned demographics are greater determinants of access to digital devices than gender. Men and women under 45 years of age are significantly more likely to have access to a tablet or computer than adults aged between 45 and 74 years. Differences in urban-rural access are evident with regards to ownership of/access to smart devices – watches, speakers, and TVs – and routers or modems more so than smartphones and tablets, laptops, or computers.

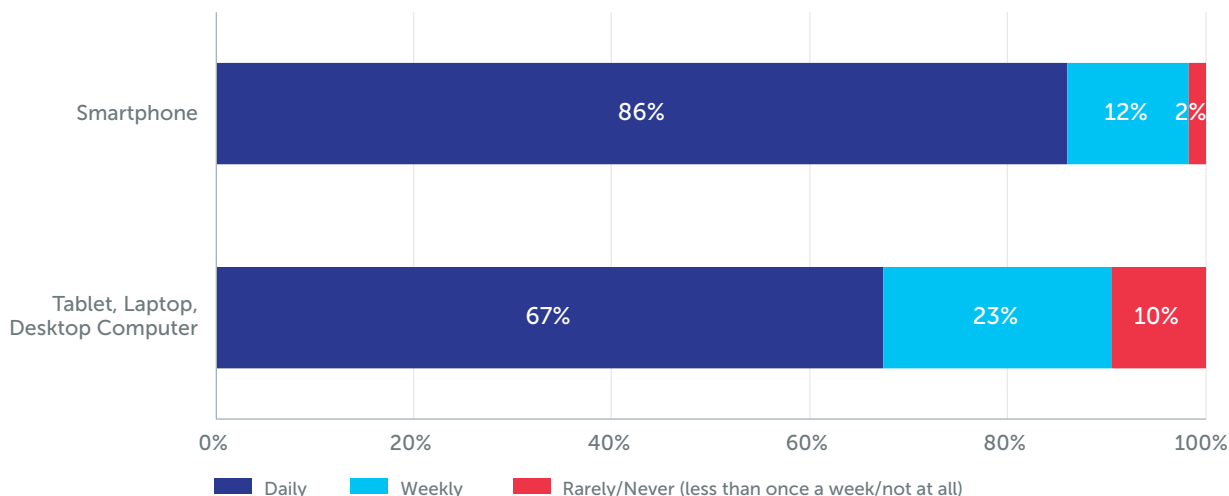
Regionally, access to digital devices other than smartphones is considerably lower outside of Tongatapu than on the main island. To see further breakdown of the access to digital devices by density, region, gender and educational attainment, refer to Appendix A, Part 2.

Access to and regular use of smartphones is relatively high in Tonga, though far from universal. Seven-in-ten Tongans aged 15+ years (73%) use a smartphone daily. Another one-in-ten (10%) use a smartphone weekly (anywhere from once to several times a week). One in five Tongans (16%) use a smartphone rarely or never¹¹. Amongst those with personal or household access to smartphones, frequency of use climbs higher; the vast majority of Tongans with access to devices use their smartphones daily, most multiple times a day (81% multiple times a day, 5% once a day). Another one-in-eight (12%) use a smartphone several times a week, reflecting the shared nature of these devices within some households. A scant 2% of those who can access a smartphone do so rarely or never. It can be inferred that individuals who use their devices multiple times a day, 81% of smartphone users, personally own the devices they use.

Usage of computers or tablets in Tonga (and elsewhere in the Pacific) is less common than smartphone usage, though just under half of Tongans (48%) access a computer or tablet for personal or professional use. One-third of Tongans (32%) use a tablet or computer daily; another 11% use a computer weekly (anywhere from once to several times a week). A full three-in-five (57%) use a computer rarely (just 2%) or never (55%).¹² Among tablet and computer users – 48% of the population – the majority (67%) uses their computer daily, 23% weekly, and while they may have access, 10% use a tablet or computer less than once a week or never.

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=1,034 smartphones and n=580 computers]



Tongans between 15 and 34 years of age, Tongans with a university – or degree-level education, students, small business owners with employees¹³, those with formal employment arrangements outside the home, and Tongans with fortnightly incomes exceeding \$571 Tongan dollars (the highest income bracket captured)¹⁴ are most likely to access a tablet or computer and to use those devices on a regular basis compared to other cohort groups.

11 Calculated amongst all Tongans [n=1,212].

12 Calculated amongst all Tongans [n=1,212].

13 Small sample size [n=29]

14 Income brackets were calculated as percentage of GNI and include combined personal and spousal income.

Table 2: Access to Tablet or Computer and Frequency of Use

D1_3. Do you have access to [a tablet, computer, or desktop computer], for personal use, whether or not you currently use them? This could be at home or at work. [Total sample, n=1,212]

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=580]

% Yes (Shading where $p \leq 0.05$)	Total	University+	Student	Formal Employment	Higher Income (571+TOP)
Total access to a tablet, laptop, or desktop computer	48	71	64	66	61
Several times a day	55	62	59	58	57
Once a day	12	13	9	13	11
NET Daily	67	75	68	72	68
Several times a week	21	16	26	22	16
No more than twice per week	2	1	0	2	1
Less than once a week	4	4	3	3	5
Not at all	5	4	3	1	9

Internet use in Tonga is relatively high, with 78% of Tongans confirming they have (ever) used the Internet, and 66% who use the Internet daily. Kepios, a data warehousing service providing global data on mobile, Internet, and social media usage, estimates there were 44,200 Internet users in Tonga in January 2022, which would account for approximately two-thirds (64%) of the population aged 15 to 74 years.¹⁵ With only 21% of Tongans aged 15 to 74 years reporting access to an Internet router or modem, it is likely that most Tongans access the Internet via a smartphone rather than some other digital device. Two-thirds of Tongans aged 15 years or older (66%) use the Internet daily, either several times (59%) or at least once a day (7%). More than four-in-five Internet users (85%) go online daily. Another 11% of Tongans use the Internet weekly (once to several times a week). One-quarter (23%) use the Internet rarely (1%) or not at all (22%).

Similar to patterns around device ownership and access, Internet use varies significantly by region of the country, age, educational attainment, and socio-economic status: Internet usage decreases with age. Close to nine-in-ten men and women between the ages of 15 and 44 years (87% and 86%, respectively) use the Internet, whereas only half of adults between 45 and 74 years of age use the Internet (59% amongst older males and 54% amongst older females). Internet usage is almost one and a half times as high among university-educated Tongans (89%) and those with a secondary school education (84%) than Tongans with a middle school education or less (60%). More broadly, Tongans living in urban (76%) and rural areas (79%) report similar levels of Internet use, whereas Vava'u residents (64%) specifically report significantly lower levels of Internet use than Tongans in 'Eua (81%), Ha'apai (79%), or on the main island of Tongatapu (79%).

For a more detailed snapshot of internet access and frequency of use by demographic and geographic subgroups, refer to Appendix A, Part 2.

Cost (34%) and connection quality/stability (36%) pose the greatest obstacles to regular Internet use for roughly one-third of Tongans, though the majority of Tongans aged 15 to 74 years (66%) still access the Internet daily. Cost and the quality or availability of Internet or mobile data services pose even greater obstacles to accessing the Internet than concerns about the security of Internet services available (26%). Note, the study did not further elaborate on security concerns and whether privacy/surveillance and/or potential data breaches fuel concerns. Cost and connection concerns are somewhat higher in rural (38% cost, 39% quality of available connections) than urban areas (31%, 34%). Urban-rural differences are significantly wider when comparing urban and rural men; rural men (41%) are fourteen points more likely to identify cost as a barrier to Internet access than men living in urban areas (27%). Men aged 25 to 44 years, are also more likely to identify cost (45% among men aged 25 to 44 years, 34% among all Tongans), quality (45%, 36%), and security (36%, 26%) as barriers to Internet use than younger and older cohort groups. Young men aged 15 to 24 years are least likely to worry about the security of the Internet connections they use (17%).

¹⁵ <https://datareportal.com/reports/digital-2022-tonga>

Attitudes towards technology

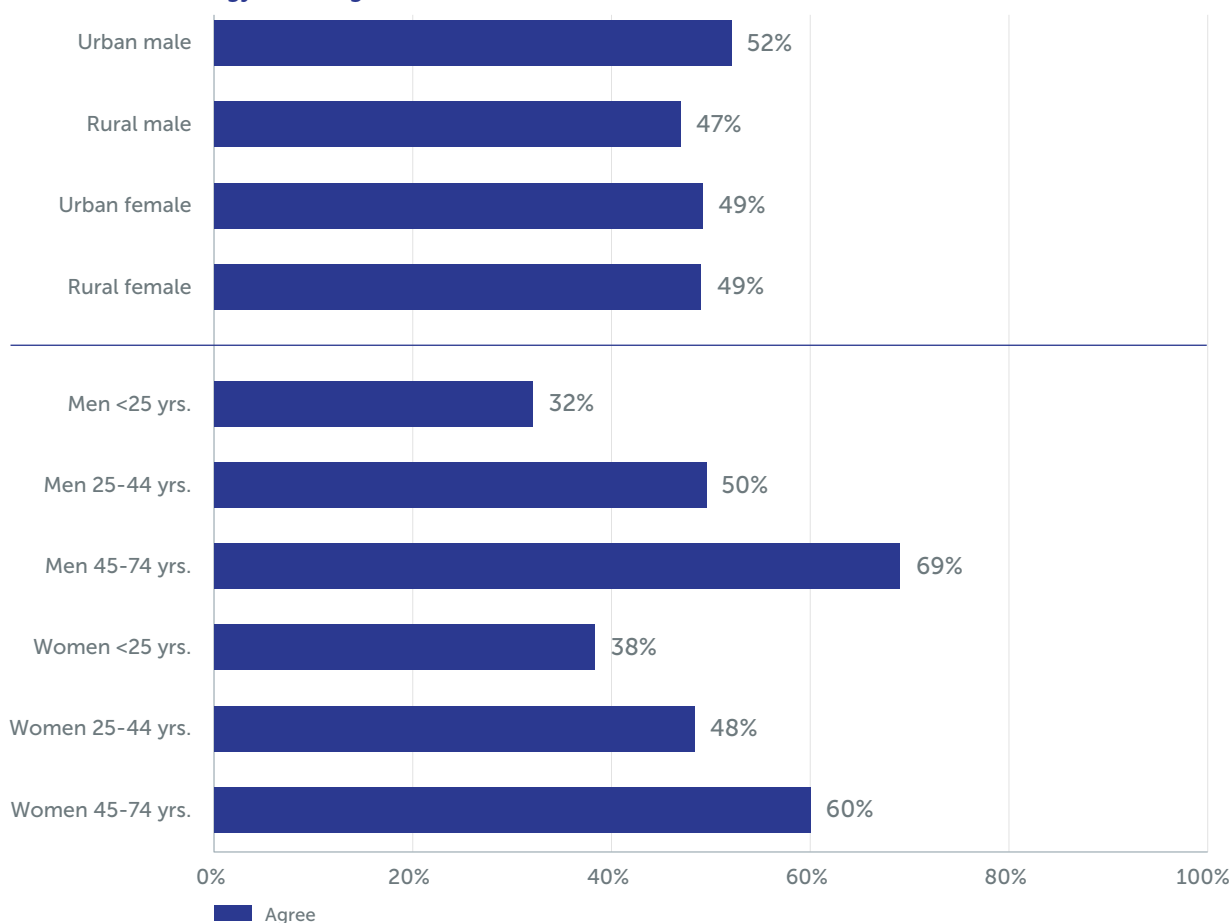
Access to digital devices (smartphones) and available Internet connections outpace digital proficiencies and levels of confidence engaging with digital tools. Despite most Tongans having access to a smartphone (85% access) and the Internet (78% have gone online), **half (50%) worry that technology is leaving them behind**. Tongans between 45 and 74 years of age (64% agree), particularly older men (69%), Tongans with a middle school education or less (64%), Tongans who work in agriculture, farming, forestry, or fisheries (65%), self-employed Tongans (no employees) (69%), individuals living with a disability (56%), and individuals with fortnightly incomes between 114 and 341 Tongan pa'anga (56%) are most likely to feel like technology is leaving them behind.

For the most part, women express relatively similar levels of concern regarding their relationship to technology as their male counterparts with the exception of older men who are even more likely than similarly aged females to worry technology is leaving them behind. Looking at generational lines, young adults aged 15 to 24 years express the greatest degree of confidence in their relationship to technology.

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=1,212]

"I feel like technology is leaving me behind."

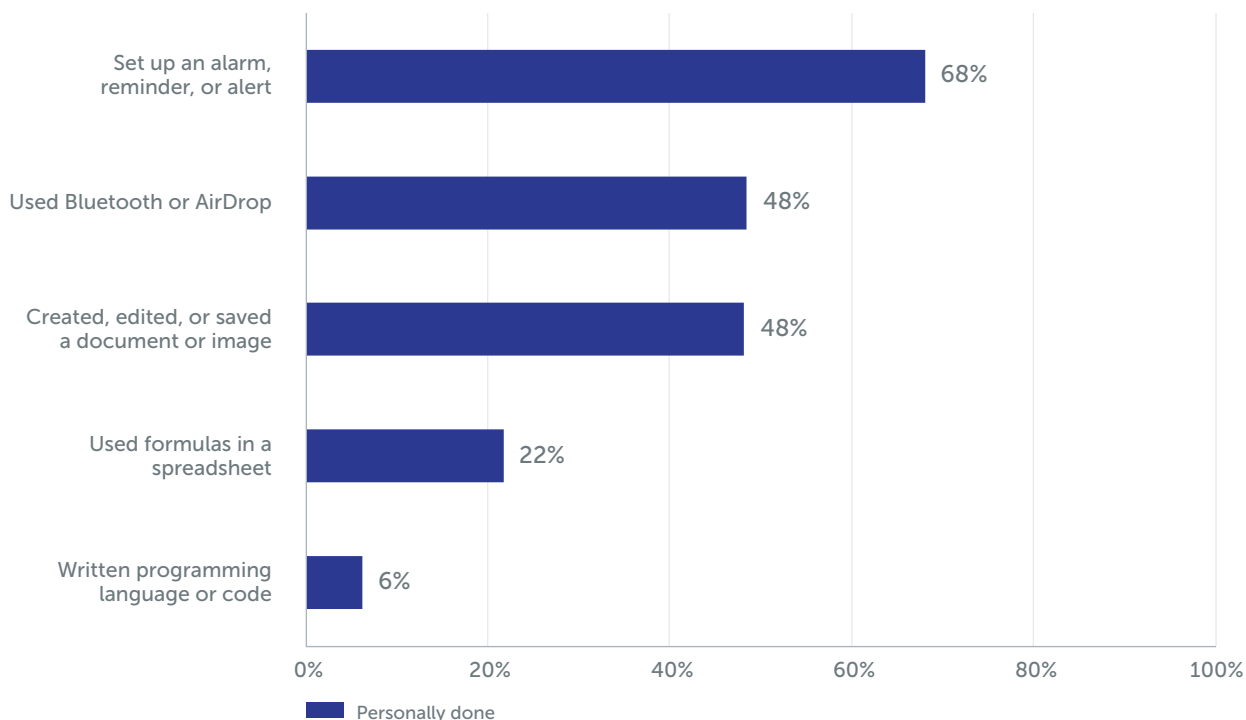


Experience of various digital tasks and online activities

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 written programming language or code. Tongans are much more likely to engage in low-complexity tasks tested, using phones to set up alarms, reminders, or alerts (68%), using Bluetooth or Airdrop to send documents or images between devices (48%), or creating or saving a document or image (48%) – tasks which can be completed via smartphones – than higher complexity tasks tested. In the previous three months, 22% of Tongan adults used formulas in a spreadsheet to make a calculation and just 6% had written programming language or code. A majority of Tongans (55%) never use a tablet or computer, largely required for higher-complexity tasks tested in the survey.

Graph 8: Digital Activities

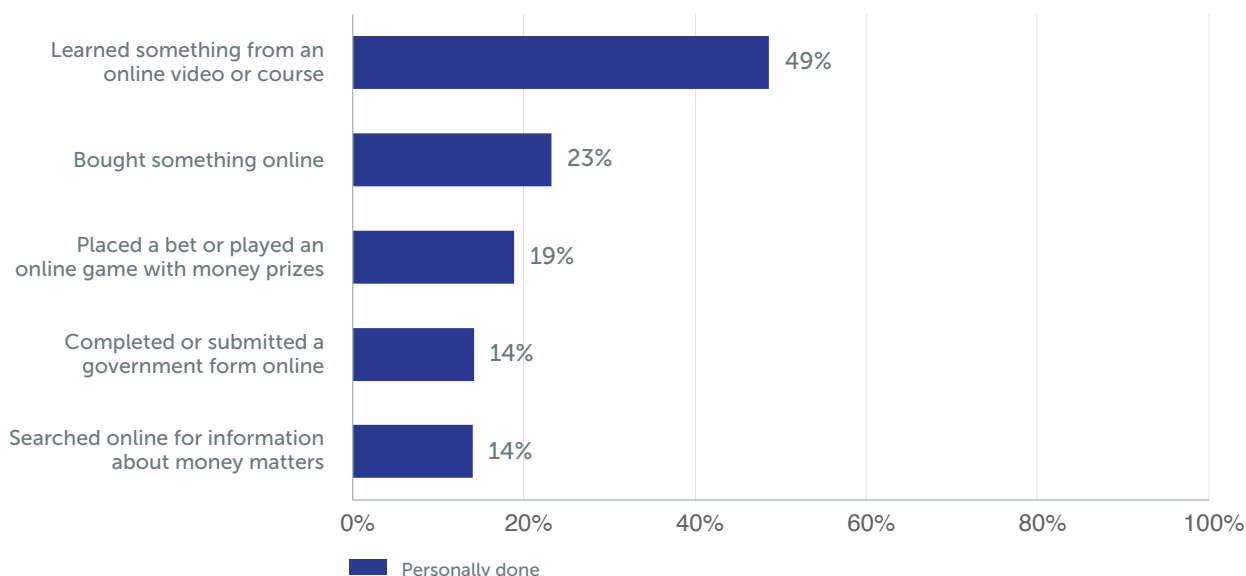
D2. Still thinking about technology, please can you tell me if you have personally used a digital device or electronic gadget to do any of the following in the last three months, whether for yourself or someone else? [Total sample, n=1,212]



Tongans 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; 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 78% of Tongans who have ever used the Internet¹⁶, 49% learned something from an online video or course in the previous three months (accounting for 38% of Tongan adults). Far fewer completed online activities beyond news/information consumption: 23% of Internet users bought something online (18% of all Tongans); 19% placed an online bet or played an online game with monetary prizes (15%); 14% completed or submitted a government form online in the previous three months (11%); and 14% searched online for information about money matters (11%).

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=940]



¹⁶ Online activities question asked only of individuals who use the Internet [n=940]

Like most measures evaluated in the survey, participation in digital and online activities tracks closely with population density, age, educational attainment, and socio-economic status. In comparison with all other age groups, older Tongans are significantly less likely to have completed any of the digital and online activities assessed (whereas those under the age of 35 years are most likely to have completed activities). Completion of digital activities also correlates with level of educational attainment, with university-educated Tongans significantly more likely to have completed activities in the previous three months. The results also reaffirm that Tongans with higher SES are more likely to complete digital and online activities than their lower SES counterparts, particularly digital tasks that are more complex like using formulas in a spreadsheet or writing programming code; of which, access to digital devices like a computer or tablet is largely required.

Significant gender gaps exist as well, with rural and older women less likely to participate in digital and online activities compared to other cohort groups.

Table 3: 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=1,212; D4 asked of individuals who use the Internet, n=940]

% Yes (Shading where $p \leq 0.05$)	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	68	69	77	63	72	75	49
Created, edited, or saved a document or image	48	64	53	30	54	55	30
Used Bluetooth or AirDrop	48	66	56	29	66	51	21
Used formulas in a spreadsheet	22	31	23	14	35	20	9
Written programming language or code	6	8	8	6	8	5	3
Bought something online	23	25	23	17	17	29	22
Learned something from an online video	49	61	42	38	63	47	34
Placed a bet or played an online game with money prizes	19	47	15	7	20	13	5
Completed or submitted a government form online	14	17	16	15	10	17	8
Searched online for information about money matters	14	9	18	13	10	18	13

Table 4: Digital and Online Activities by Density and Educational Attainment

% Yes (Shading where $p \leq 0.05$)	Total	Urban Men	Rural Men	Urban Women	Rural Women	$\leq$ Middle School	Second- ary	Uni+
Set up an alarm, reminder, or alert	68	73	67	69	62	52	71	84
Created, edited, or saved a document or image	48	47	53	47	47	36	51	61
Used Bluetooth or AirDrop	48	47	56	46	45	32	54	59
Used formulas in a spreadsheet	22	21	25	24	17	7	22	42
Written programming language or code	6	6	9	6	3	3	4	15
Bought something online	23	23	22	28	19	20	21	32
Learned something from an online video	49	48	47	59	37	40	50	55
Placed a bet or played an online game with money prizes	19	23	26	14	13	18	21	16
Completed or submitted a government form online	14	14	19	14	10	7	11	29
Searched online for information about money matters	14	15	12	16	12	10	10	28

Digital and online security

A significant number of Tongan Internet users – half (52%) – question their own level of proactivity towards online safety: 47% agree and 52% disagree with the statement, “I take steps to keep my information safe when online”. Results more likely highlight gaps in information – a lack of familiarity with digital safety measures – than an ambivalence towards digital security. Confidence in personal online safety measures and routines declines with age (52% agree among Tongans aged 15 to 24 years and 41% among Tongans aged 45 to 74 years) and is slightly higher among urban (50% agree) than rural (44%) Tongans regardless of gender. Higher-educated and higher-income Tongans also express greater degrees of confidence than other cohort groups.

Notwithstanding, uptake of specific digital security practices varies depending on the practice. Pro-active use or awareness of existing virus protection on devices, smartphones and tablets or computers, comprises the most obvious vulnerability tested in the survey.



Virus protection

Just 32% of Tongans with access to a smartphone, tablet, or computer¹⁷ say the devices they use have virus protection, whereas the majority of Tongans (68%) with access to these devices say their devices do not have protection. Among smartphones used in market, Samsung Galaxy smartphones (53.7% of mobile market share)¹⁸ come pre-loaded with McAfee virus protection. At the time the survey was completed, Apple’s devices (19.8% of market share) largely prohibited the use of additional virus protection software. (Oppo, Nokia, Huawei, 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 most Tongans 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.)



Password re-use

One-third (33%) of Tongans who use the Internet¹⁹ admit to reusing the same password across several online accounts or websites, while 67% 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.) Tongans admit to reusing passwords in similar numbers regardless of levels of educational attainment (37% of Tongans with a middle school education or less and 36% of university-educated adults have re-used passwords across online accounts).



Device locking & deactivation

Digital device users²⁰ largely lock their devices when not in use (68%), the default setting on most smartphones. Far fewer (41% agree, 59% disagree, <1% don’t know) however, know how to block or deactivate their smartphone if it gets lost or stolen.

17 [n=1,067]

18 <https://gs.statcounter.com/vendor-market-share/mobile/tonga>

19 [n=940]

20 [n=1,067]

Digitalisation scores

The section that follows focuses on scoring levels with regards to digitalisation only; the digital and financial literacy index as a whole is described at the outset of this report. Subsequent micro-analyses of financial and digital-financial literacy scores can be found alongside their corresponding sections of the report. Levels of digitalisation were determined based on four different aspects of digital literacy:



i. Access to digital devices



ii. Attitudes towards technology



iii. Internet access and online activities



iv. Awareness of and participation in safe digital/online practices

Survey respondents could achieve a maximum score of 18 points for digitalisation and a minimum of 0 points if respondents did not have access to the Internet or digital devices to partake in selected activities.

DIGITALISATION SCORE

Tongans achieve a mean score of 6.87 out of 18 points

Older women and mothers parenting without the help of a partner or extended family (mean score of 4.58 among single parents, the vast majority of whom are women) have the lowest digitalisation rates of any other demographic or geographic group analysed. Digitalisation is also lower amongst persons with disabilities (5.35 mean). The questionnaire measured access to digital devices rather than ownership, project goals being to improve digital-financial literacy and access to digital-financial tools for all Pacific Islanders regardless of how individuals access digital-financial tools. That said, if ownership had been measured, gender differences in Tongan digitalisation data may have been even more vast.

Notable differences in mean digitalisation scores between cohort groups are as follows:

1. Digitalisation scores are highest in Tongatapu (7.17 mean), home to the majority of the Tongan population, and lowest in Vava'u (5.45). Digitalisation is also lower in 'Eua (6.12) and Ha'apai (6.53) than in Tongatapu.
2. Digitalisation scores are significantly lower among rural women (6.23 mean) than men in urban (6.98) or rural areas (7.16) and women living in urban areas (7.03).
3. Digitalisation scores decline with age, peaking among the younger cohorts. Mean scores are significantly higher among Tongans under 45 years of age than Tongans between the ages of 45 and 74 years. Tongans between 15 and 34 years of age (7.98 mean) score almost two times as high for digitalization than residents aged 45 to 74 years (4.94). Tongans aged 35 to 44 years (6.97) achieve a somewhat lower mean score for digitalisation than their younger cohort groups. Among older adults, women aged 45 to 74 years (4.62) score even lower for access to digital devices and digital competencies than their male counterparts (5.29).
4. Digitalisation scores track with educational attainment. While Tongans with a middle school education or less achieve a mean digitalisation score of 4.92, Tongans with a secondary school education achieve a mean score of 7.09, and those with a university or degree-level education or higher achieve a mean score of 9.21. (Digitalisation similarly tracks and increases with income.)
5. Digitalisation scores among self-employed Tongans (6.72 mean)²¹ are in line with overall rates (6.87). Digitalisation levels are higher among Tongans with formal employment outside the home (9.02) and among the highest income earners (8.18).

²¹ Digitalisation rises significantly among self-employed individuals with employees (8.81). Given the small sample size for small business employers, results among this group are not considered statistically significant.

Section 2: Financial Inclusion²² and Literacy

Payment services accessed by Tongans



Current
Accounts
54%



Public Transport
Card or Debit Card
32%



Digital/Electronic/
or Mobile Wallet
4%



Cryptocurrency
1%



3 in 5 Tongan adults have
a current account



55%
among
men



53%
among
women



1 in 10 account-holders use
online banking services and
banking apps for the purposes of
checking account balances,
withdrawing, or depositing money²³



Cash Reliance

96% FOR UTILITY BILLS
97% FOR A MEAL OUT
97% TO PURCHASE GROCERIES



3%

purchased groceries
using a card payment
with chip and pin or
swipe and sign

Financial behaviour and well-being



62%
Put money
aside for
emergencies



38%
Save or invest
for the
long-term



42%
Contribute to
savings and
loan clubs

²² 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.

²³ F5_beh Current account behaviour was asked only of individuals who have a current account [n=656], with app and online (not using an app) usage asked only of current account holders who ever use the Internet [n=552]. Responses recalculated amongst all current account holders [n=656].

Access to payment products and services

Tonga's economy remains largely cash-based with limited uptake of traditional payment services, let alone digital financial services. Two-in-five Tongans (42%) do not have a bank account or digital financial service they can use to store money or make payments. Ownership of a financial service or payment product is largely comprised of current accounts (54%), rather than a digital financial service. Payment services other than a current account accessed and used by Tongans include: a payment card of any sort, including public transport card or debit card (32% payment card of any sort), a payment card associated specifically with a current account (29% of all Tongans, 54% of current account holders), a digital/electronic/mobile wallet (4%), or cryptocurrency (1%).

Cash-reliant Tongans (42% of Tongan adults)²⁴ identify preference (90%) as the predominant reason for their lack of financial service products and reliance on cash-based financial transactions. Just 4% of the non-banked identify a lack of ID or proof of address as a barrier to product ownership; 3% say someone else in their household handles non-cash transactions; 2% don't know how to use other payment methods. Mistrust of financial providers (0%) is not a barrier to product ownership or use.

Again, roughly half of Tongan adults (54%) have a current account they can use to store money and make payments. Overall, men (55%) and women (53%) register similar levels of access to current accounts for conducting financial transactions; rural (53%) and older women (55%) are less likely than their male counterparts (58% among rural men and 61% among men aged 45 to 74 years) to own a current account. The largest differences in ownership between demographic groups occur generationally, as well as along socio-economic lines. The youngest cohort group (33%) is least likely to own a current account, as are Tongans with a middle school education or less (43%) and those who fall within the lowest income bracket (24%). Tongans who reside in the region of 'Eua (40%) are also considerably less likely to own a current account than Tongans who reside elsewhere within the country.

Table 5: 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=1,212]

(Shading where $p \leq 0.05$)	Yes (%)	No (%)
Total	54	46
Men 15-24 years	34	66
Men 25-44 years	68	31
Men 45-74 years	61	39
Women 15-24 years	32	68
Women 25-44 years	67	33
Women 45-74 years	55	45
Urban men	53	47
Rural men	58	41
Urban women	53	47
Rural women	53	47

²⁴ 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=512.

Table 6: Current Account by Educational Attainment, Income, Employment and Disability Status

(Shading where $p \leq 0.05$)	Yes (%)	No (%)
Total	54	46
≤ Middle school	43	57
Secondary school	54	46
University +	70	29
≤113TOP	24	76
114-341TOP	54	45
342-570TOP	71	29
571+TOP	70	30
Individuals living with a disability	56	44
Self-employed	66	34

Table 7: Current Account by Region

(Shading where $p \leq 0.05$)	Yes (%)	No (%)
Total	54	46
‘Eua	40	59 (2% Refused)
Ha’apai	65	35
Tongatapu	53	46
Vava’u	60	40

Among those with current accounts, use of online banking services (8%) and banking apps (5%) is popular with at most one-in-ten account-holders for the purposes of checking account balances, withdrawing, or depositing money.²⁵ Tongan current account holders are most likely to use ATMs (57%, 66% among the 15% of Tongans who have a current account and live within a kilometre of an ATM) or in-branch services (50%) for these purposes. A further 28% of Tongan current account owners execute transactions via an agent at a post office or local shop providing account access, 21% by mobile phone, and 3% via SMS.

25 F5_beh Current account behaviour was asked only of individuals who have a current account [n=656], with app and online (not using an app) usage asked only of current account holders who ever use the Internet [n=552]. Responses recalculated amongst all current account holders [n=656].

Cash-based economy and experiences with remittances

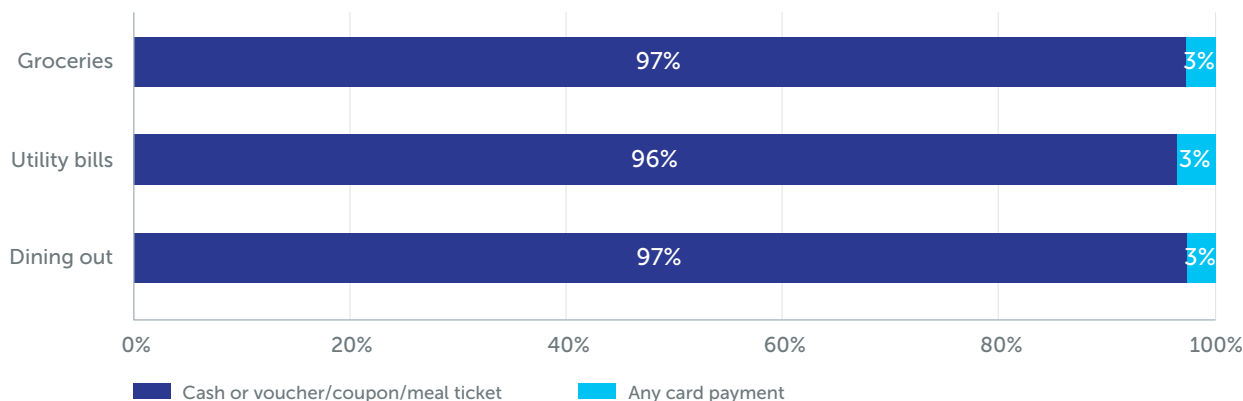
Tongans are near universal in their use of cash to pay for commonly accessed household items and services (defined for the purposes of the survey as groceries, paid meals out, or utility bill payments). As the graphs below indicate, almost all Tongans report having used cash for their most recent grocery purchase (97%), meal out (97%), or utility bill payment (96%). Just 3% of Tongans at most, used a payment card to pay for any of the aforementioned transactions; with very few paying with a digital or mobile wallet or via an online card or automatic payment. While utility companies would be most likely to have the necessary infrastructure to support electronic or digital payments, Tongans continue to pay their utility bills in cash.²⁶ This is true for university-educated (89%) and higher-income Tongans (94%), as well as the overall population.

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=1,212]

F6_2. And how did you pay your last household utility bill such as water or electricity? [Total sample, n=1,212]

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=1,212]



Tonga (60,258 migrants as of 2017), in addition to Samoa (117,511) and Tuvalu (3,546), has the largest proportion of its population living overseas – either on a permanent or temporary basis – of the Pacific Island countries.²⁷ New Zealand, the US, and Australia are home to the vast majority of Tongan migrants according to data from UNDESA and the ILO. Remittances comprise a significant source of income, and a commonly-used financial service, amongst Tongan adults. The majority of Tongan households (71%) received a remittance in the three months prior to being surveyed, while only one-in-five (21%) had sent a remittance within the same period. Women (75%), across generational groups and urban-rural divides, are significantly more likely to have received remittances than their male counterparts (67%), with women aged 45 to 74 years (85%) being most likely to have received remittances in the three months prior to being interviewed.

Table 8: 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=1,212]

F4. Have you, personally, sent money from one country to another in the last three months? [Total sample, n=1,212]

(Shading where $p \leq 0.05$)	Yes – Received (%)	Yes – Sent (%)
Total	71	21
Men 15-24 years	45	15
Men 25-44 years	78	23
Men 45-74 years	77	21
Women 15-24 years	54	13
Women 25-44 years	82	31
Women 45-74 years	85	22
Urban men	68	23
Rural men	67	16
Urban women	75	25
Rural women	74	21

Whether individuals sent or received remittances, the speed of transfers, ease of collecting transfers, and exchange rates and fees all played highly significant roles in the transaction process – both in terms of how individuals chose to send remittances and satisfaction with the process on the receiving end. Of note however, exchange rates and fees are slightly less important factors

²⁷ https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-suva/documents/publication/wcms_712549.pdf

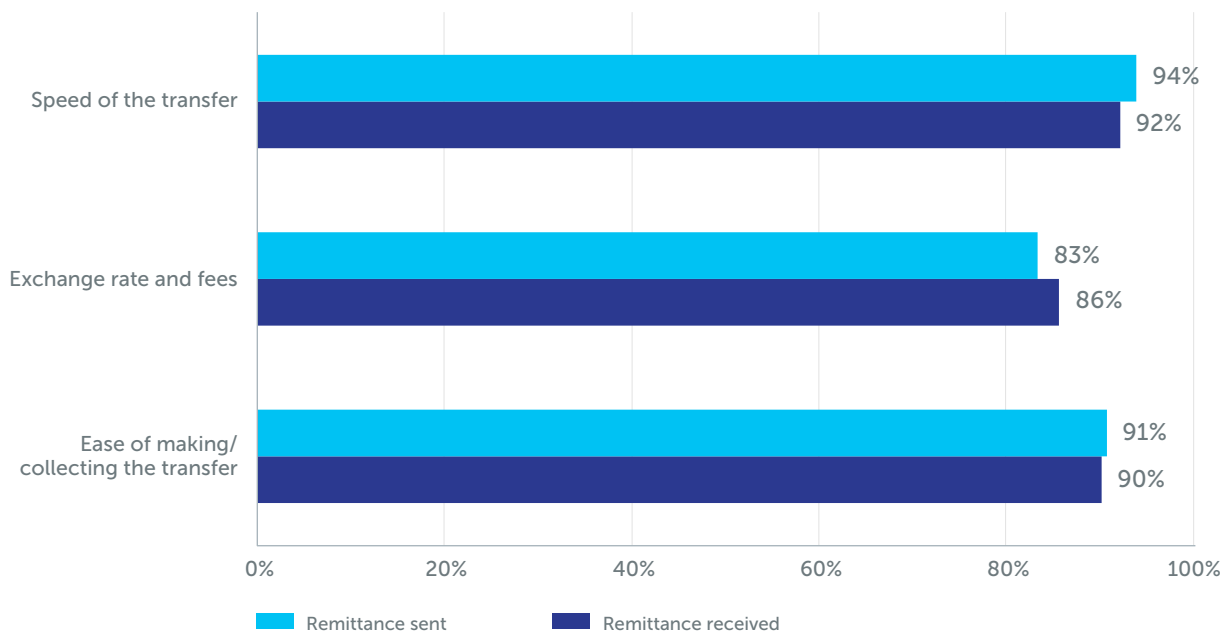
in the remittance process than speed and ease of use. This may be at least partially as a result of the introduction of the Ave Pa'anga Pau ("Send Money More Securely") voucher in 2017 by the International Finance Corporation (a division of the World Bank Group) and Tonga Development Bank, a "low-cost, mobile, and computer-based" alternative to remittance agents and grey market solutions.²⁸ The survey did not however, probe how individuals send and receive remittances and whether they use mobile solutions or continue to send and receive cash payments.

65% of Tongan 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=259]

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=862]



28 https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/impact-stories/tonga-remittances

Financial well-being

Financial uncertainty pervades just fewer than half of Tongan households, with 46% of Tongans worried that their money will not last. It is important to keep in mind that “uncertainty” was measured more than two years after the onset of the COVID-19 global pandemic that closed borders and disrupted participation in labour mobility schemes. A majority are optimistic however, that the future will bring greater financial security for their households; two-thirds of Tongan adults (67%) agree that “five years from now, I will be more financially secure.”

Financial security and its inverse, economic precarity are experienced unevenly across Tongan society, but it is men, not women who express the greatest concern about their personal financial situations, including rural men (53% agree, “I am often worried my money won’t last”) and men aged 25 to 44 (54%) and 45 to 74 years (55%). Self-employed Tongans (54%) also express greater levels of financial precarity than Tongan adults overall. Moreover, outlooks for the future and hopes of future financial security vary widely by educational attainment and socio-economic status with lower SES groups least likely to expect the future will bring greater financial security. Table 18 illustrates varying states of financial well-being between and across groups based on responses to three agree/disagree statements:

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 9: Financial Circumstances

F2. Do you agree or disagree with the following statements? [Agree as a percentage of total sample, n=1,212]

% Agree (Shading where $p \leq 0.05$)	Worried money won't last	Extra money to spend	Financially secure in 5 yrs.
Total	46	45	67
Men	49	43	67
Women	43	47	67
Men 15-24 years	39	28	67
Men 25-44 years	54	51	65
Men 45-74 years	55	50	68
Women 15-24 years	41	39	63
Women 25-44 years	48	52	68
Women 45-74 years	38	48	70
Urban men	47	43	67
Rural men	53	44	67
Urban women	44	52	70
Rural women	42	41	64
≤ Middle school	46	43	57
Secondary school	45	44	71
University+	47	51	72
≤113TOP	42	29	47
114-341TOP	49	41	71
342-570TOP	45	53	72
571+TOP	48	62	78

Financial management – budgeting and savings behaviours

The vast majority of Tongans (69%) insist they budget or make plans to manage their income and expenses. In practice, half (52%) track their finances by keeping receipts or recording their spending. Similar numbers of self-employed Tongans (53%) keep records of self-employed earnings. Though a small sample size, Tongans who run businesses with the help of employees (roughly 65%) are much more likely to keep track of employment earnings. Self-employed women (54%) are equally likely to keep records of their employment earnings as their male counterparts (51%).

Significant differences exist with regards to financial management behaviours between urban and rural dwellers, with rural men least likely to make a plan to manage their income and expenses (61%) or keep records of their spending (44%) than Tongan adults overall. Conversely, urban women are most likely to take pro-active steps to manage their finances (75% make a plan and 59% keep receipts). University-educated (83%, 65%) and higher SES Tongans (86%, 72%) are also much more likely to make a plan to manage their income and expenses and to track their spending than lower-educated and lower SES groups. Use of loyalty cards to reduce costs or earn rewards in an effort to manage resources is limited to 16% of Tongan adults who largely reside in urban areas.

Table 10: Budgeting and Savings Behaviour

F1. Do you do any of the following, either alone or with someone else? [Total sample, n=1,212; “keep records of self-employed earnings” asked to those who are self-employed, n=207]

*Indicates small sample size (n<30). Use caution when interpreting.

% Yes (Shading where $p \leq 0.05$)	Make a plan to manage income and expenses	Keep receipts/records of spending [n=1,212]	Keep records of self- employed earnings [n=207]	Use loyalty cards
Total	69	52	53	16
Men	66	50	51	16
Women	72	54	54	15
Men 15-24 years	42	29	27*	11
Men 25-44 years	76	56	54	18
Men 45-74 years	77	64	54	18
Women 15-24 years	53	39	39*	12
Women 25-44 years	81	59	59	19
Women 45-74 years	76	63	53	14
Urban men	70	54	50	22
Rural men	61	44	52	7
Urban women	75	59	57	20
Rural women	66	49	50	9
≤ Middle school	63	49	35	10
Secondary school	67	49	55	14
University+	83	65	74	26
≤113TOP	38	28	24*	3
114-341TOP	74	54	43	16
342-570TOP	79	57	59	21
571+TOP	86	72	74	25

Most Tongans self-describe as “savers” rather than “spenders”. Seven-in-ten Tongans (71%) agree with the statement, “If I have money left over, I prefer to save it than spend it.” Upwards of three-in-five say they prefer to save rather than spend leftover monetary resources across most demographic and geographic subgroups, with the exception of men aged 15 to 24 years (53%), students (55%) and Tongans with fortnightly incomes less than 113TOP (59%). (Groups which most likely have the least amount of disposable income available for savings.)

Savings activities largely pertain to putting money aside for emergencies (62%). There is more than a 30-percentage point gap between those who say they prefer to save and those who (can) save or invest for the long-term with just 38% of Tongans aged 15 to 74 years saying they save or invest for the long-term. A similar number (42%) 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 and/or limited opportunities for savings/rewards via loyalty clubs – may dictate participation, or lack thereof, in activities commonly associated with money management and saving.

Participation in savings activities varies along gender and generational lines, as well as between urban and rural residents: Tongans who reside in urban areas (42%) are more likely to save or invest for the longer-term. Data differences along the lines of population density grow when gender is overlaid; urban men (44%) are most likely to save or invest for the longer-term, while rural women (33%) are least likely to do so. Younger adults aged 15 to 24 years are much less likely than older cohort groups to participate in any savings-related activities for the short – or long-term, regardless of gender. With regards to informal savings and loans clubs in particular, men (46%) are significantly more likely (+7 percentage points) to contribute to savings and loans clubs than women (39%), with rural women least likely to contribute to savings and loan clubs in Tonga.

Savings behaviours (and ability to save) over the short – and long-term also track closely with educational attainment and income. University-educated (72%, 52%) and higher-income earning (77%, 57%) Tongans are significantly more likely to save for emergencies and the long-term than other cohort groups. Income, more so than educational attainment, is associated with participation in informal savings and loans clubs.

Table 11: Savings Behaviour

F1. Do you do any of the following, either alone or with someone else? [Total sample, n=1,212]

% Yes (Shading where $p \leq 0.05$)	Put money aside for emergencies	Contribute to a savings & loan club	Save or invest for the longer-term
Total	62	42	38
Men	60	46	40
Women	64	39	37
Men 15-24 years	40	29	25
Men 25-44 years	69	54	49
Men 45-74 years	70	53	43
Women 15-24 years	43	28	23
Women 25-44 years	71	44	43
Women 45-74 years	75	42	41
Urban men	62	46	44
Rural men	57	45	34
Urban women	64	41	39
Rural women	65	35	33
≤ Middle school	60	45	29
Secondary school	59	39	39
University+	72	44	52
≤113TOP	36	24	19
114-341TOP	67	46	34
342-570TOP	70	50	49
571+TOP	77	48	57

Relatively few Tongans have or have been able to purchase insurance products to protect themselves (13%) or their businesses (18% of self-employed Tongans²⁹, 3% of the overall population) from financial shocks. Tongans most likely to have purchased a personal insurance product include men aged 25 to 44 years (19%), those with a degree – or a university-level education or higher (19%), individuals employed formally outside the home (21%, particularly in finance or tech and the public sector), small business owners with employees (31%, small sample size), and individuals with combined fortnightly incomes of between 342 and 570TOP. Slight differences exist between men (14%) and women (12%) with regards to insurance ownership.

29 [n=207]

Knowledge and skills related to money management

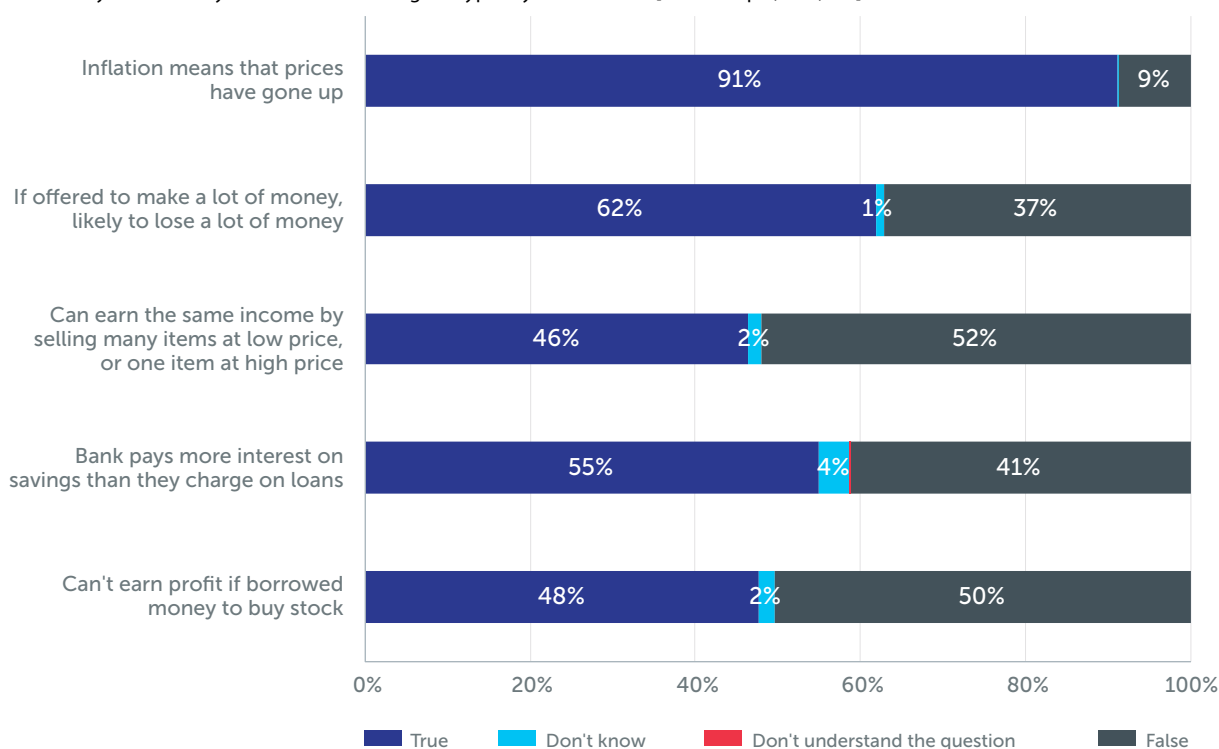
There is both significant need, and opportunities for, increasing foundational financial knowledge. Graph 12 illustrates perceptions towards five different statements, and what Tongans believe to be true.

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 Tonga are moderate to 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 Tongan adults understand inflation's impacts on the cost of living (91%). Most (62%) 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, the costs-benefits of borrowing to turn a profit, and small businesses and economies of scale. Knowledge gaps crosscut demographic and geographic divides. Refer to Appendix 1, Part 3, for more reference.

Graph 12: Financial Knowledge

F3. Could you tell me if you think the following are typically true or false? [Total sample, n=1,212]



Financial education can be delivered online to a significant 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 Tongans who use the Internet (49%) learned something from an online video or course in the three months prior to completing the survey. Participation in online learning tools drops to 37% among rural women (while peaking at 59% among women living in urban areas). Use of online learning tools is similarly low amongst adults aged 45 to 74 years (36%), especially compared to the youngest cohort group (62% among Tongans aged 15 to 24 years). Just 11% of all Tongan adults searched online for information about money matters. A higher proportion of Tongans, 22%, would trust an automated service to provide financial advice; that number drops to 17% among rural Tongans. Younger men are most likely to trust AI tools for financial advice (31%), though even amongst this more tech-savvy cohort, appropriate trust in the tools needs to be grown over time.

Financial Literacy Scores

Three areas of financial literacy were evaluated and used to determine levels of financial competency: financial safeguards (e.g., budgeting behaviours and use of insurance products to protect against financial shocks), attitudes towards financial planning and saving, and knowledge related to financial transactions. Data related to financial inclusion and ownership of financial products while important, are not included in index scores. All but two of the questions³⁰ used in the scoring model are discussed in Section 2: Financial Inclusion and Literacy. Survey respondents could achieve a maximum score of 13 points for financial literacy and a minimum of 0 points.

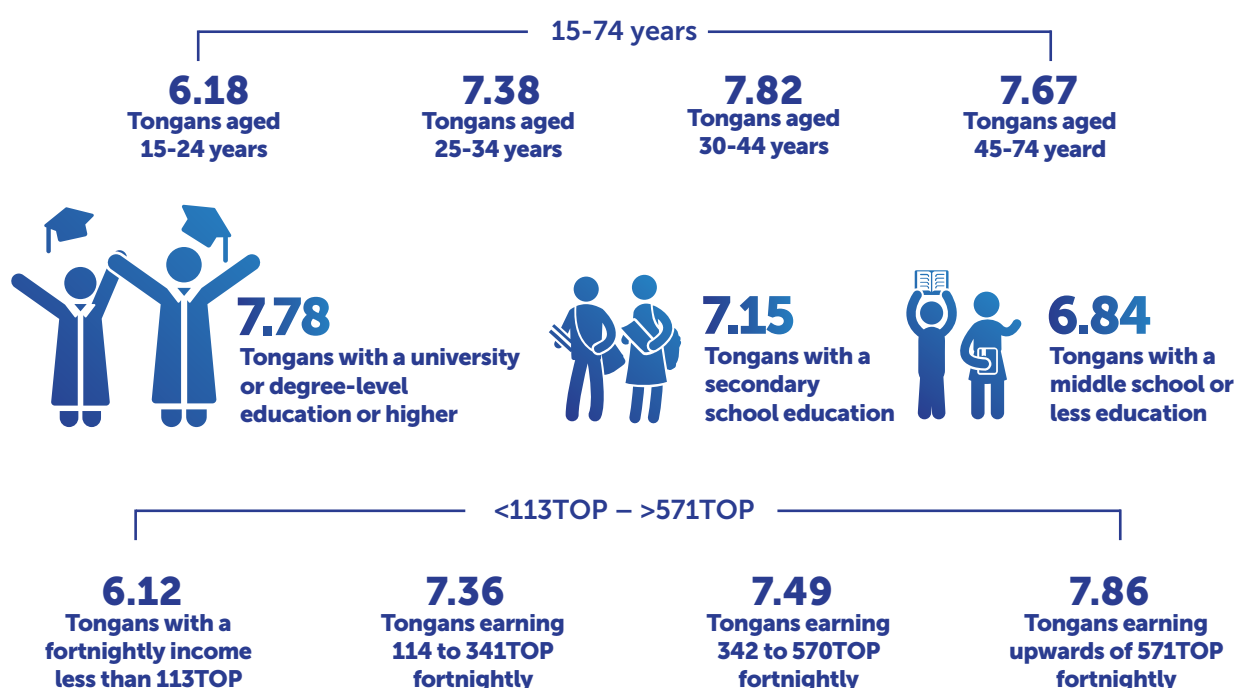
FINANCIAL LITERACY SCORES

Tongans achieve a mean score of 7.19 out of 13 points

Index scores for financial competencies (budgeting and savings behaviours and basic financial knowledge, not digital financial competencies) are somewhat higher than those for digital literacy. (Mean scores are relatively similar for both content areas despite the ability to achieve a greater total digitalisation than financial literacy score.) Access to formal and informal financial products like current accounts and digital or mobile wallets is limited and the vast majority of Tongans continue to rely on cash for most, if not all, financial transactions. Furthermore, financial knowledge is lacking amongst a significant number of Tongans with regards to measures tested. Long-term savings opportunities are limited to the highest SES groups; younger Tongans, either by necessity or choice, participate in savings activities at significantly lower rates than Tongans overall.

Across measures, men (mean score of 7.14) and women (7.24) score relatively equally in the area of financial competencies, as do rural (7.16) and urban dwellers (7.21), despite variance in responses to specific measures.

Tongans aged 25 to 74 years demonstrate overall higher levels of financial literacy than Tongans aged 15 to 24 years regardless of gender



³⁰ Answers to the agree/disagree statements, "I tend to live for today and let tomorrow take care of itself," and "I am the kind of person who ignores the small print unless something goes wrong," contributed towards financial literacy scores but are not evaluated as distinct points in this report.

Section 3: Digital Finance

Beliefs About Digital Financial Services

Tongans are conflicted in their views of digital financial services, understanding the numerous benefits to, and inevitability of, their use in business, government, and personal finance, while at the same time expressing some concern about their ability to navigate these services safely and effectively. Tongans generally worry about their ability to keep up with evolving technologies (50% agree with the statement, “I feel like technology is leaving me behind”), as well as their ability to manage or mitigate risks associated with the use of digital financial tools. With regards to the latter, survey data indicates lagging trust in digital financial tools, but may also speak to levels of personal confidence using DFS.

- Just fewer than half of Tongans (48% agree) believe digital financial services are risky for ordinary people, with residents of ‘Eua (62%), rural men (56%), men aged 25 to 44 years (56%), and public sector employees (62%) of the strongest belief that DFS pose a risk for “ordinary people”.
- The vast majority would not trust (77% disagree) automated services such as an app or robot advisor to provide financial advice. Just 17% of rural dwellers would trust an automated service to provide financial advice. In the affirmative, 22% of Tongans would trust an automated service. Residents of ‘Eua (34% agree), men aged 15 to 24 years (31%), self-employed Tongans (29%), and Tongans formally employed outside the home (28%) are more likely to trust these services than Tongans overall. A majority of Tongans trust financial service providers more broadly, as evidenced by the fact that 55% report having gained greater trust for financial service providers over the near-term.

Nevertheless, there is acknowledgement that digital financial services are the ‘way of the future’; and are both beneficial and essential to many Tongans, particularly small business owners, Tongans who send remittances (including overseas workers), and Tongans receiving government payments: half of Tongans (55%) agree digital financial services like mobile payments, online banking, and digital wallets will soon replace cash in Tonga; two-thirds (65%) agree digital financial services are essential for people sending remittances; seven-in-ten (69%) acknowledge digital financial services make it easier to receive benefits payments from government, despite relatively few Tongans receiving government payments at this time.

Many Tongans 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 Tongans agree that digital financial services help keep costs down for small businesses, including 67% of self-employed Tongans. Only 23% of self-employed Tongans who have access to or have used digital financial services previously however, attest to having saved money on their financial transactions by reducing fees or other costs. That is compared to 20% of Tongans overall who have access to or have used DFS.³¹ It is important to note that savings data is calculated amongst the roughly 20% of Tongans who report owning or using a mobile or digital financial service in response to other survey questions.

Tongans (80%) largely refute the notion that digital financial services are designed largely for men rather than also benefitting women. That said, almost one-fifth of Tongans (18%) believe that “digital financial services are designed for men more than women”. Individuals parenting without the help of a spouse or relative (30%) and Tongans earning upwards of 342TOP fortnightly (22%) are more likely to believe DFS are better suited to men than Tongans overall.

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 very limited in Tonga. One-third (32%) of Tongans have an electronic payment card, the vast majority of which are associated with a current account. Beyond electronic payment cards, uptake of digital financial products is low, and just 5% have a parametric insurance policy that makes automatic payments to people affected by cyclones or other climate disasters; 4% have a digital/electronic/mobile wallet; 2% have another kind of insurance policy they took out online or via an app; and 1% 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, such as cyclone indemnity insurance.

With regards to financial services other than payment products, banking apps and online money management tools are popular with just 7% of Tongans for monitoring spending and saving. That number rises just slightly to 9% among the population of Tongans who access the Internet.³² In addition, among Tongans who own current accounts, 5% use banking apps and 8% go online (not using an app) to check account balances, withdraw, or deposit funds associated with their account.³³ For more details on DFS products, please refer to Appendix A, Part 3.

31 Question DF4 DFS Outcomes asked only of Tongans who say they use or own digital financial services previously in the survey [n=242 among the overall sample and n=54 among self-employed Tongans].

32 [n=940]

33 [n=656]

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

Tongans need more information that would allow them to make smart choices about which digital financial service providers to use as uptake of DFS grows. While a majority (58%) of Tongan adults recognize that regulation of digital financial services is not equal to the formal banking sector, a significant number – two-in-five (39%) – assume all digital financial services are regulated like banks. Another 2% are unsure. Tongans with the highest levels of education and income are even more likely than other cohort groups to believe DFS are all regulated like banks: 43% among Tongans with a university-level degree or higher, 45% of Tongans with formal employment outside the home, and 53% of Tongans with a fortnightly income of 571TOP or higher. Individuals at the lower-end of the income scale, who participate in lower rates in the formal banking sector than their higher-income counterparts, are most wary of regulations, or the lack thereof, governing DFS. Two-thirds (65%) of Tongans earning less than 341TOP fortnightly disagree that DFS “are all regulated like banks”.

Password protection and online banking security also constitute important areas for DFS education moving forward. When it comes to pin numbers and passwords for financial services specifically, 38% of financial service users keep a record of pin numbers or passwords for their accounts compared to 62% who do not.³⁴ (The survey did not distinguish between the use of password managers and other forms of record-keeping.) One-third of Tongans who are online³⁵ (33%) re-use the same password across several online accounts or websites. Women aged 25 to 44 years (39%) are most likely to re-use passwords across accounts.

Tongans need to know to look for “https” in a website’s URL before providing secure information online, like payment information. Only a segment of Tongans aged 15 to 74 years shop online (18%), but amongst those that do, two-thirds (64%) fail to check websites are secure before entering payment details online. One-third (35%) of online shoppers check that websites are secure before entering payment details when making an online purchase.

At present, half of Internet users are susceptible to online phishing scams. Tongans 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, 47% say they would delete the email, while almost half would either follow the link (26%) or reply to the email (22%). Another 4% are unsure how they would respond, do not understand, or refuse to answer the question. Rural men are significantly more likely than rural women or Tongans living in urban areas to reply to the email or follow the link. Amongst rural men, 32% would reply to the email; 24% would follow the link; whilst 41% would delete the email. Comparatively, 19% of rural women would reply to the email; 25% would follow the link; and 54% would delete the email. Amongst urban dwellers, 20% would reply to the email; 27% would follow the link; and 47% would delete the email. Rural women (54% delete) and women aged 25 to 44 years (55%), as well as Tongans working in finance or technology (63%), are most likely of all groups to delete the email.

With just 18% of Tongans engaging in online shopping, very few have been subject to lending practices online in the form of Buy Now, Pay Later options (2% of Tongan adults). Of those who purchased something online in the previous three months, just 13% had used a Buy Now, Pay Later option. That said, as digital financial transactions become more popular or accessible over time, more Tongans may opt for deferred payment plans.

DFS Personal Outcomes – Positive and Negative

Most Tongans (80%) have not completed a mobile or digital financial transaction to experience either the positive or negative impacts of DFS use. Amongst the 20% of Tongans 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.³⁶ Slightly fewer than two-thirds (63%) have found it easier to manage their money without help from others; 43% have found it easier to keep track of what they are spending. To-date, only 20% of DFS users have saved money on financial transactions by reducing fees or other costs. Tongans living in urban areas are far more likely to have experienced these positive outcomes than their rural counterparts, particularly rural women. Men are 14 percentage points more likely to say DFS use has made it easier to keep track of their spending than women, most likely attributable to differences in how and why Tongans of different genders use these services.

34 Question asked of individuals who own a financial service or product, including a current account, a payment card of any form, or a digital/electronic/mobile wallet [n=698].

35 [n=940]

36 [n=242] (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)

Table 12: DFS Outcomes

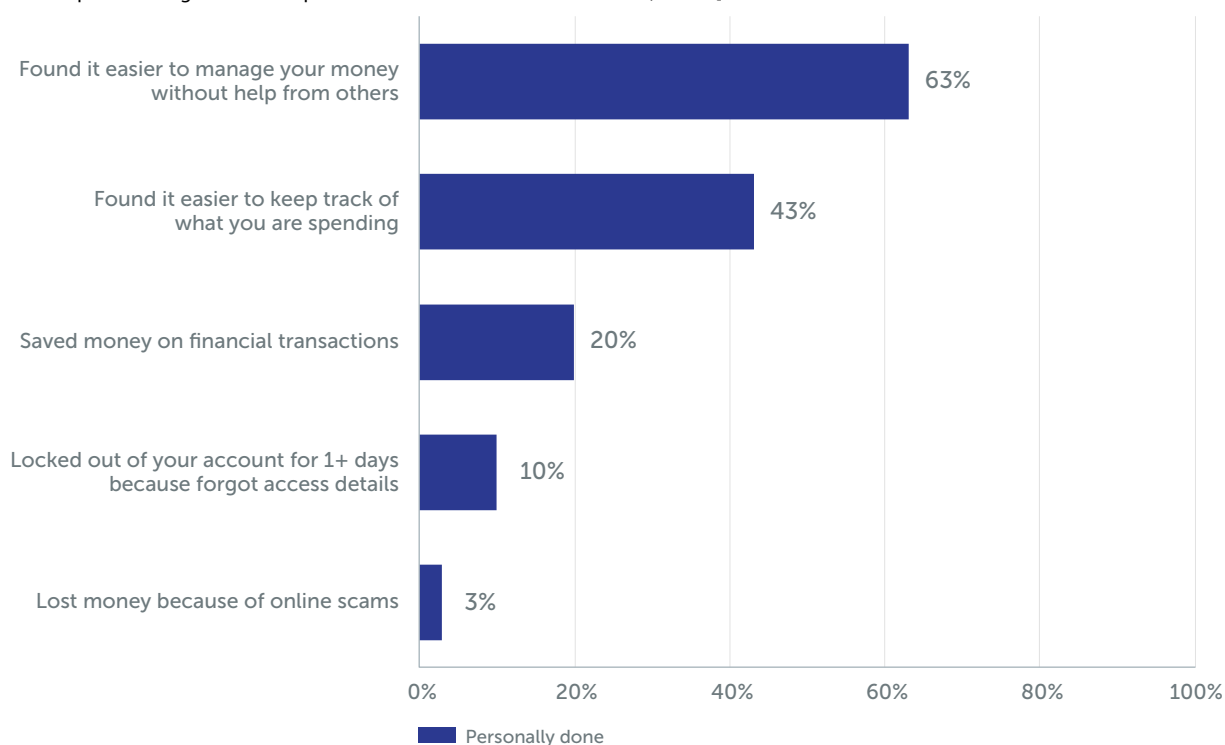
DF4. And since accessing a financial service online or using your phone to make payments have you: [Asked of individuals who have used a mobile phone or digital financial product to make a financial transaction; n=242]

% Yes (Shading where $p \leq 0.05$)	Found it easier to manage your money without help from others	Found it easier to keep track of your spending
Total	63	43
Men	61	50
Women	65	36
Urban	68	49
Rural	56	36
Rural women	59	26

DFS owners/users³⁷ are far less likely to have experienced negative outcomes evaluated in the survey, with 10% saying they were locked out of a financial account for more than a day because they could not remember access details and 3% saying that they lost money because of online scams or phishing attacks.

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=242]



37 [n=242]

DFS Competency and Outcomes Scores

DFS competency and outcome scores comprise the final subset of measures used to determine overall levels of digital and financial literacy. DFS competency and outcomes scores are based on:



beliefs related to DFS, such as the perceived benefits or drawbacks of DFS use;



DFS behaviours, which includes adherence to basic digital safeguards and the use of banking apps and online money management tools; and



outcomes associated with DFS usage, including potential savings and exposure to fraud or phishing scams, as well as larger perceptions of financial well-being.

Survey respondents could achieve a maximum score of 21 points for digital financial competencies and a minimum of 0 points.



Differences in digital financial competencies and outcomes experienced from DFS usage are evident along:

1. generational lines with Tongans aged 15 to 24 years (8.74 mean) scoring lower on these measures than older cohort groups (9.46 among Tongans aged 25 to 34 years, 9.42 among Tongans aged 35 to 44 years, and 9.20 among Tongans aged 45 years or older);
2. region with residents of 'Eua (7.53 mean) scoring significantly lower than residents of Vava'u (9.15), Ha'apai (11.00), and the main island of Tongatapu (9.14); and according to
3. educational attainment/socio-economic status with higher-educated and higher-income Tongans scoring higher than lower-SES groups. Tongans with a middle school education or less achieve a mean score of 8.83, those with a secondary degree 9.11, and those with a university – or degree-level education a mean score of 9.77. Self-employed Tongans (10.04 mean) and those with formal employment outside the home (10.08) demonstrate greater levels of digital financial competencies than Tongans overall.

That said, while there are statistically significant differences in mean scores between demographic and geographic groups, the gap between mean scores is fairly modest suggesting the need for growth in digital financial competencies (as well as DFS usage) across groups. Digital financial competencies and outcomes are relatively similar regardless of gender or population density (urban-rural).

Summary and Recommendations

³⁸ Low: 0-5 points; Moderate: 6-10 points; Above Average: 11-16 points; High: 17-21 points

Tongans have acquired moderate levels of digital and financial literacy to date, achieving a mean of 23.22 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. Moderate levels of DFL are in large part a result of more limited uptake of digital financial services (DFS) thus far, as well as familiarity and engagement with practical safeguards for DFS use. Access to smartphones and in turn, Internet usage are fairly high in Tonga, but cash remains the preferred and dominant payment method in day-to-day transactions.

Strengthening digital and financial literacy is required across geographic and demographic subgroups. Though most necessary among low – SES groups and among the youngest and oldest cohort groups, efforts are required among higher-educated and upper-income Tongans, as well within and outside Tongatapu. Higher-educated and upper-income Tongans 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 (or negative) outcomes associated with DFS.

Access to digital devices (smartphones) and Internet is high in Tonga but cost and availability of data services still pose a barrier to Internet access. Survey questions probed access to digital devices and whether individuals used the Internet more broadly. Rural men (41%) and males aged 25 to 44 years (45%) are significantly more likely to cite cost as a barrier to Internet use than Tongans overall (34%), possibly because they are most likely to bear the household responsibility of paying for data use/Internet connection. Men aged 25 to 44 years (45%) are also more likely to cite the availability of data services as a barrier to use.

Disparities in access to smartphones and the Internet, amongst regional and vulnerable groups, contributes to significantly lower DFL amongst some groups. Digitalisation scores, which are in part a measure of access to digital devices and the Internet, are lowest among adults aged 45 to 74 years – but especially among older women, – outside of Tongatapu ('Eua and Vava'u), Tongans with a middle school education or less, the lowest income earners, and individuals living with a disability.

In the case of women's financial empowerment efforts in particular, women may be limited in their use of DFS over time if they are required to use other peoples' devices to complete financial transactions or participate in educational efforts. Ownership, or access outside the household, may be required for some groups of women³⁹ to be able to use digital devices for the purposes of savings and financial management. Furthermore, an understanding of digital safety is even more important within the context of shared digital devices.

Nonetheless, the high percentage of individuals accessing a digital device can provide a significant boost to DFL efforts. Programmatic partners can focus initiatives around creating accessible apps with user incentives that can be downloaded and utilized by individuals for educational or other purposes.

Limited experience with DFS as yet, 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 Tongans 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 Tongans. While it will be important to educate Tongans to the potential risks of DFS usage and practices for safe usage, Tongans will first need to be persuaded as to why they should deviate from current practices (e.g. an almost exclusive reliance on cash transactions) in favour of DFS usage.

In addition to building confidence in Tongans' 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 (other than traditional banks), alongside efforts to build specific skills or grow awareness in specific areas. Three-quarters (77%) 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. Half (48%) believe "digital financial services are risky for ordinary people."

Education efforts should seek to identify the risks to DFS usage while simultaneously providing simple measures for diffusing and managing potential risks.

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

Tongans 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, Tongans 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 Tongans are empowered to differentiate between legitimate and delegitimate 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.

For younger adults aged 15 to 24 years and current students, DFL interventions will need to focus on building basic financial competencies and increasing access to financial and capital-building products.

Younger men and women score significantly lower than older cohort groups in the area of financial competencies, while scoring highest in the area of digitalisation. Meaning, they have access to and are using digital tools but lack the financial competencies to harness DFS to their benefit at this time. If possible, education should begin in, and include financial education within, secondary and post-secondary education institutions. Rates of financial inclusion (in the formal sector) are also lower among younger adults compared to other cohort groups, and just 33% own a current account. DFS should be considered as a means to increasing access to savings and other financial products among the youngest cohort of adults.

Harness the reach of mobile providers in market to roll out DFL interventions and promote existing services like mobile money/wallets. Given the high rates of remittances being sent and received within country, promotion of mobile wallets constitutes an obvious opportunity ("low-hanging fruit") to introduce greater swaths of the Tongan population to DFS and provide cost-savings. Mobile wallets can be harnessed as a first step in promoting greater uptake of digital financial transactions as long as commercial vendors, small businesses in particular, are similarly equipped to support their use.

Online resources and easily downloadable apps provide an opportunity to deliver digital financial education to Tongan adults, but face-to-face education will still need to occur in conjunction with online efforts. Of those who use the Internet, half (49%) learned something from an online video or course in the three months prior to completing the survey. Participation in online learning tools drops to 37% among rural women (while peaking at 59% among women living in urban areas). Use of online learning tools is similarly low amongst adults aged 45 to 74 years (36%), especially compared to the youngest cohort group (62% among Tongans aged 15 to 24 years). Again, just 22% of Tongans would trust an automated service to provide financial advice, underscoring a general wariness towards and lack of trust in some online financial tools, and appropriate trust in the tools needs to be grown over time.

Finally, DFS outcomes to date have been largely positive, albeit limited to a smaller group of DFS users. Amongst the 20% of Tongans 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. Slightly fewer than two-thirds (63%) have found it easier to manage their money without help from others; 43% have found it easier to keep track of what they are spending. To-date, only 20% of DFS users have saved money on financial transactions by reducing fees or other costs. Tongans living in urban areas are far more likely to have experienced these positive outcomes than their rural counterparts, as are men than women. That said, the percentage of Tongans 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

DFL by Demographic and Geographic Subgroups

The tables in this section provide a detailed snapshot of DFL index performance by geographic and demographic subgroups, including self-employed Tongans and individuals living with disability.

Table 1: DFL Index Score by Gender by Density

[Scores calculated of the total sample, n=1,212]

(Shading where $p \leq 0.05$)	Total	Urban Men	Rural Men	Urban Women	Rural Women
Total DFL Score (0-52)	23.22	23.41	23.21	23.55	22.53
1. Digitalisation (0-18)	6.87	6.98	7.16	7.03	6.23
2. Financial competencies (0-13)	7.19	7.19	7.07	7.23	7.25
3. Digital financial competencies and DFS outcomes (0-21)	9.16	9.24	8.98	9.28	9.05
% Low (0-12 points)	4	6	5	3	2
% Moderate (13-26 points)	64	61	62	64	71
% Above Average (27-39 points)	31	31	32	32	26
% High (40-52 points)	1	2	0	1	1

Table 2: DFL Index Score by Region

(Shading where $p \leq 0.05$)	Total	'Eua	Ha'apai	Tongatapu	Vava'u
Total DFL Score (0-52)	23.22	20.60	25.08	23.57	21.34
1. Digitalisation (0-18)	6.87	6.12	6.53	7.17	5.45
2. Financial competencies (0-13)	7.19	6.94	7.55	7.26	6.74
3. Digital financial competencies and DFS outcomes (0-21)	9.16	7.53	11.00	9.14	9.15
% Low (0-12 points)	4	8	9	3	6
% Moderate (13-26 points)	64	74	49	64	71
% Above Average (27-39 points)	31	15	38	32	24
% High (40-52 points)	1	2	4	1	0

Table 3: DFL Index Score by Gender by Age

(Shading where $p \leq 0.05$)	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)	23.22	23.20	24.38	22.07	22.79	24.56	21.58
1. Digitalisation (0-18)	6.87	8.15	7.53	5.29	7.99	7.38	4.62
2. Financial competencies (0-13)	7.19	6.13	7.53	7.68	6.24	7.63	7.67
3. Digital financial competencies and DFS outcomes (0-21)	9.16	8.91	9.33	9.09	8.56	9.55	9.29
% Low (0-12 points)	4	10	4	3	3	1	4
% Moderate (13-26 points)	64	54	58	75	66	62	75
% Above Average (27-39 points)	31	35	36	20	31	36	21
% High (40-52 points)	1	1	2	2	0	1	0

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

(Shading where $p \leq 0.05$)	Total	≤ Middle School	Secondary School	University+	Student	Self- Employed	Formally Employed
Total DFL Score (0-52)	23.22	20.60	23.36	26.77	22.24	24.77 ⁴⁰	26.87
1. Digitalisation (0-18)	6.87	4.92	7.09	9.21	8.51	6.72	9.02
2. Financial competencies (0-13)	7.19	6.84	7.15	7.78	5.70	8.01	7.77
3. Digital financial competencies and DFS outcomes (0-21)	9.16	8.83	9.11	9.77	8.04	10.04	10.08
% Low (0-12 points)	4	9	3	1	8	0	2
% Moderate (13-26 points)	64	74	65	46	64	59	45
% Above Average (27-39 points)	31	17	31	49	28	40	49
% High (40-52 points)	1	0	0	4	0	1	4

Table 5: DFL Index Score by Income and Disability Status

(Shading where $p \leq 0.05$)	Total	≤113TOP	114-341TOP	342-570TOP	571+TOP	PWD*
Total DFL Score (0-52)	23.22	20.44	23.10	24.33	25.53	21.90
1. Digitalisation (0-18)	6.87	6.36	6.36	7.09	8.18	5.35
2. Financial competencies (0-13)	7.19	6.12	7.36	7.49	7.86	7.31
3. Digital financial competencies and DFS outcomes (0-21)	9.16	7.96	9.38	9.75	9.49	9.24
% Low (0-12 points)	4	9	3	4	1	6
% Moderate (13-26 points)	64	77	63	59	56	69
% Above Average (27-39 points)	31	14	33	36	41	23
% High (40-52 points)	1	0	1	1	2	1

*Persons with disabilities

⁴⁰ A majority of business owners (n=29) who have paid employees (~60%) achieve an above average or high DFS score. Due to small sample size however, results should be treated with caution.

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=1,212]

% 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	85	89	89	76	88	92	74
Mobile phone, only for calls or texts	46	43	51	48	46	43	44
Tablet, laptop, desktop computer	48	51	51	38	56	53	37
Router or modem	21	22	25	16	21	23	17
Smart watch or speaker	23	16	24	24	28	27	18
Smart TV	20	21	19	20	26	21	16

Table 7: Access to Digital Devices by Density and Region

% Yes (Shading where p≤0.05)	Total	Urban	Rural	Rural Women	'Eua	Ha'apai	Tongatapu	Vava'u
Smartphone	85	84	87	87	96	88	86	76
Mobile phone, only for calls or texts	46	48	43	39	28	24	47	51
Tablet, laptop, desktop computer	48	49	46	46	32	34	51	37
Router or modem	21	23	18	16	14	7	24	12
Smart watch or speaker	23	26	19	18	17	28	24	19
Smart TV	20	23	17	18	6	31	22	10

Table 8: Access to Digital Devices by Educational Attainment

% Yes (Shading where p≤0.05)	Total	≤ Middle School	Secondary School	University+
Smartphone	85	74	89	93
Mobile phone, only for calls or texts	46	44	44	50
Tablet, laptop, desktop computer	48	31	48	71
Router or modem	21	12	19	39
Smart watch or speaker	23	17	22	35
Smart TV	20	14	19	31

Table 9: 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=1,212]

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=940]

(Shading where $p \leq 0.05$)	Ever use the Internet (%)	Daily* (%) [n=940]
Total	78	85
Men 15-24 years	88	87
Men 25-44 years	86	83
Men 45-74 years	59	84
Women 15-24 years	84	89
Women 25-44 years	88	83
Women 45-74 years	54	81
≤ Middle school	60	76
Secondary school	84	86
University+	89	90
Urban men	77	85
Rural men	81	85
Urban women	75	84
Rural women	78	86
‘Eua	81	80
Ha’apai	79	82
Tongatapu	80	86
Vava’u	64	78

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

Part 3

Table 10: Financial Knowledge

F3. Could you tell me if you think the following are typically true or false? [Total sample, n=1,212]

% (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	DK ⁴¹	True	False	DK	True	False	DK
Total	55	41	4	62	37	1	48	50	2
Men	54	42	4	63	36	1	46	51	2
Women	56	41	3	60	38	1	49	49	1
Men 15-24 years	43	51	5	57	42	1	44	55	2
Men 25-44 years	60	35	4	69	29	2	49	47	4
Men 45-74 years	57	40	3	61	38	1	45	53	1
Women 15-24 years	52	43	4	53	45	1	48	50	2
Women 25-44 years	56	41	3	67	32	0	49	49	1
Women 45-74 years	59	39	2	58	40	1	49	49	1
Urban men	56	38	7	64	34	2	50	46	4
Rural men	52	47	1	61	38	0	41	58	0
Urban women	60	36	4	57	42	1	48	50	2
Rural women	50	48	2	66	34	0	50	49	0

Table 11: 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=1,212]

% Yes (Shading where p≤0.05)	Payment card	Parametric insurance	Other insurance	Digital/Mobile wallet	Crypto-currency
Total	32	5	2	4	1
Men	33	5	2	4	1
Women	30	5	3	4	1
Men 15-24 years	24	4	1	2	1
Men 25-44 years	43	6	2	6	2
Men 45-74 years	30	6	2	5	0
Women 15-24 years	19	3	1	2	1
Women 25-44 years	39	5	5	6	2
Women 45-74 years	28	6	2	2	0
Urban men	35	5	2	5	1
Rural men	31	6	2	3	1
Urban women	30	3	3	4	1
Rural women	30	8	3	4	2
≤ Middle school	18	5	2	5	1
Secondary school	32	6	2	3	1
University+	50	5	4	7	3
≤113TOP	10	4	0	2	0
114-341TOP	32	6	3	5	1
342-570TOP	43	5	3	5	1
571+TOP	43	5	2	5	2
Self-employed	39	7	3	8	2
Individual living with a disability	29	5	3	4	1

41 DK= Don't know

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	
	Tongan		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
Ask if B4 = -99	0-14	B4_cat	14	Terminate interview
	15-24		24	
	25-34		34	
	35-44		44	
	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'.
Ask if B5_1=0	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.
	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
No	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.
	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. If asked, please state that this is before tax is deducted.
	Less than \$113 per fortnight but not 0		1	
	Between \$114 and \$227 per fortnight		2	
	Between \$228 and \$341 per fortnight		3	
	Between \$342 and \$455 per fortnight		4	
	Between \$456 and \$570 per fortnight		5	
	More than \$571 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 deactivate 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, debt, 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	Subsection	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 Use a banking app/online money management tool to monitor spending and saving 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 Agree that DFS make it easier to receive government payments Disagree that DFS are risky for ordinary people Disagree that DFS are designed for men more than women
	DFS knowledge (0-2)	DF1. Do you agree or disagree that digital financial services: 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 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 Has some money to spend on myself from time to time 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 Trust financial service providers more than three months ago <u>Don't</u> worry more about scams and fraud than three months ago <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 Found it easier to manage your money without help from others Found it easier to keep track of spending <u>Haven't</u> been locked out of account for more than a day due to forgetting access details <u>Haven't</u> lost money because of online scams

About UNCDF and UNDP

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.

Furthermore, since March 2020, the United Nations Development Programme (UNDP) has worked with over 60 partner governments to deploy critical technologies to move critical services online with the advent of the COVID-19 global pandemic. UNDP has provided significant support, both financial and administrative, to the Pacific Digital Economy Programme (PDEP), a joint program of UNDP and UNCDF, of which the Digital Financial Literacy Surveys are a part.

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.

