Study on Barriers and Opportunities in Using Digital Technologies to Provide Services for Older Adults in Poverty Condition in APEC Economies

APEC Digital Economy Steering Group

February 2025

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Economic Cooperation

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APEC Project: DESG 02 2021

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APEC#225-CT-01.16

Executive Summary

The global population is experiencing a notable shift towards older age groups, primarily due to declining birth rates and increased life expectancy. This demographic transition poses numerous challenges and opportunities for societies and economies alike. While it reflects advancements in healthcare, technology, and living conditions that have extended human lifespan, it also brings about social, economic, and healthcare implications. Economies must adapt their policies and infrastructures to support a larger aging population, including addressing issues like healthcare costs, retirement security, and caregiving services. Additionally, promoting active aging and intergenerational cohesion can lead to a more sustainable and inclusive society. This brings into frame the importance of the utilization of digital technologies as a means to fulfill these goals, particularly with regard to older adults in vulnerable situations, such as those that live in poverty conditions.

The focus of this project is to gather and share the difficulties and best practices regarding the digital inclusion of older adults in poverty among APEC economies, which will benefit both the general well-being of this population and the economies abilities to increase the productive integration of older adults into society through the use of digital technologies. The findings from this study are used to formulate recommended actions, including enabling the participation of older adults in policy design, the importance of the articulation of the public and private sectors, the value of network approaches to service delivery, the importance of leveraging older adults' networks to approach their needs, the fundamental role of digital literacy initiatives in the digital inclusion of this population, the focus that must still be given to the physical access situation of older adults, and the necessity of constructing joint initiatives

among APEC economies. These findings should be valuable as inputs in both developed and developing economies that aim to address the generally limited participation of this population in the fast-expanding digital world.

This project was funded by the APEC Digital Economy Steering Group. Thus, this project's goal is to carry out a professional in-depth analysis of the situation of digital older adults living in poverty conditions regarding their digital inclusion, or lack thereof. Through the participation of APEC economies (12 surveys), thematic experts (20 surveys and 10 interviews), and older adults through a survey from Peru's Pension 65 program (N=369) detailed information was collected that made possible a general characterization of the barriers that this population faces towards their digital inclusion, as well as of the best practices among APEC economies oriented at bridging the gap between this and other age groups. Through this comprehensive analysis, recommendations and guidelines are formulated to be voluntarily applied by economies in the development of policies aimed at fostering the utilization of digital technologies among older adults living in poverty.

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1. Introduction

In the past 20 years the number of older adults has doubled worldwide (UN, 2020). The 21 economies that are part of the Asia-Pacific Economic Cooperation (APEC) are not exempt from this reality. According to the Global Age Watch Index, economies such as the United States; Canada; Australia; Chile; Thailand; and Peru are among the 50 economies with the highest rate of aging since 2015 (HelpAge International, 2015). In particular, for the latter economy, around 12.7% of Peruvians are over 60 years old (INEI, 2020) and projections by the Population Division of the Economic Commission for Latin America and the Caribbean (ECLAC) show that this proportion will rise to 22% in 2050 (ECLAC, 2016).

As they will represent a large proportion of the world's population in the coming years, economies must realize that older adults are more likely to be exposed to a situation of poverty, since the reduction of physical capacities and withdrawal from the labor market, as well as specific health and education conditions, among other factors, may mean a reduction in their income that could be reflected in an increase in the probability of being exposed to vulnerability or greater difficulty in coping with it, if the mechanisms of withdrawal from work and social protection are not in their favor (CONEVAL, 2020).

In addition, this increase in the older adult population will also be reflected in a proportional increase in the specific social, economic, political, and cultural demands, which must be addressed through public policies to ensure their social inclusion, their quality of life and the protection and promotion of rights (ECLAC, 2016; Huenchuan, 2013). In recent years, policymakers of developed and developing economies have made important efforts in the

creation and implementation of digital inclusion initiatives with the objective of contributing to social integration and generating greater autonomy in the older adult population through the use and appropriation of digital technologies in their daily activities (Sunkel & Ullmann, 2019).

For Peru's case, this study worked in collaboration with Pension 65, which is a social program created by Peru's Ministry of Social Inclusion and Development (MIDIS), with the goal of protecting elderly people over 65 years of age who lack basic conditions for their maintenance and to provide them with an economic subsidy of PEN300[1] every 2 months, so that their needs are met, including their integral protection and access to health services. This program reaches more than 600 thousand older adults throughout the whole economy.

In this context, this study will focus on older adults in poverty condition (hereinafter, OAP), a vulnerable group that needs focusing through specific public policy efforts for not being left behind.

2. Research objectives

The main objective of this study is to identify and analyze the physical, social, and cultural barriers that limit the use of digital technologies of older adults in poverty condition, as well as to collect best practices on digital inclusion for this population group in APEC economies such as Peru.

[1] Approximately USD80.

Additionally, a set of recommendations and possible future activities will be produced, for the consideration of APEC economies, that will seek to improve digital inclusion among older adults in poverty conditions.

3. Methodological approach

Both quantitative and qualitative approaches are considered in the study since they will contribute to produce a more thorough understanding of the digital inclusion scenario. In this sense, opinions, and detailed answers of participants through qualitative conversational techniques, as well as standardized answers that will be obtained through quantitative techniques, are incorporated.

Due to the intrinsic multidimensionality of the digital divide, the study analyzes sociodemographic variables that may affect the experience of access and use of digital technologies. For this reason, the focus is on poverty conditions and age, along with a gender equality approach.

3.1. Phases of data collection and systematization

The following phases aim to respond to the objectives of the study with gradual levels of specificity.

a. **Phase 1:** Preliminary literature review of barriers and best practices in digital inclusion of older adults in poverty. This stage helped to elaborate the methodological design, including the selection of relevant topics to include in the surveys and guide for interviews (see Section 4 – Literature review).

b. **Phase 2:** Design of collection tools

- Design of *Survey 1: Older Adults* (aimed at older adults in poverty condition) and mapping of allies for its implementation.
- Design of *Survey 2: APEC economies* (aimed at members of APEC economies) and mapping of relevant actors for its implementation.
- Design of *Survey 3: Thematic experts* (aimed at thematic experts) and mapping of relevant actors for its implementation.
- Design of interview guide, aimed at thematic experts.
- Validation and implementation of pilot tests for the three surveys.

c. **Phase 3:** Implementation of collection tools

- Implementation of *Survey 1: Older Adults* in coordination with Pension 65.
- Implementation of *Survey 2: APEC economies* via an online link.
- Implementation of *Survey 3: APEC economies* via an online link.

d. **Phase 4:** Systematization of the information collected in the surveys. The obtained results are considered useful inputs for the identification of best practices for the preparation of four case studies in different APEC economies.

e. **Phase 5:** Case studies

- Selection of experts associated with the four case studies.
- Literature review relevant to best practices in digital inclusion for older adults in poverty, including public policies and governmental strategies in the selected APEC economies.
- Implementation of in-depth interviews with thematic experts.

- Systematization of in-depth interviews.

f. **Phase 6:** Analysis of the collected information

- Triangulation of findings (the extended triangulation proposal can be found in Section 3.6. – Data processing).
- Formulation of recommendations.

3.2. Target population

The concept of older adults is defined in different ways in each APEC economy; some consider people of 60 years of age and above as members of the older adult population (China; Mexico; Peru; and USA, for example). On the other hand, some economies consider adults of 65 years of age and above (Canada; Japan; Korea; and New Zealand, and others).

Generally speaking, the variation in the minimum age range for the categorization of the older adults is associated with the age distribution of each economy; thus, it is common for economies with older populations to use 65 as the threshold, while economies with younger populations use 60.

For the purpose of this study, we consider people of 60 years of age and above as older adults, such that best practices focused on both groups (those aged 60 and above and those aged 65 years and above) can be collected.

3.3. Design sample and recruitment strategies

The research team selected relevant actors that have shed light on the topics of barriers and best practices in digital inclusion for the older adult population in poverty condition. The

following groups of key actors have been identified and linked to specific tools and relevant information to be collected.

Table 1. List of key actors and techniques

Relevant actor	Techniques applied	Relevant information
Older adults in poverty condition	Survey 1 (face to face)	● Barriers experienced in the acquisition and use of digital technologies (physical, economical, and socio-cultural)
Members of APEC economies (specially DESG group)	Surveys 2 & 3 (online)	● Barriers identified in the planning and implementation of public policies aimed at adoption of digital technologies by older adults. ● Policy frameworks that promote fostering of digital inclusion of older adults in poverty condition ● Best practices and successful experiences associated with digital technologies and older adults. ● Barriers identified in the acquisition and use of digital
Thematic experts - Organizations and associations		

		technologies in the older adult population.
	In depth-interviews (online)	● In-depth, detailed information about policy frameworks and the planning and implementation of best practices associated with digital technologies and older adults.

Prepared by the authors.

In order to collect information of each relevant actor, the research team has relied on four data collection tools. The details on each tool and the information gathering process for each group of actors are detailed hereunder.

3.4. Data collection tools and state of data collection

Survey 1: Older Adults

a. Sampling Method

The sampling method for this tool is entirely designed by MIDIS General Direction of Monitoring and Evaluation (DSGE) and consists of simple probabilistic sampling. The data collection was implemented by Pension 65, a government initiative which focuses on older adults in extreme poverty conditions. The survey has been designed to have domestic reach, with a sample size of 369 respondents.

b. Participant profile

By definition, the users of Pension 65 are older adults in extreme poverty (according to the 'Padrón General de Hogares'), of 65 years of age and over, with no pensions.

c. Selected platform for data collection

In the Peruvian case, the implementation of the survey will take place with the support of Pension 65, through the implementation of their Survey of Perceptions of the users of this program. Data collection was carried out during the January-March 2023 period, and the results from the survey were obtained in April 2023.

The Pension 65 program was chosen due to several factors making it an optimal partner for the scope of this research. As mentioned earlier, this program focuses specifically on older adults in extreme poverty condition, which is our target population. Surveys were designed by MIDIS' DSGE and implemented by Pension 65. These evaluations are aimed at gathering its users' perceptions on the program, as well as other variables relating to their digital inclusion. Thus, Pension 65 has the ability to directly reach this population on a wide level and focusing specifically on extreme poverty conditions.

d. Recommendations to maximize data collection

The face-to-face surveys that were implemented focused on the identification of barriers of this population for access to and use of digital technologies. This was attained through the collection of relevant physical, economic, and sociocultural data from the participants. Due to

the potential unfamiliarity of older adults with the subject, it is important that the survey design considers the formulation of questions in an accessible language and phrasing.

In addition, the research team has elaborated a protocol for face-to-face surveys to ensure the safety of older adults in the midst of the COVID-19 pandemic (see 3.7. Ethical considerations).

e. List of participants

The participants were selected by Pension 65 based on the Direction of Evaluation's sample design.

Survey 2: APEC Economies

a. Sampling Method

The individuals that participate in the implementation of this tool were selected through a method of deliberate sampling, which is a non-probabilistic sampling method. This method consists of a deliberate selection of participants according to a set of criteria defined by the researchers. In this case, the criterion consists of being a participant of the Digital Economy Steering Group (DESG). Specifically, the research team gathered 12 answers from surveys from multiple APEC economies.

b. Participant profile

This online survey was aimed at APEC members, specifically at participants of the DESG, and seek to collect information on the difficulties associated with the situation of older adults in poverty condition in relation to the use of digital technologies, as well as the actions

implemented to resolve said obstacles. In this sense, the research team was able to collect a broad range of information in terms of barriers and best practices associated with the problem.

c. Selected platform for data collection

Data collection was carried out through self-administrated online surveys via Google Forms. Both an invitation to participate and a link to the relevant survey were sent via e-mail to the list of recipients. Plus, reminders to participate were sent at set dates to ensure a maximum number of answers collected.

d. Recommendations to maximize data collection

This tool was designed to collect detailed information from the APEC member economies' perspective, particularly the participants of the DESG. With this in mind, mostly open questions were elaborated, so that the respondents could provide more complete and specific answers, allowing for a more precise collection of relevant information. Additionally, the survey's extension was kept as concise as possible.

In order to enhance the participation of key actors, different communication strategies were implemented. Firstly, the online surveys were sent on through the e-mail address of the Peruvian Ministry of Foreign Trade and Tourism (MINCETUR). Subsequently, the Peruvian Ministry of Development and Social Inclusion (MIDIS) sent the questionnaire again for completion; as a result of this communication, 5 responses were collected. The research team then made a third communication via e-mail to request support in filling out the surveys. As of 13 December 2022, 12 surveys (corresponding to 7 APEC economies) have been completed.

The research team continued asking for the participation of the economies that did not answer to this survey through new rounds of invitations and reminders.

List of participants

For the mapping of this group of actors, the research team considered all the economies that are participants of the DESG.

Survey 3: Thematic Experts

a. Sampling Method

The individuals that participated in the implementation of this tool were selected through a method of deliberate sampling, which is a non-probabilistic sampling method. This type of method consists of a deliberate selection of participants according to a set of criteria defined by the researchers. In this particular case, the criterion consists of experts whose area of research is closely related to the subjects of older adults and their relationship with digital technologies, ICTs, and digital inclusion.

Participant profile

A mapping of researchers in digital inclusion and older adults was carried out by conducting a review of the existing bibliography. Thus, the research team identified thematic experts with positions in research centers and organizations from APEC and non-APEC economies that focus on each of these topics. Furthermore, different positions in public and private institutions were considered. Some relevant actors were retrieved during the development of the research, both through data collection and literature review.

b. Selected platform for data collection

Data collection was carried out through self-administrated online surveys via Google Forms during late 2022. Initially, both an invitation to participate and a link to the relevant survey were sent via a team researcher's e-mail to the list of recipients. As of the end of this process, 20 answers were completed.

c. Recommendations to maximize data collection

Similar to Survey 2, this tool was designed to contain mostly open questions, so that the respondents could provide more complete and specific answers. Survey length was also taken into consideration, and it was kept as concise as possible. To ensure that a maximum number of answers can be collected, invitations were sent through the research team's networks. Particularly, being part of the Ageing + Communication + Technologies (ACT)[2] research project was helpful for this objective.

In addition, the research team disseminated relevant information about the objectives and potential benefits of the study in order to engage participation.

e. List of participants

The economies of thematic experts that were contacted for the surveys can be found in Table 5 (pg. 70), in "Section 5.3. Survey 3".

[2] ACT is "a research project that addresses the transformation of the experiences of ageing with the proliferation of new forms of mediated communications in networked societies." (https://actproject.ca/)

Interview: Thematic Experts

a. Sampling Method

The individuals that participated in the implementation of this tool were selected through a method of deliberate sampling, which is a non-probabilistic sampling method. It consists of a deliberate selection of participants according to a set of criteria defined by the researchers. In this case, the first criterion considered experts whose area of research is related to older adults, digital inclusion, and other more specific subjects that the consultant team expected to obtain from the data collection process. Plus, thematic experts who took part in the interviews were chosen based on the responses to Survey 3: Thematic Experts. The research team opted for specialists who provided more detailed responses to the survey and considered inviting participation from a variety of economies. Specifically, 10 interviews with experts from 7 economies around the globe were conducted.

b. Participant profile

The research team selected the experts to be interviewed once the first stages of the data collection process were completed to allow a more precise deliberation. Thus, the participant profile included having expertise in researching topics related to digital gaps, digital inclusion, older adults' experience and necessities, and digital inclusion of the older adult population. Furthermore, different positions in public and private institutions were considered.

c. Selected platform for data collection

The interviews were coordinated beforehand through e-mail communication and carried out via the videoconference platform Microsoft Teams.

d. Recommendations to maximize data collection

A semi-structured type of interview has been selected, such that the presented questions are not set, but will rather function as a guide for the conversation. This type of interview is meant to be able to better explore the perspective of the experts on the subject, instead of entirely confining the conversation to predefined subjects.

Additionally, a review of literature both pertaining to the interviewees area of expertise and of the interviewees specific research production, if available, will be carried out before the interview, so that the conversations can properly deepen into the fields that are of interest to the data collection process.

e. List of participants

The detailed list of thematic experts that were contacted for the interviews can be found in Table 6 (pg. 78) in Section 5.4. Interview: Thematic Experts.

A synthesis of the participants and data collected from all instruments that were implemented as part of this research project is summarized in Table 2:

Table 2. Data Collection Achieved – All instruments

Instrument	Participation goal	Data Collection Achieved
Survey 1 – Older Adults	Defined by Pensión 65	Surveys conducted in January-March 2023. Results obtained in April 2023. N=369
Survey 2 – APEC Economies	50% of all economies (11 economies)	12 surveys, from 7 economies.
Survey 3 – Thematic Experts	20 experts with a minimum of 8 female participants	20 surveys, with 15 female participants
Interviews – Thematic experts	10 experts with a minimum of 4 female participants	10 interviews, with 9 female participants

Prepared by the authors.

Validation of data collection tools

First, the aforementioned tools were validated by the MIDIS and APEC teams. In a subsequent instance, pilot tests of the surveys and structured interviews were carried out to validate the relevance of the questions and accessibility of the techniques with the relevant actors.

Regarding the survey aimed at older adults, pilot tests will not be carried out. However, the questionnaire has been validated by the MIDIS' General Direction of Monitoring and Evaluation (DSGE), as well as by Pension 65's Projects and Intervention Design Unit. Cultural

relevance and ease of understanding were both taken into account through this validation process. Additionally, the questionnaire has been translated to both the Aimara and Quechua languages.

3.5. Data collection techniques and tools

As stated previously, the research tools sought to retrieve information concerning barriers and best practices in digital inclusion for older adults in poverty condition. More precisely, the data collection process consisted of three main techniques: literature review, surveys, and interviews. In Phase 1 of the study, the research team explored different open and indexed databases to retrieve various debates concerning the older adult population's experiences, needs and expectations, as well as the current scenario of digital inclusion in the world and an early overview of best practices in this topic.

Subsequently, in Phase 2, the research team gathered the opinions and narratives of relevant actors through the conduction of surveys and interviews. Three different questionnaires were prepared to collect information from:

i. Older adults in poverty condition (see Annex 1)
ii. Members of APEC economies (see Annex 2)
iii. Thematic experts (see Annex 3)

More precisely, the questionnaire and interview guide (see Annex 4) aimed at APEC members and thematic experts included the following sections:

iv. Characterization of the problem

v. Characterization of the affected population

vi. Desired future situation

vii. Barriers to digital inclusion

viii. Alternative solutions (best practices)

ix. Policy design

Furthermore, the research team has been in constant communication with MIDIS to design the appropriate data collection instrument for older adults living in poverty conditions and their digital technologies use. MIDIS's experience in developing assistance programs for vulnerable populations, such as Pension 65, and the Survey of Perceptions of the users of this program has contributed significantly to the production of this instrument.

In order to obtain information on the main barriers faced by older adults in poverty in the use of digital technologies, the research team initially formulated an instrument with five thematic areas (Mobilization, Media, Income-generating activities, Internet and a specific section for non-Internet users) with 42 questions. In the first revision, the MIDIS team pointed out the need to considerably reduce the number of questions, as only one additional module was going to be added to the Pension 65 Users' Perceptions Survey. This reduction was necessary due to the length of the original data collection tool designed by MIDIS DSGE, which is already quite extensive; thus, in consideration for the participants, the module was appropriately shortened. This modification resulted in a second version with three thematic areas (Media, Internet, and Non-users), with fourteen questions in total. In an additional revision process, the final version

of the instrument has the same thematic areas (Media, Internet, and Non-users), including nine questions.

The final version of this instrument can be found in Annex 1.

Finally, in Phase 5 of the study, the research team conducted the gathering of information for three case studies of best practices in different APEC economies. The two main sources of information determined for this are the review of literature and the sharing of information with the respective economies' stakeholders. The research team performed an extension to the literature review previously elaborated to incorporate relevant subjects (see Section 4 - Literature review).

3.6. Data processing

The research team has collected information through three main phases: literature review, collection of opinions and case studies. The systematization and analysis processes of each one of them are described below.

3.6.1. Literature review

The process of literature review focuses on searching for bibliography relevant to the main objectives of the study. Firstly, the texts were systematized in a matrix according to the topics covered. Later, the findings from this review were written down.

Based on a preliminary literature review, the following sub-topics were identified:

i. Barriers for digital inclusion

- Older adult population in poverty condition
- Digital inclusion for the older adult population

ii. Best practices for digital inclusion

- Best practices for older adults in poverty condition
- Best practices in digital inclusion for older adults

3.6.2. Surveys and interviews analysis

The information obtained from older adults in poverty condition (Survey 1) was systematized to generate an overview of the barriers that limit their access to the opportunities that derive from the use of digital technologies. This information was complemented in further analysis with the barriers collected through the surveys carried out with the APEC members, specifically, the participants of the DESG (Survey 2), and thematic experts (Survey 3) to generate a scheme that includes the multiple perspectives on the existing barriers, both from the demand for the service and from the supply approach.

Additionally, Surveys 2 and 3 have provided data concerning the best practices in digital inclusion for the older adults, specifically, those in poverty condition. On the one hand, the research team was able to collect data focused on the reality of APEC economies. On the other, thematic experts were fundamental in sharing their informed approaches on multiple scenarios all over the world.

The information was systematized in different matrixes to facilitate the analysis process. Thus, the research team carried on an inductive analysis and synthetized thematic topics based on the findings.

3.6.3. Case studies

Based on the surveys performed with APEC members and thematic experts, some of the most important or successful practices in digital inclusion for older adults (emphasizing poverty conditions) have been selected for the required case studies. In this process, the research team has extended the literature review and gathered information from the relevant economies and its experts.

Similarly to the previous data collection phase, the information retrieved from the case studies was systematized to facilitate the analysis process. Thus, the research team was able to present the most important information from these initiatives, organized in thematic axes relevant to the findings.

3.6.4. Online Meeting Report

The online meeting was a single day event led by an expert consultant from the research team that delivered an exposition of findings related to the digital inclusion of older adults in poverty capacity in APEC economies, as well as recommendations for related public policies. The online meeting consisted of a single session comprised of two main activities: a presentation from the research team oriented at the discussion of the findings of the current study, as well as several APEC economies' exposition of good practices related to this subject.

The online meeting was conducted on 15 May 2023.

For additional information about this Meeting, please refer to Annex 6 – Online Meeting Report.

3.6.5. Triangulation of findings

For the data processing, a methodological triangulation was conducted, which implies the use of different means to approach the same topic. In this case, the research aimed to identify barriers and best practices in digital inclusion for older adults in poverty condition. Thus, the data collection process was pursued by using three methods: the reviewing of literature, the conduction of surveys and interviews, and the analysis of case studies.

First of all, the literature review allowed the research team to point out academic consensus regarding digital inclusion, older population and poverty, as well as gaps in the research agenda. Secondly, the surveys and interviews were able to shed light over: (1) the older adults' experiences and concerns regarding the topic, (2) the perspectives of experts in APEC economies on what remains to be done to promote digital inclusion for this population, in addition to the strengths and limitations of current initiatives. Lastly, through the case studies, the researchers were able delve into the ongoing efforts to address this situation, on how they might be improved, and the lessons that can be carried to design further initiatives in APEC economies.

After systematizing and analyzing each data collection phase, the research team integrated the information in order to: (1) generate and overview of the barriers that limit older adults' digital

inclusion and (2) identify best practices in digital inclusion from the public and private sectors in three APEC economies. Therefore, the study provides information to characterize the problem, identify what has been said and done about it, and what efforts can be made to address it. This triangulation was then utilized to formulate a series of voluntary recommendations.

3.7. Ethical considerations

In order to ensure a data collection process that contemplates the comfort and opinion of the participants, certain ethical considerations must be considered.

Thus, this research was performed under the following guiding ethical principles (Ames and Merino, 2019):

1) **Respect for the individual**: Respect for persons requires acknowledging individual autonomy and safeguarding those with diminished autonomy. It entails providing subjects with information, ensuring voluntary participation, allowing withdrawal, and respecting fundamental rights, especially for vulnerable individuals due to factors like age, illness, or socio-economic conditions.
2) **Beneficence and Non-Maleficence:** The investigator's foremost duty is subjects' welfare. Harm to subjects, investigators, or others must be avoided, with efforts to mitigate adverse effects and enhance research benefits. Researchers must adhere to the precautionary principle in their work and result sharing. This respects society's right to grasp long-term gains and risks from novel scientific knowledge or methods.
3) **Justice:** The investigator must avoid biases and limitations that lead to unfair practices. Benefits should be justly provided, burdens fairly distributed. Equity ensures

participants' access to research results, with exceptions for confidentiality, professional commitments, and societal well-being. Equitable treatment extends to all involved in research processes and services.

4) **Scientific integrity:** This principle mandates truthful conduct in data collection, analysis, and result communication. Integrity covers funding sources, procedures, teaching, and professional practices. It's crucial when assessing and reporting participant risks, benefits, and conflicts of interest.

With these principles in mind, the research team proposed different consent formulas considering the accessibility of the relevant actors. Both online surveys contained a written consent formula so that thematic experts and members of APEC economies could confirm their voluntary participation.

The interviewers for the Pension 65 survey were also instructed through MIDIS' training to follow a set of ethical guidelines aimed at treating the respondents with respect, to highlight the confidentiality of the gathered information, and to emphasize the respondents' ability to withdraw consent from participating in the survey.

With the data collection process having been completed, the research team maintains the confidentiality of the identity of relevant actors. Besides, all the survey responses and audio records will be made available to the APEC and MIDIS teams for the only purpose of research.

For the potential implementation of the face-to-face survey with older adults, a security protocol against COVID-19 was considered, following the recommendations of global organizations such as the World Health Organization (see Annex 5).

4. Literature review

4.1. Older adult population and the definition of poverty

The literature on poverty and the older adult population, and therefore the texts considered in this bibliographic review, are characterized by using i) various definitions of poverty, as well as ii) varied ways of including poverty as a variable of analysis (Kwan and Walsh, 2018). Regarding the first aspect, it has been stated that poverty for older adults can be measured through methods. To summarize, these can be understood as:

i. Defined by monetary income indicators, usually through the establishment of a poverty line (Kim and Cook, 2011), or consumption needs (Gerontology Institute, 2012). This form of measurement tends to assume different values for each economy and can even assume variable values for different groups within the same population.
ii. Defined by indicators associated with asset holdings (Weon, 2018; Chan and Chou, 2018). This form of measurement varies in the items it considers as assets, ranging from monetary items, such as savings or stock holdings, material assets such as appliances and jewelry, structural assets including housing materials and features, or a combination of these.
iii. By self-definition (Muhammad and Srivastava, 2021). This type of measurement relies on a subjective assessment of an individual's well-being or poverty status from their own perception.

Although the standardization of the concept of poverty and its particular application to the older adult population is a task beyond the main objective of this research, this debate should be

taken into account as part of any discussion that seeks to approach the issue of poverty in a broad manner. More specifically, this study gathers experiences related to the older adult population in poverty condition in multiple economies, which implies contemplating several discussions around this issue from methodological positions that are not necessarily opposed, but potentially dissimilar.

On the other hand, studies tend to use poverty in two ways in their analyses:

i. As a dependent variable, analyzing other variables and factors that act as protective or risk elements for an older adult to be in a situation of poverty.
ii. As an independent variable, analyzing poverty through its effects on some dimension of the older adult's life (usually with respect to their health situation).

Considering poverty as a dependent variable implies assuming a series of factors, both protective and risk factors, that are relevant in the life experience of older adults and that can cause or prevent them from finding themselves in a situation of poverty. These factors are found at the level of the individual's life trajectory and personal decisions, and at the structural level, considering the possibilities of their environment and the social and institutional support available to them, being the case that both dimensions are in constant interaction (Kola & Owumi, 2019).

The indicators used at the individual level include variables such as employment status, sex, marital status, migratory status, household composition or asset ownership, among others (Kim & Cook, 2011; Lee & Lee, 2009; Yang, 2011; Phua et al., 2007). At the structural level, the existence of public pension systems is an important protective element to take into account, as

well as the possibility of receiving monetary transfers from family members. Additionally, social exclusion is a risk factor to consider, both at the interpersonal and labor market level (Lee, 2014; Peeters & Wouter, 2015).

4.2. Older adult population and digital inclusion

According to Andreasson (2015), digital inclusion comprises the recognition of gaps in the access of Information and Communication Technologies (ICTs) and the promotion of their appropriation among groups with untapped economic potential. In the context of the so-called information age and cyber-dependence, this digital inclusion also implies guaranteeing basic rights, improving living conditions, promoting social inclusion and economic development (Andreasson, 2015). However, to ensure it fully, it is necessary to overcome pre-existing social, cultural, political, and economic inequalities in order to benefit from these tools (Sunkel and Ullman, 2019). Within the line of research devoted to this issue, older adults have been considered as one group that faces particular challenges when accessing and using ICTs, being considered the "most isolated" age group globally (Sunkel and Ullman, 2019).

Tore Vassli and Farshchian (2018) have systematized a number of factors that either incentivize or demotivate the use of digital technologies by the older adult population. On the one hand, positive elements may include (1) motivation regarding autonomy and independence, (2) motivation regarding the benefits of accessing technological resources, (3) technical support and supervision for use, and (4) digital skills learned over a sustained period. On the other hand, inhibiting factors for use include: (1) concerns about privacy issues, (2) distrust of ICTs,

(3) the cost of technological resources, (4) digital insecurity, (5) technology design, (6) difficulties in developing skills, including the lack of learning supports.

More recently, Perdana and Mokhtar (2022) have constructed a model to understand various favorable and unfavorable factors for older adults to use and appropriate ICTs. The authors argue that economic costs and reluctance in the face of technological advances would constitute a first set of inhibiting elements for this population. Secondly, the social influences of family members, peers, etc., as well as the perception of a certain ease for learning to manipulate the devices would be fundamental components that motivate use. Finally, the perception of efficacy at the moment of making autonomous use of technologies would be a mediating factor to encourage greater use of these technologies.

Within the field of study of digital inequality, there is a widespread notion of the existence of at least three access gaps to digital technologies. Specifically, the first access gap would include inequalities of a material nature in the availability of technological resources. Following Milne's (2006) proposal, this stage refers to three concepts: availability, accessibility and affordability. With regard to availability, it refers to the existence of a connection infrastructure in a given geographical area. Secondly, accessibility refers to the existence or non-existence of physical obstacles that make it difficult to use digital technologies. Finally, affordability includes the economic capacity to acquire technological devices. In a similar vein, Van Dijk (2020) further elaborates the definition of this first gap by stating that material access implies being able to make use of quality technologies in an autonomous and sustained manner over time.

In the case of older adults, it has been found that the incidence of different factors such as a lower socioeconomic level (SES) limit the use that can be made of digital technologies by presenting barriers to their access. Inequalities at the geographic level have also been found to indicate the availability of stable infrastructure to access services such as the Internet (Rivoir, 2022). For example, Seifert and Cotten (2021) have proposed that older adults residing in rural areas live in a situation of digital "double exclusion", having greater barriers to the acquisition and sustained use of decent quality ICTs.

Once the material gap has been overcome, it is argued that digital inclusion also implies overcoming inequalities in skills and dispositions for the use of technologies (Van Dijk, 2020). On the one hand, there are older adults who have not been able to access learning environments for operating the Internet and other resources (Barrantes and Cozzubo, 2015. Authors such as Agudelo et al. (2012) have presented evidence regarding the influence of other factors, such as educational level, on accessing digital skills. On the other hand, there are those who -due to fear, ignorance, distrust, frustration, or disinterest- do not want to further develop (Barrantes & Ugarte, 2019; Barrantes et al., 2016; Gotta & Tak, 2008).

According to the literature, a focus on the diversity of older adults' experiences and their relationship with digital technologies makes it possible to question the reductionist notion that most of them are "technophobic" and to explore the reasons behind the factors that encourage or inhibit their appropriation. Selwyn (2003) has developed an interesting model regarding some people's decisions not to use digital technologies. The author divided the most relevant factors in this regard according to the following categories: (1) material and cognitive

impairment discourses, (2) technophobia, (3) ideological rejection of ICTs, and (4) diffusion theory. In short, it is stated that a positive attitude towards digital technologies stems from a greater experience using them; it is also linked to preconceptions of what it means to relate to technology and its obsolescence.

In the case of older adults, less exposure could end up influencing a reduced willingness to learn to use them. In their research, Barrantes and Ugarte (2019) identified that older adults of higher socioeconomic status (SES) had worked in jobs that required specific digital skills; conversely, the jobs executed by people of lower SES had not presented such a need. Therefore, this marked a difference in older adults' exposures to technology throughout their lives.

Third, in the literature concerning digital divides, there is a consensus on the existence of inequalities with respect to the benefits that can be obtained from ICTs (Ragnedda, 2017). Particularly with respect to older adults, it has been identified that the promotion of access and use of these tools can positively impact their autonomy (Rivoir, Morales and Casamayou, 2019; Barrantes and Cozzubo, 2015), self-confidence (González et al., 2015), physical and psychological well-being (Llorente, Viñaraz and Sánchez, 2015; Abad, 2014), as well as simplified access to services of different kinds (Barrantes and Cozzubo, 2015).

The complexity of the different levels of the digital divide lies in the fact that, even though the availability of technological resources may be guaranteed, problems concerning accessibility - for example, due to an unfriendly design of specific software or applications- may present difficulties for older adults. In both Peru and Mexico, only a low percentage of older adults have a computer available in the home, and fewer are those who make use of it (Sunkel &

Ullman, 2019). According to Sunkel and Ullman (2019), this could be linked to factors that hinder its management, such as having limited digital skills, reduced support for learning to use ICTs, disinterest, among other options.

During the COVID-19 pandemic, several authors have studied the relationship of the older adult population with digital technologies. First, it was found that distancing measures have represented an incentive to use remote communication media and stay connected with family, friends, among other individuals (Llorente-Barroso et al., 2021; Castillo et al., 2021; Chen et al., 2021). Likewise, recreational and entertainment use was of paramount importance in the face of experiences of loneliness and isolation reported by several older adults (Bakshi & Bhattacharyya, 2021). However, these benefits were perceived by those who had electronic equipment at their disposal, as well as some knowledge regarding ITC usage prior to the pandemic. In this sense, the most digitally excluded groups within this population were those who have not yet overcome the first and second digital exclusion gaps. In particular, Ekoh et al. (2021) have studied the case of older adults in rural areas, who were also unable to take advantage of the digitization of services of various kinds (Seifert & Cotten, 2021).

Several authors have established that digital gaps are multidimensional (Van Dijk, 2020; Van Dijk & Van Deursen, 2019). This means that the conjunction of certain sociodemographic variables can constitute negative or positive factors for the use and appropriation of technologies. First, the material access gap is related to those who have or do not have the capacity to acquire electronic equipment. Those living in poverty have fewer opportunities to maintain consumption of Internet devices and services over time. In Peru, a large number of

older adults do not have the means to even have telecommunication technologies at their disposal.

Secondly, those who do have the opportunity to access digital technologies may encounter other limitations, such as, for example, the lack of developed skills to understand and use the Internet and other services to their benefit. Within the older adult population, this may be related to difficulties in reading and writing, or physiological conditions that prevent them from using the equipment. In the case of Peru, for instance, it has been recorded that 17.4% of the older adult population is illiterate (INEI, 2022).

Even though in recent years more people are making use of digital technologies, overcoming the material access gap has not yet been overcome, so it should not be underestimated (Van Dijk, 2020). This is important to recognize because the existence of digital gaps can end up exacerbating pre-existing socioeconomic inequalities (Sunkel & Ullman, 2019, p. 246). Older people who do not have sufficient resources to acquire and maintain over time an autonomous use of digital technologies are at a disadvantage compared to those who are also part of this age group, but do have the means to access devices and develop digital skills. Thus, it is established that the older adult population in poverty condition would be at a double disadvantage: because their age positions them as "digital immigrants" and their socioeconomic condition prevents them from accessing technological resources.

4.3. In-depth exploration of subjects relevant to older adults' digital inclusion

The presented literature review was complemented with the insights provided by relevant actors from APEC economies to identify specific subjects that merit further exploration. The

following factors were mentioned by respondents, are an area in which best practices focus heavily, and were brought forward by participants in the Online Meeting as being particularly important due to their mediating role in the use and obtainment of benefits through the use of digital technologies by the older adult population.

Although some of the following information is not specifically oriented towards older adults, these insights are provided as an approximation to the thematic at hand from available information, since studies specifically aimed at older adults are not available for all considered subjects: Thus, information pertaining to other specific age groups and populations is included as a means to approach these topics.

i) On the importance of safety and risk evaluation in utilizing digital technologies

Research has been conducted regarding the possible risks that could lead to an increase in the use of digital technologies. Although there is usually a tendency to think of these tools as potential means to obtain benefits, several authors have been quick to point out that it is also possible to face negative effects when using them, for example, addiction to video games or problems with cybersecurity. Thus, the perception of possible negative effects is configured as an element that can potentially inhibit or discourage the use of digital technologies.

In the existing literature, these risks have been discussed, mainly in the case of Internet users. From what has been retrieved, the research can be categorized by the population segments emphasized. First, with respect to younger populations, i.e., children and adolescents, research has been conducted on possible negative consequences of internet use, such as excessive use

(Kagan et al. 2019), addictions to certain content (Andrade et a., 2021), online gambling (Brezing et al., 2010) and compulsive shopping (Lee et al., 2016).

In another area, we have discussed situations of violence that are often faced on the Internet, such as cyberbullying, harassment, grooming and so on. This can come from peers, people they know, but also from strangers. Particularly, girls and female adolescents are more likely to be victims of online harassment. However, a study led by Pedersen et al. (2023) conducted in Norway suggests that certain types of online violence are configured in multiple ways according to the context, as in the case of image-based violence, which is more prevalent among higher economic sectors and men, compared to forms of physical violence.

From the same perception of adolescents, while some consider that the Internet can be potentially very dangerous, others indicate that they had never considered these repercussions (De Frutos Torres & Vázquez Barrio, 2012; Carcelén-García et al., 2023). Even so, the study led by De Frutos Torres and Vázquez Barrio (2012) in Spain suggests that adolescents are aware of the repercussions of disseminating personal data on the Internet and that, even once they are published, it is almost impossible to remove them from the web. Other risks identified are those derived from anonymity, since it is not possible to know everyone with whom one interacts on the Internet (De Frutos Torres and Vázquez Barrio, 2012). Faced with this, some are careful with the content of what they publish, as well as the privacy settings, although this is not the case for everyone.

Carcelén-García et al. (2023) consider that differences in risk perceptions may be linked to the daily practices with which adolescents are familiar. For their part, Ramos-Soler et al. (2018)

argue that there is a relationship between risk perception and certain family behavior patterns. Thus, for example, in their study conducted in Spain, greater parental involvement in their children's education was associated with healthier internet practices (i.e., not excessive) and greater ability to protect themselves from dangers. This development of knowledge about cybersecurity is enhanced because they feel more confident in their own abilities and do not have so many qualms about asking for help from an adult whenever they feel it is necessary.

Faced with this, it has been proposed that the role of actors, such as parents, is key to reduce these potential risks (Ramos-Soler et al., 2018). They, however, are not always fully aware of their children's activities on the Internet. Access to pornography has been a well-studied topic, insofar as its control depends on different actors, from home caregivers to legal regulations. Sometimes, as suggested by the study carried out in Spain by De Frutos Torres and Vázquez Barrio (2012), parents consider that their teenagers can make their own decisions and are not very involved in the content they consume. Similarly, in Australia, Davis et al. (2019) found that many parents prefer not to impose restrictions or surveillance measures regarding Internet use, revealing a lack of involvement in aspects such as sex education.

From psychology, specifically, studies have been produced regarding adolescent behaviors on the internet related to inappropriate uses of information, consumption of excessive and dangerous content, and even, profiles of those with this predisposition have been outlined (Gámez-Guadix et al. 2015; Kormas et al., 2011; Kuss et al., 2018). From a neurobiological approach, it has been posited that adolescence is associated with more impulsive behaviors, which makes this group more predisposed to activities such as pathological gambling, this

being a ritualized behavior that involves risk taking (Brezing et al., 2010). In addition, inappropriate internet use may be associated with different psychiatric conditions, including self-destructive behaviors, and with poor school performance and disruption of family and peer bonds (Brezing et al., 2010). In parallel, the incidence in certain problematic uses of the internet may be related (El Asam & Katz, 2018; Gámez-Guadix et al. 2015).

In another instance, adult and young adult internet behaviors have been studied. While the themes of addiction recur to some extent, especially, with respect to online gambling and shopping, the risky uses this group makes of the internet are distinct. Indeed, in many instances, the Internet tends to be much less restricted for older people. For example, Madigan et al. (2018) have found a higher prevalence of sexting or intimate conversations in this age group. Similarly, Gámez-Gaudix et al. (2016) found that sexting was more common among young adults and non-heterosexual people in Spain. In turn, online sexual victimization was more common among women, young and middle-aged adults, and non-heterosexual individuals. Thus, risk exposure may be related to variables such as sex and be prevalent in certain populations exposed to vulnerability.

Torres-Hernández et al. (2022) consider that knowledge about online practices can serve to identify whether or not these are conceived as risks. Incidentally, in the study led by Wood and Wheatcroft (2020), it was found that there is a lack of understanding of the term grooming in online interactions, and that Internet risks are due, in part, to low digital literacy in this group. In addition, it was identified that young people do not always perceive online risky behaviors as dangerous, which may increase their vulnerability to negative experiences. Similarly, a study

in Japan conducted by Oka et al. (2021) examined the effects of the COVID-19 pandemic on online gambling disorder and problematic internet use. The researchers found a significant increase in both problems during the pandemic, especially among young people and those who had been infected by COVID-19, indicating that both situations are prevalent in digital age societies and may be linked to contexts of vulnerability.

Thirdly, the case of older adults and their perception of risks on the Internet has been studied. Indeed, in this group, one of the reasons that inhibits the use and appropriation of digital technologies is the perception of risks. Concerns about privacy issues are often recurrent in older adults (Nicholson et al., 2019; Quan-Hasse & Ho, 2020; Zeissig et al., 2017). A study by Frik et al. (2019) suggests that there is still considerable ignorance among this group regarding cybersecurity concepts and uncertainty prevails when performing certain online activities involving their personal information, which limits the use of technologies. In this sense, it is not surprising to find a much lower prevalence of older adults accessing online financial portals for fear of being scammed. Likewise, they are more exposed to accessing false information (fake news) and not knowing how to corroborate its veracity (Nicholson et al., 2019).

An area of study that has also been studied in depth is that of adults with different needs, either due to specific physical conditions or a pre-existing disability. Specifically, it is established that those with cognitive disabilities are more exposed to situations of risk of violence or scam. Napoli et al. (2021) have found that inaccessibility of antivirus software, misleading screen reader outputs, insufficient feedback related to login processes and inadequate security advice are the main barriers faced by a group of people with visual impairment. For their part, Mentis

et al. (2020) discuss the problems that people with disabilities have when making decisions in the cyber environment, since they are quite dependent on their direct caregivers -often their partners- and these are the ones who usually make decisions in their place.

Indeed, it is evident that the populations that are most exposed to these risks come from certain sociodemographic contexts. In the first instance, age, mental or physical conditions, scarce economic resources, a lower level of education, and consequently, lower cybersecurity skills, are factors associated with being negatively affected by Internet risks. In addition, in the three different age groups it has been found that those who are more exposed to risks are those who have less knowledge about certain dynamics of online interaction. Among the younger population, there is a prevalence of activities such as gambling, excessive use and consumption of inappropriate content. Meanwhile, among adults, there is a prevalence of these activities, but also exposure to situations of online violence. For their part, older adults maintain concerns associated with the use of personal information and privacy on the Internet; in addition, they comprise the group that most limits their presence on the web due to perceived risks.

ii) On the importance of social networks in the utilization of digital technologies

DiMaggio et al. (2004) define at least three ways in which older adults receive support in relation to digital technologies. First, there are the technical supports that come from people specially assigned to this purpose (e.g., hired caregivers, teachers, assistance personnel). Secondly, there are the technical supports from close networks, such as family and friends. Finally, there is the emotional support from the latter networks, a factor that is fundamental for continued motivation in the use of digital technologies.

According to the literature, these types of support can be accessed for different reasons and their need is configured around certain life conditions of older adults. Thus, for example, Helsper and Van Deursen (2017) have identified that users of higher socioeconomic status in the Netherlands tend to seek greater technical support in formal settings (e.g. teachers, technicians, specialized assistants), as opposed to people with low economic resources, who receive this support almost entirely from family and friends. Even so, it is these domestic and intimate relationships that have a much greater relevance in the experience of older adults. In the literature they are often referred to as "warm experts" (Bakardjieva, 2005; Dolničar et al., 2018; Taipale, 2019), and it highlights that they are participants in different moments of access, use and appropriation of technologies: they usually accompany from the acquisition of devices to their configuration, learning their uses, maintenance, among others (Olsson & Viscovi, 2018).

Some authors have devoted themselves to characterizing these "warm" support networks. Barrantes and Ugarte (2019) have identified that these networks are usually composed by young people from the family and amical environment. Specifically, they highlight the potential of children as "warm experts" and their role, not only in providing support in the face of emerging difficulties, but also in motivating the continued use of digital technologies (Barrantes & Vargas, 2018; Dolničar et al., 2018; Olsson & Viscovi, 2018). For their part, Petrovčič et al. (2015) have pointed out that, the size of the network would not be determinant to the support received by older adults, so that in reduced networks solid links for support and motivation towards the use of technologies can also be built.

The concept of "intergenerational solidarity" appears in this field of study to better understand the affective relationships that are established when these support networks are formed (Dolničar et al., 2018; Peng et al., 2018; Taipale, 2019). Indeed, several studies show that one axis of the motivation for the use of digital technologies among older adults is observed in the potential they have to maintain remote communication with members of the family network (Colombo et al., 2018; Fortunati, 2017; Khvorostianov, 2016). In that sense, the support network of older adults and the use of technologies feedback on each other: with a stronger support network, the appropriation of technologies can be fostered, which in turn, have the potential to expand older adults' networks (Barrantes et al., 2023).

Although the "warm experts" are usually young people from the close environment (Olsson & Viscovi, 2018), authors such as Gatto and Tak (2008) and Opalinski (2001) have proposed that older adults can also act as a support for motivation in the use of digital technologies. In particular, those who have a partner or live with other older people are more likely to make more extensive use of these tools. At the same time, the use of technologies can be configured as a dynamic of generational identity, which means different perspectives regarding the "correct" and "inappropriate" uses of tools such as the internet (Colombo et al., 2018). Indeed, the role of these "warm" networks should be problematized, since factors such as old ageism - or discrimination towards older people - may limit the role of family members in a positive valuation of technologies, and instead, could discourage their use if difficulties in learning are judged and criticized.

Because of the heterogeneity of the older adult population, "warm experts" play a wide variety of roles in their lives; there are those who have greater independence and those who need more ongoing support. However, data from Hänninen et al. (2021) suggest that everyone requires assistance with digital technologies from time to time due to the constant transformation of the digital world and the increasing complexity of devices and applications. As such, "warm experts" are critical for both active use and ongoing support, as they provide the necessary assistance and motivation to maintain the use of digital technology in older adults' daily lives. In sum, ongoing support implies that, despite the independence that older adults may have in the use of these tools, without the "warm experts," they would not be able to remain digitally included in the face of constant advances in technology (Hänninen et al., 2021).

The findings of the literature review have been summarized in the following table:

Table 3. Mediating factors for access, use and appropriation of digital technologies by the OAP

Classification of mediating factors for accessing digital technologies	**List of mediating factors for accessing digital technologies**
Positive factors	● Sufficient purchasing power to maintain sustained use of digital technologies over time (Van Dijk, 2020).

	● Ease of physical manipulation of technological devices (Tore Vassli and Farschchian, 2018). ● Support networks/motivational social influences for using digital technologies (Barrantes and Cozzubo, 2015; Chung et al., 2014; Perdana and Mokhtar, 2022). ● Development of digital skills, which is linked to access to basic education (Agudelo et al., 2020). ● Positive motivation regarding the perceived benefits of using digital technologies (Sayago and Blat, 2011; Richardson and Reid, 2013). ● Inputs associated with personal autonomy (Jaschinski and Allouch, 2015).
Negative factors	● High costs that hinder sustained use over time and updating digital technologies (Van Dijk, 2020; Lu et al. 2014, Steele et al. 2009). ● Difficulties in manipulation due to the design of technological resources (Chen et al., 2014). ● Lack of support networks that motivate or facilitate an approach to digital technologies (Barrantes and Cozzubo, 2015).

	● Digital insecurity (Tore Vassli and Farschchian, 2018). ● Limitations in physical and cognitive abilities (e.g., memorization) referred to the use of technologies (Damodaran et al., 2013) ● Ideological rejection to digital technologies (Barrantes et al., 2016; Selwyn, 2003). ● Concern about privacy and personal information (Jaschinski and Allouch, 2015; Wu et al., 2015). ● Fear associated with unfamiliarity to digital technologies (Sayago and Blat, 2011).

Prepared by the authors.

4.4. Overview of best practices

In the field of public management, good and best practices are defined as those procedures that seek to generate changes in a specific situation. Generally, due to their positive and improving results, they serve as guides for the implementation of other initiatives (Escudero, 2009; Meneses, 2011).

The origin of the concept is associated with the United Nations Conference, Habitat II (Cities Summit) in 1996 (Hernández, 2001). In this space it was defined that good practices should be oriented towards improving the quality of life of different groups, motivating the creation of the Good Practices Program so that different nations [sic] could propose solutions in this regard

(Escudero, 2009). In the words of Hernández (2001), good or best practices could "be the seed of a positive change in traditional methods" (own translation).

Authors such as Fernández-Ballesteros et al. (2010) have defined good practices as "beneficial" and "efficient" within a given context. In this sense, they refer to the quality of procedures to achieve an objective (Amores & Ritacco, 2011, p. 93), which in several cases consists of reversing situations of social exclusion (Meneses, 2011). A good practice oriented towards inclusion would imply the set of efforts to standardize the living conditions of different actors "in a non-discriminatory and accessible way" (UN, 2020, p. 6).

As Escudero (2009) states, a good practice is neither satisfactory nor functional to all situations of exclusion. It is in this sense that the importance of framing practices within a context, with specific objectives, is emphasized, and the starting situation should be analyzed before proposing solutions. Likewise, some authors have established that it is necessary to be cautious about extrapolating some good practices from one reality to another, since their implementation requires a great deal of reflection and dialogue among those involved in the initiatives (Escudero, 2009), including the target population.

4.5. Best practices related to older adults and poverty

Initiatives focused on reducing poverty among the older adults are particularly focused on the provision of monetary resources, specifically through pension policies, but also through other mechanisms, such as insertion into the labor market, access to social housing, among others. In general terms, the evidence suggests that policies focused on the provision of pensions for this population are of particular importance for their welfare. In such sense, evidence from

multiple economies supports the benefits of such systems, among which are Chile (Contreras et al., 2020); China (Pan et al., 2021); Japan (Zhou, 2020); and Korea (Lee, 2022). All these pension systems have relevant evidence regarding their positive impact on the well-being and overall quality of life of the beneficiaries. However, it should be noted that the strength of this type of public policies is also their greatest weakness: their coverage capacity, being incomplete in all cases, is an element that fuels inequality between older adults with and without access to technological resources.

In addition to access to pensions, it is necessary to consider the importance of access to social support of other types, including access to housing and health services, aspects that contribute to the older adults' welfare (Feng et al., 2021). In particular, the importance of social housing is determinant in its effects on the health and well-being of said population (Agarwal et al., 2021). Likewise, issues associated with mental health should also be considered, given the prevalence of depressive symptoms in the older adult population (Lu & Shelley, 2019).

It is important to note that recent studies propose the need to integrate these varied and usually independently implemented support mechanisms as part of a comprehensive and simultaneous approach to providing support for older adults (Vicentini et al., 2021; Pan, 2021; Zhou, 2020). Thus, some research finds that, although economic status is an important variable in the lives of older adults, other elements such as being a beneficiary of public health insurance contribute to the forced permanence of older adults in the labor market (Ling, 2008).

4.6. Best practices on e-inclusion for the older adult population

Access to and appropriation of digital technologies among the older adult population has been a component included in the social inclusion agendas of various international agreements (Sunkel & Ullman, 2019). Indeed, there is an extended consensus on the need for strategies and public policies to reduce digital exclusion (Rivoir, 2022). In Latin America, covenants such as the Charter of San José on the Rights of Older Persons in Latin America and the Caribbean (2012) and the Inter-American Convention on the Protection of the Human Rights of Older Persons (2015) of the Organization of American States (OAS) have set relevant precedents.

According to the review conducted by Sunkel and Ullman (2019), several economies in the region have made reference to the older adult population within their domestic plans to promote digital inclusion. On the one hand, Mexico has developed the National Digital Strategy 2013-2018, in which it makes mention of the older adults as a group that faces certain obstacles when accessing ICTs. On the other hand, Peru has implemented the Plan for the Development of the Information and Knowledge Society in Peru - Digital Agenda 2.0, which aims at training and digital literacy of vulnerable populations, including older adults.

For Sunkel and Ullman (2019), not all initiatives on digital inclusion in the region necessarily comprise "good practices"; for this, they should demonstrate positive results in accordance with the changes they hope to generate. According to the authors, efforts aimed at the digital inclusion of older adults should involve (1) coordination between the public and private sectors, (2) intergenerational development of digital competencies, (3) peer-to-peer training for older adults, (4) the design of technological tools that meet the needs of older adults, (5) the extension

of fixed and mobile Internet access; (6) adequate collection of indicators on access to ICTs, (7) collection of qualitative information on barriers to ICT use, and finally, (8) promotion of the participation of older adults in the development of ICTs, as well as in the elaboration of strategies oriented towards their dissemination.

In Mexico, training and digital skills development programs have been promoted by different private and public institutions, including educational centers and local government agencies. For example, digital education courses are offered by the Universidad Autónoma de Nueva León, the TELMEX Digital Library, and the Universidad Autónoma de México (UNAM), among others. A recent initiative is the Digital Inclusion for the Elderly program, a joint effort of the General Directorate of Computing and Information and Communication Technologies (DGTIC) and the Virtual Learning Center (CAV) of the Mesa Los Hornos neighborhood, in Tlaplan. Furthermore, the Federal Telecommunications Institute (IFT) of Mexico has developed actions for the digital inclusion of older adults, such as the Digital Literacy Program, workshops for older adults and guidebooks, among others, which aim to provide digital skills to the participants to engage in the digital environment.

This program's module that was aimed at older adults was able to reach over 300 participants in the 2022 period, with most of the learners being in the 60 to 69 years old age group. Of these participants, 80% were women, and 20% men. The subjects participated in two different modules, aimed at general informatic skills and smartphone-related skills, with roughly 50% of participants in each group (IFT, 2022).

In Chile, the Chile Mayor Digit@l 2.0 project has been promoted by the Chilean National Service for the Elderly and the Rural Life Foundation of the Pontificia Universidad Católica de Chile. This program places particular emphasis on the digital literacy of older adults, offering thematic courses and seminars, and encouraging motivation to use these tools by teaching about their benefits (Sunkel & Ullman, 2019).

Finally, in Peru, the Free Digital Literacy Campaign for the Elderly, sponsored by the Peruvian Association of Professional Engineers and with the support of local governments was a private and public articulated initiative oriented towards training in digital competencies to be able to incorporate the use of ICTs in daily life (Sunkel & Ullman, 2019).

From what has been traced in the literature on good practices, it can be seen that programs aimed at the digital inclusion of older adults are mainly concerned with digital literacy. Although there are strategies at the domestic level with respect to reducing material access gaps, there are no practices in this line that are explicitly aimed at the older adult population. Indeed, it is of utmost importance to recognize the inequalities within this same population and to understand it as a heterogeneous group, rather than assuming its homogeneity (Rivoir, 2022). Along these lines, the lack of best practices to address the problem of access to digital technologies for older adults living in poverty is noted, and the need to promote this type of initiative is highlighted.

5. Findings

5.1. Survey 1: Older Adults

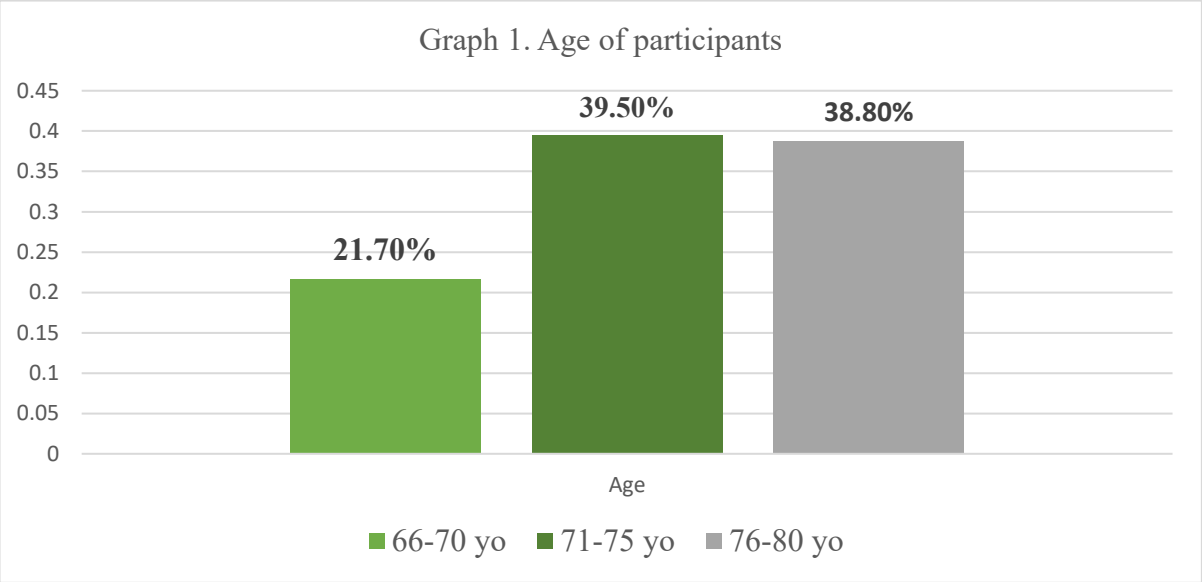
A survey was conducted among older adults that are beneficiaries of Peru's Pension 65 program (hereinafter P65). The Peru Pension 65 program, also known as "Programa Nacional de Asistencia Solidaria Pensión 65", is a social welfare initiative implemented by the Peruvian government to provide financial support to vulnerable older adults who are living in poverty. The program aims to improve the quality of life for older adults that are over 65 years old and do not receive pensions to ensure their social inclusion through a bimonthly economic subsidy of PEN250 (≈ USD70).

The following survey was conducted among the users of the program at an economy-wide level (n=369). Although this survey is not representative of the whole Peruvian OAP population, it can offer some approximate insights about the general characteristics of older adults living in extreme poverty in Peru. The main findings of this survey are presented in two sections; first, a general panorama of the characteristics of the program's participants that are related to their digital inclusion or lack thereof and secondly, a review of the financial education situation of these participants, and how this relates to their utilization of digital technologies:

Characteristics of the Survey's participants

i. Age

The participants of the survey range from 66 to 80 years old, of which 21.7% were 66-70 years old, 39.5% were 71-75 years old, and 38.8% were with an average age of 74 years old. This distribution can be seen in Graph 1:

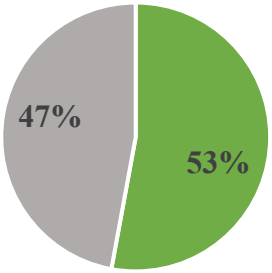


Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

ii. Sex

Respondents were distributed roughly equally among male and female participants, as can be seen in Graph 2:

Graph 2. Gender of participants



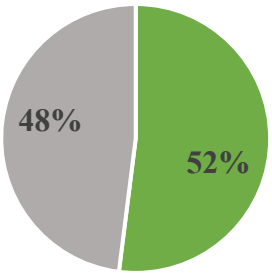
Female Male

Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

iii. Area of residence

Participants of the survey were distributed in a roughly even manner between rural and urban areas, as is shown in the following graph 3:

Graph 3. Area of residence



Rural Urban

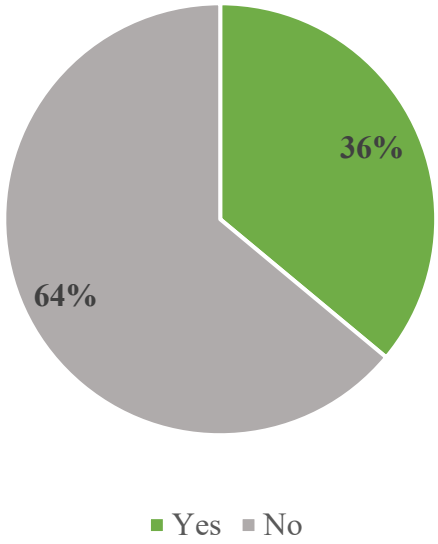
Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

About the barriers for digital inclusion

i. Economic situation

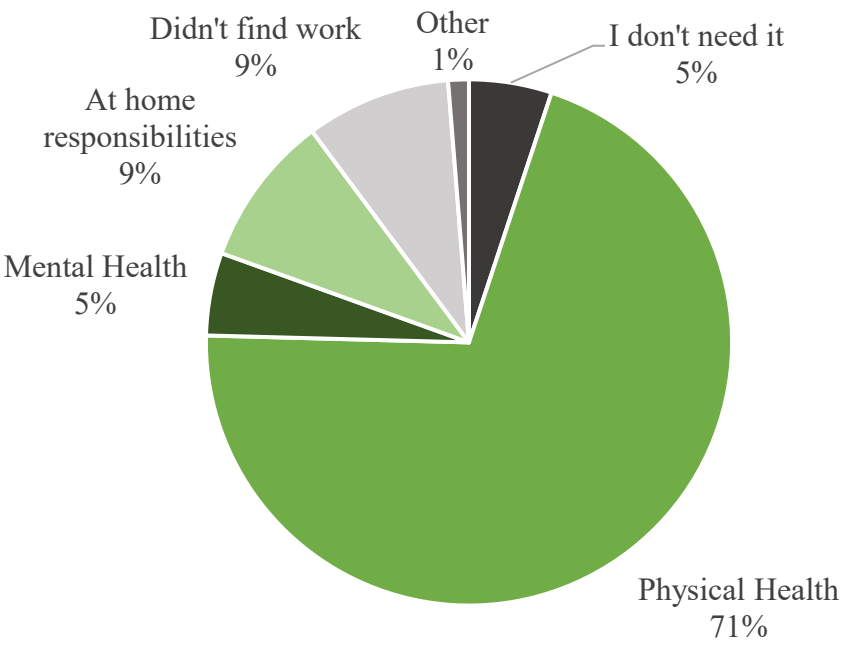
The information gathered regarding the economic situation shows that the recipients of P65 are generally in difficult economic conditions. In particular, only a third of the program beneficiaries were able to conduct activities to obtain economic resources during the evaluated time frame (Graph 4). This situation is aggravated by the fact that only 5% of participants report not needing any additional income (Graph 5).

Graph 4. During 2020, have you conducted any activity to obtain money?



Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

Graph 5. Why have you not been able to participate in income-generating activities

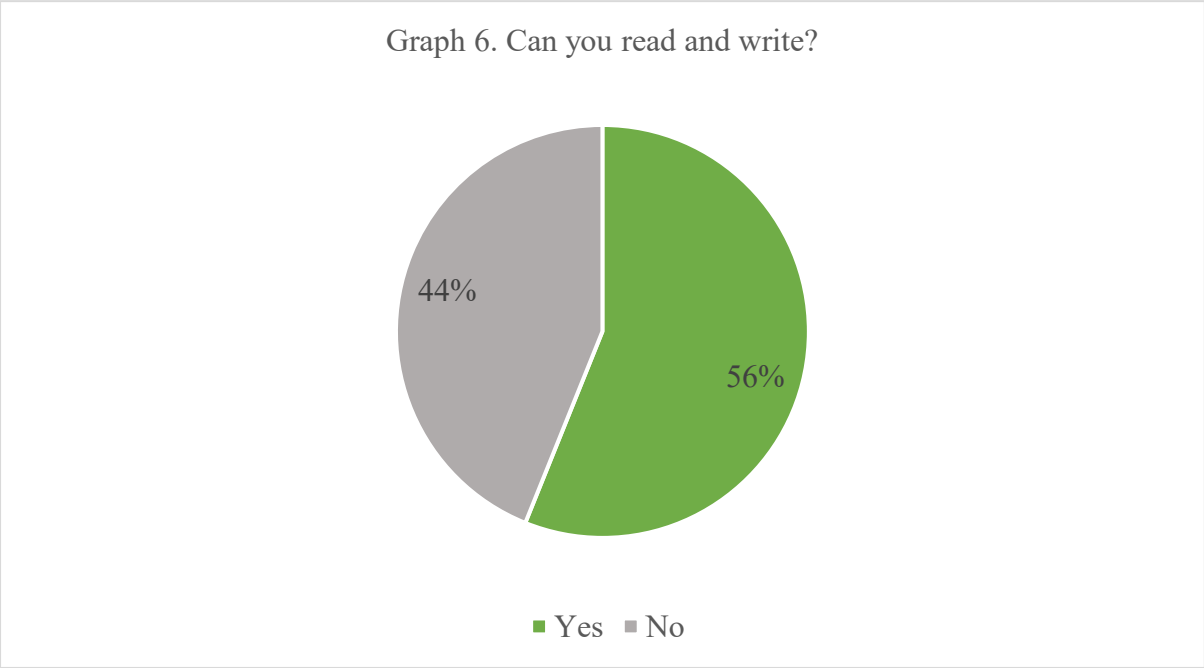


Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

As can be seen from the available information, most older adults are unable to participate in income-generating activities due to limitations related to their physical (71%), mental health (5%) and at home responsibilities (9%), among other reasons. It should also be noted that 9% of these older adults mentioned looking for working opportunities, but being unable to find work.

ii. Education and literacy

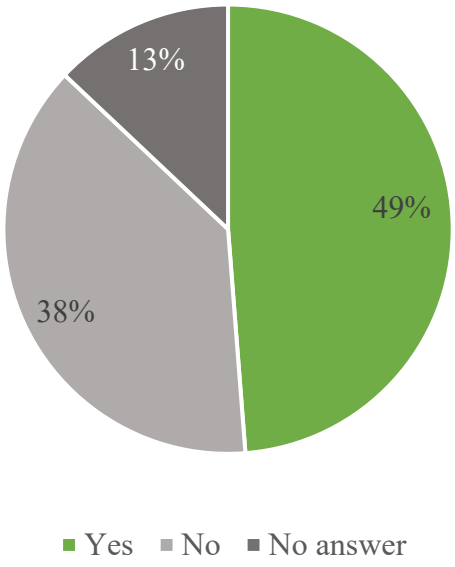
An important problem with Peru's OAP resides in their limited education levels, which include limited literacy levels. As can be shown in Graph 6, almost half of the recipients of P65 are able to read and write:



Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

In addition to this situation, an important sector of older adults shows no interest in learning to read and write, as can be seen in Graph 7:

Graph 7. Would you like to learn to read and write?

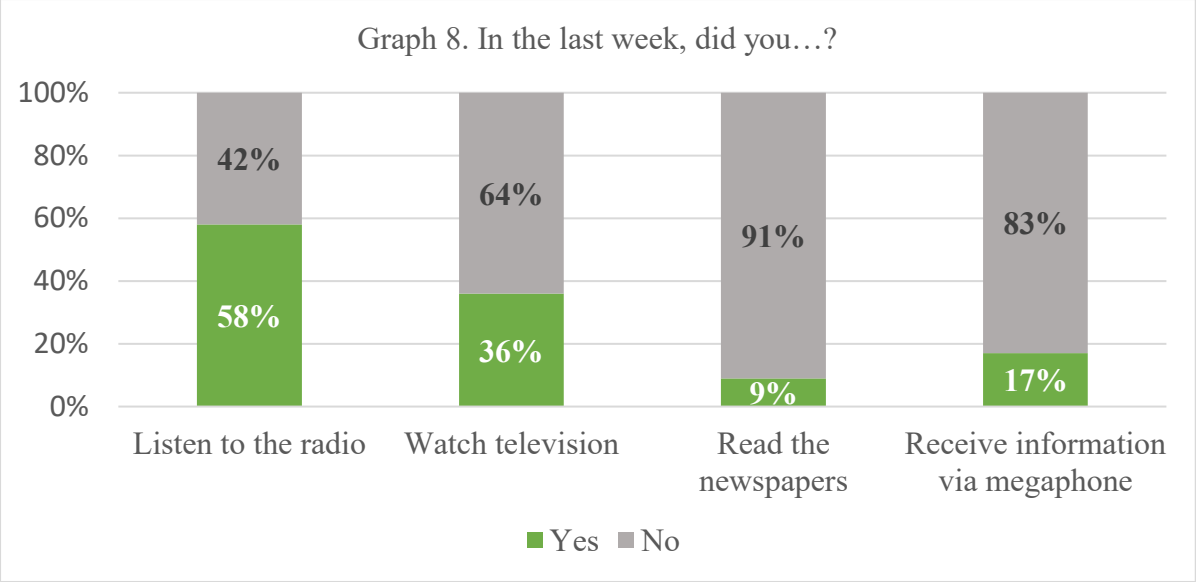


Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

This situation is closely related to older adult's ability to utilize digital technologies, since fundamental literacy skills are a requirement for the attainment of even the most basic digital skills. This supposes a problem that must be tackled before or in conjunction with any initiatives that aim at reducing this population's digital exclusion. This problematic is a variable that must be approached by any economy in which literacy among OAP is lacking.

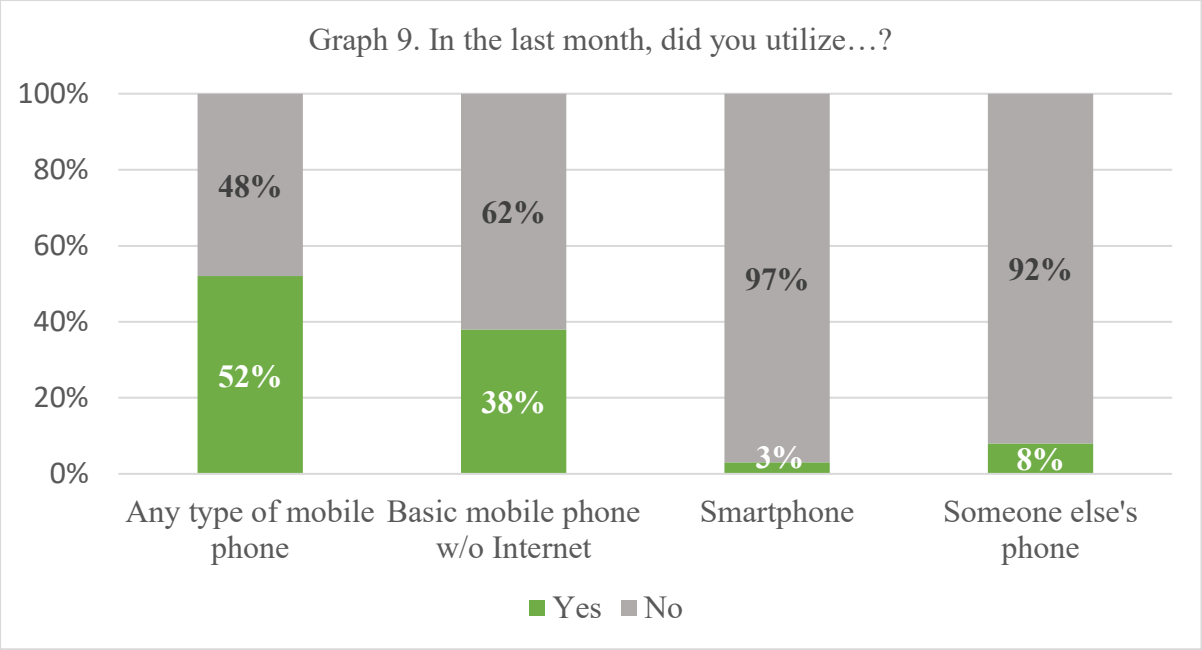
iii. Use of medium, traditional and digital

As can be seen in Graph 8, the utilization of traditional medium among P65 users is relatively low, with only half the population mentioning listening to the radio; about a third watches television, and only 1 in 10 older adults reads the newspapers:



Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

This low level of utilization of communication medium is more acute when evaluating digital technologies, as can be seen in the following graph 9:

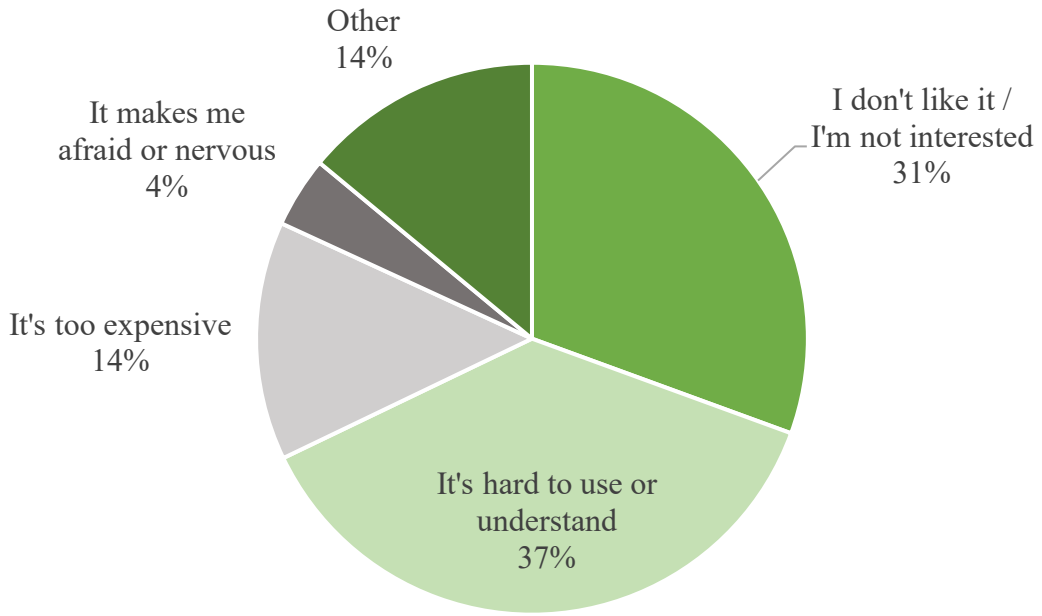


Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

The utilization values show that only half of P65's recipients employ any type of mobile device. More importantly, only 14% of these devices are able to connect to the internet, while 38% are

basic mobile phones without internet access. These values show that there exists a very important limitation with regard to access to digital devices for the OAP, which is a fundamental barrier to be tackled if this population is to be able to be digitally included. This information is shown in Graph 10:

Graph 10. Why do you not use mobile phones?



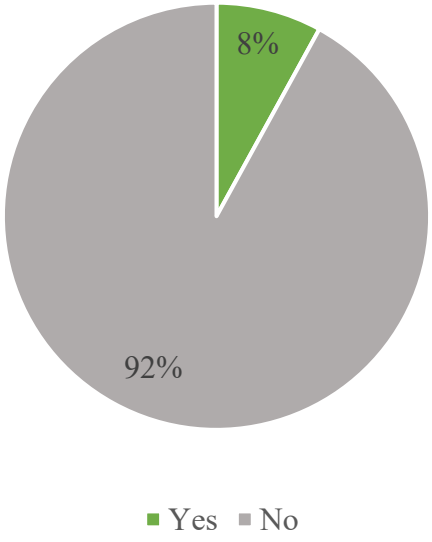
Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

When evaluating the reasons for their lack of utilization of mobile devices, several subjects are shown to be relevant to their experiences: i) lack of digital skills makes mobile phones hard to use or understand; ii) lack of knowledge of potential benefits or general motivation to use these devices and iii) affordability issues, which translate in an inability to acquire devices to fulfill their connectivity needs.

iv. Knowledge and use of digital technologies

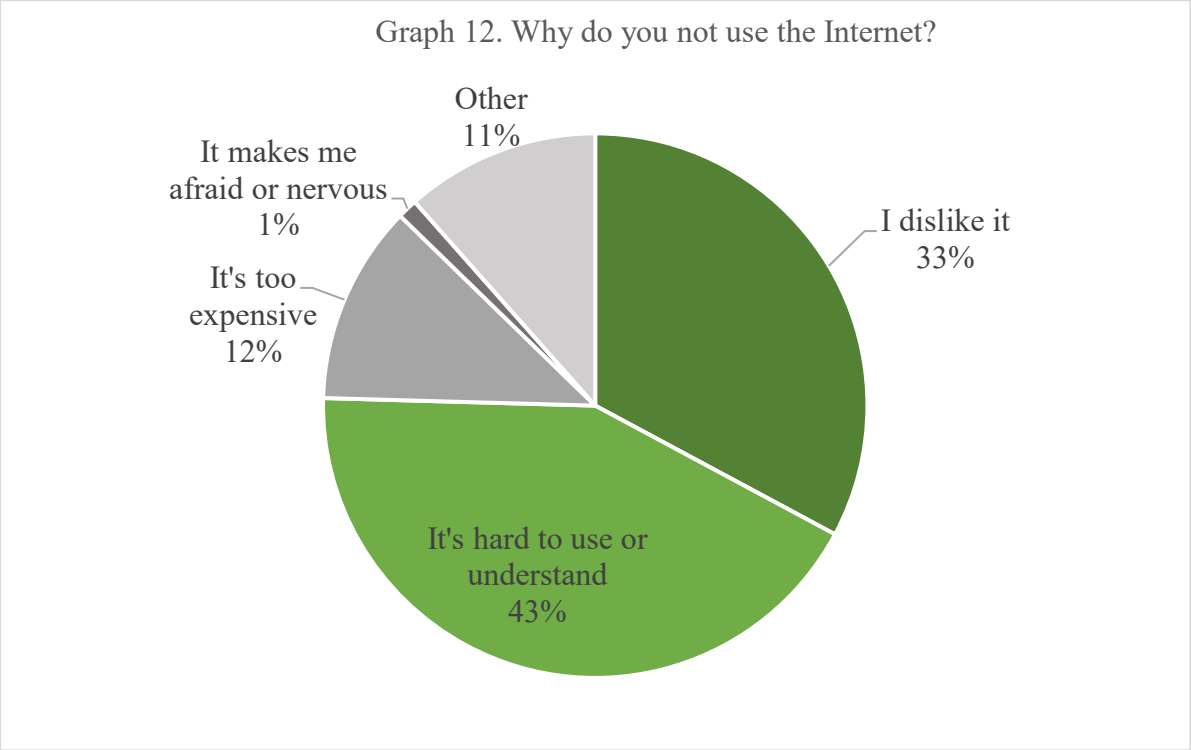
As can be seen in Graph 11, a very important problem regarding the utilization of digital technologies for P65 participants relate to their lack of basic digital skills and knowledge. In particular, we found that only 8% of respondents know what the Internet is and how to use it:

Graph 11. Do you know what the Internet is and utilize it?



Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

When asked about the particular reasons for their lack of Internet use, we once again find subjects related to i) limited digital skills, and the consequent difficulty in understanding digital technologies; ii) a negative view of digital technologies, which relates to limited knowledge and understanding of the potential benefits of their utilization and iii) an inability to afford said technologies. These results are shown in the following graph 12:



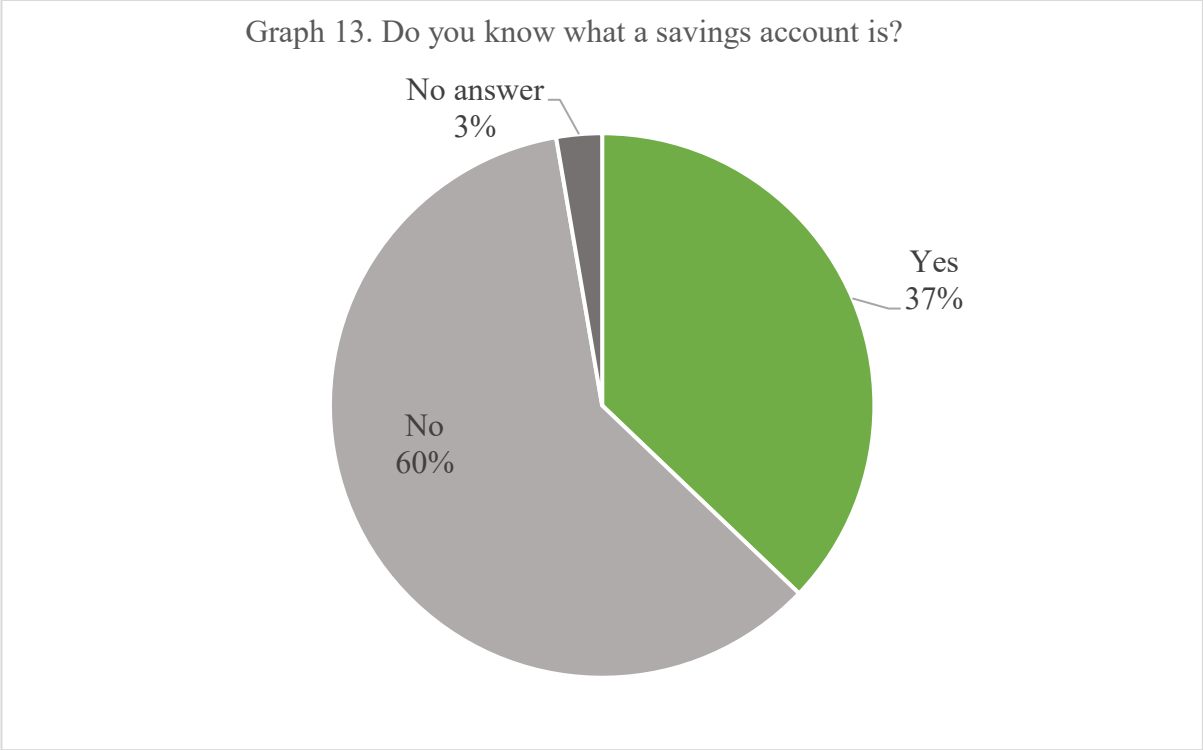
Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

About the financial education situation of Pension 65 participants

The following information relates to the program recipient's knowledge and experiences about subjects relating to their utilization of financial services.

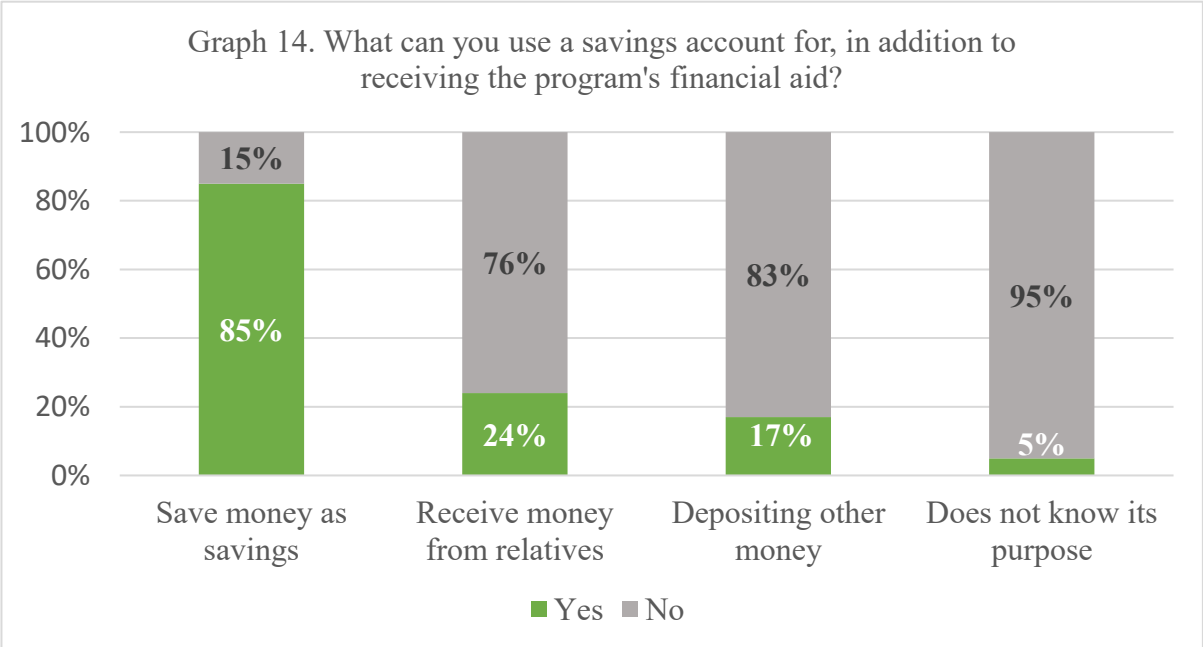
i. Knowledge about saving accounts

As a starting point, we explore the understanding that the program's participants have about saving accounts. As can be seen in Graph 13, 60% of the program's participants mention not knowing what saving accounts are:



Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

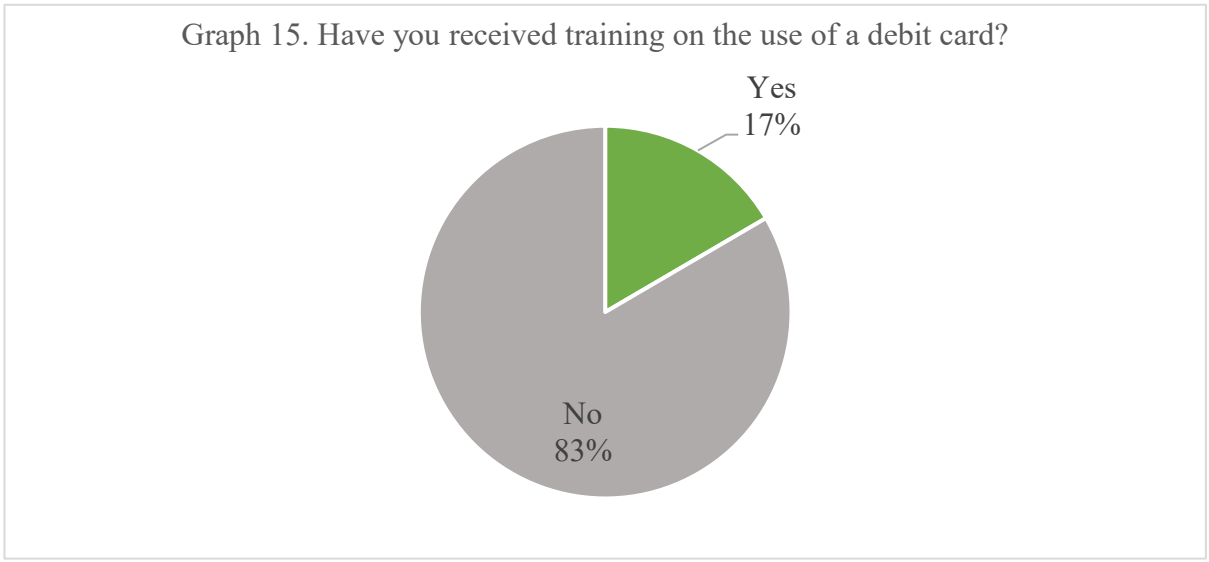
In addition to this very limited knowledge about saving accounts, the respondents that mentioned knowing what a savings account is showed to have an incomplete understanding of its uses, with a majority of respondents mentioning only its use for saving money (Graph 14):



Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

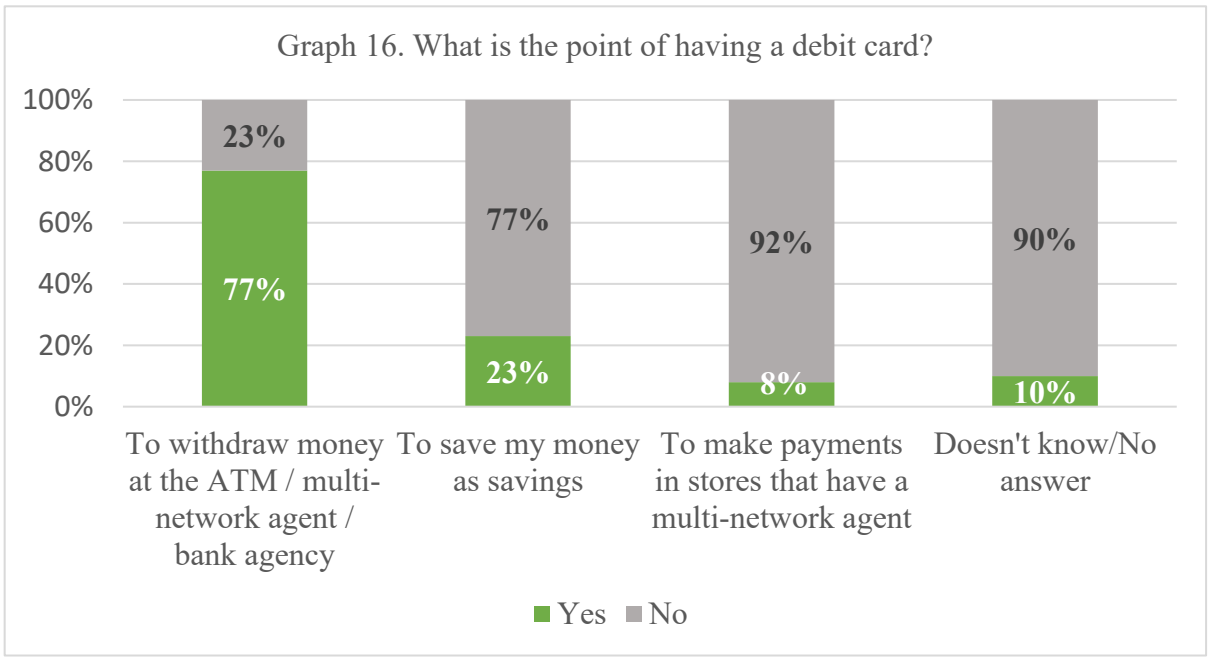
ii. Knowledge about debit cards

To further complicate this situation, less than a fifth of respondents mentioned having received any type of training regarding the use of debit cards. This can be seen in Graph 15:



Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

This lack of training regarding the use of debit cards is translated into incomplete knowledge about its potential uses:

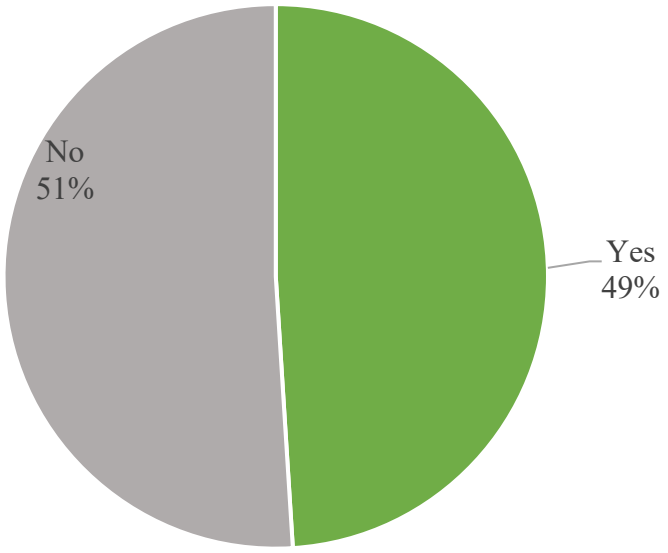


Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

As can be seen in Graph 16, three quarters of the respondents are aware that debit cards can be used to withdraw money from ATMs, multi-network agents, and bank agencies. However, most of Pension 65's users do not know these cards can be used for other purposes, such as saving money, or to make payments of some kind.

This situation is compounded by the fact that roughly half of the program participants have not received a debit card that is associated with the pension they receive from the program, which has an impact in their familiarity with this type of financial service. This information is shown in Graph 17:

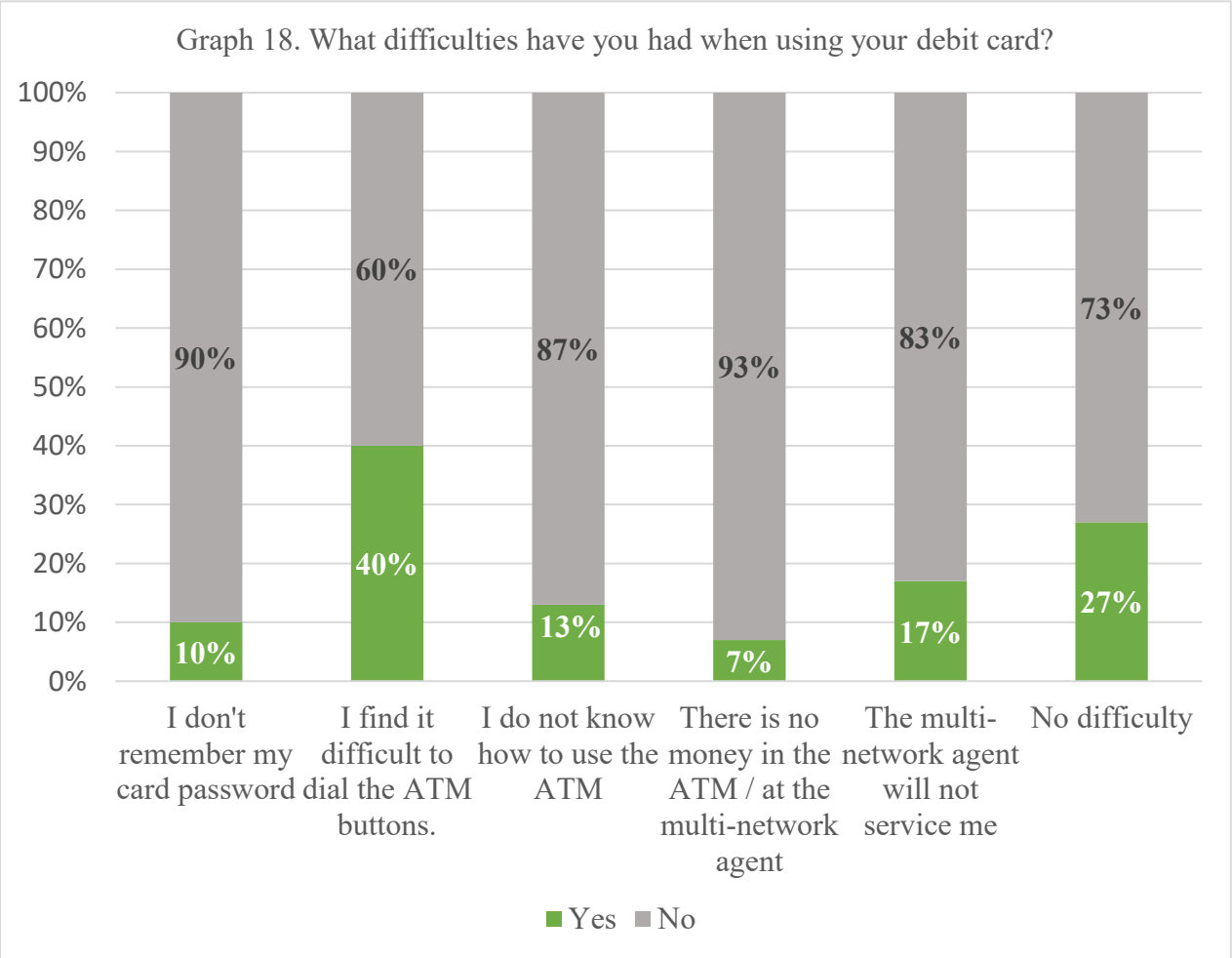
Graph 17. Have you received a debit card for your Pension 65 pension?



Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

As for the users that do have access to debit cards, multiple problems are related to its use, although most have relatively low occurrence rates. The problem that is most common relates

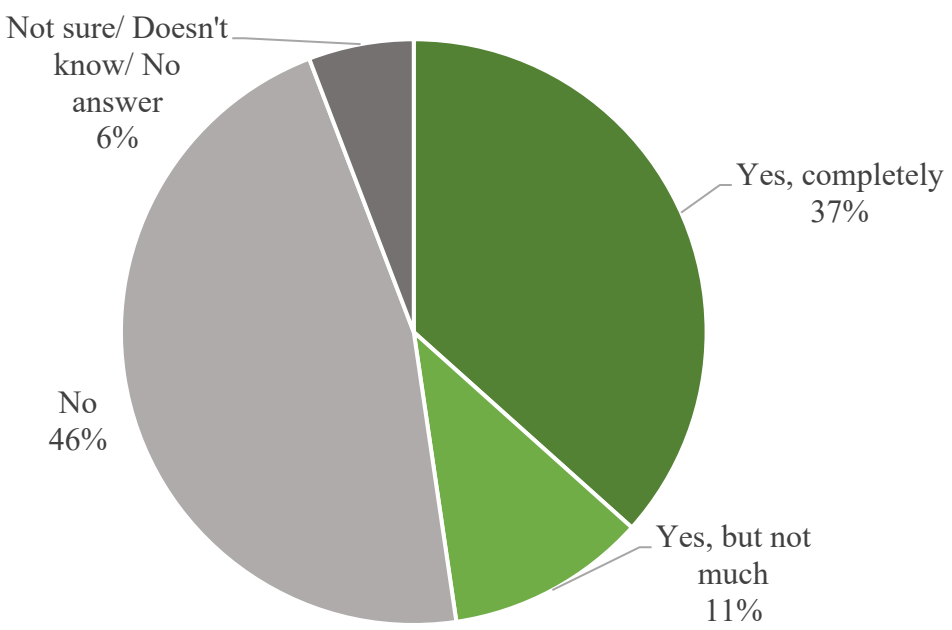
to difficulties utilizing ATMs, particularly regarding the required dialing of specific buttons, as can be seen in Graph 18:



Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

Finally, it can be seen that trust in financial services, particularly related to the Banco de la Nacion (the domestic bank through which economic aid is delivered) is somewhat lacking, with less than 50% of the program's users mentioning having complete or partial trust in this institution, and roughly half of its participants mentioning that they do not trust this particular bank, as can be shown in Graph 19:

Graph 19. Do you trust the Banco de la Nacion to keep your money safe?



Source: Survey of Pension 65 users' perceptions 2022. Prepared by the authors.

As can be gathered from the presented data, the knowledge of P65's users regarding financial services is considerably limited, with both saving accounts and debit cards being either not understood or not fully understood, which poses a barrier to its adequate utilization. This situation impacts older adult's ability to make full use of the benefits that these services can potentially generate. This situation is potentially aggravated by the aforementioned limited digital skills shown by the program's participants, which further limits their ability to access information and skills that can be used to improve their knowledge about these financial services.

Conclusions from the P65 Survey

The information obtained from the P65 Survey allows us to approach the situation of older adult's living in poverty in the Peruvian context. The main problems associated with this population can be synthetized as follow:

i) Vulnerable economic situation: older adults living in poverty have limited access to income-generating activities due to multiple variables, including limitations in physical and mental health and an inability to find working opportunities. This economic vulnerability limits their ability to afford and access digital devices and Internet connectivity.

ii) Limited educational levels and digital skills: recipients of P65 subsidies show very high levels of illiteracy, which severely limits their capacity to acquire even the most basic digital skills. This translates into a situation where the utilization of digital technologies is not viable, with most respondents considering them to be too hard to use or understand.

iii) Limited knowledge of the potential benefits of digital technologies: an important proportion of respondents mention having either a negative view or no interest in utilizing said technologies. This implies that motivation to use and learn how to use the internet and online services is very low, which further increases this population's digital exclusion.

iv) Limited knowledge about financial services: beneficiaries of P65 have shown to have generally basic financial skills, with often incomplete knowledge about the

potential uses of the financial services related to the economic subsidy they receive. This situation limits their ability to make full use of the potential benefits these services have to offer. Moreover, this circumstance is compounded by their limited understanding of digital technologies.

Although the results shown in this section are limited to P65 users and only offer insight into the characteristics of the Peruvian older adult population living in extreme poverty conditions, the difficulties that this information sheds light on is an important tool in the evaluation of the OAP general characteristics, and the difficulties they must face in their path to digital inclusion. Similar and more in-depth diagnostics of the OAP's situation must be encouraged for all APEC economies with the objective of increasing the understanding of older adult's vulnerabilities, and as a tool to inform and improve decision-making that relates to the design of effective public policies aimed at reducing digital exclusion within this population.

5.2. Survey 2: APEC economies

The member economy survey is a tool that was designed in collaboration with the APEC team and was disseminated among the list of member economy contacts provided by the APEC team. This process of convening participating economies was carried out in collaboration with the APEC organizing team; however, some difficulties have been encountered in ensuring the participation of the economies' representatives. In this sense, the consultant team is still asking for the collaboration of the economies that have not responded to the survey.

The goal proposed by the research team was to collect at least one survey from half of the member economies. So, the research team has gathered 12 responses from 7 economies, as can be seen in the following table:

Table 4. Answers to the APEC economies Survey

#	APEC Economy	Answers obtained
1	Australia	01
2	New Zealand	01
3	Papua New Guinea	01
4	The Philippines	05
5	Russia	01
6	Chinese Taipei	02
7	United States	01
Total		**12**

Prepared by the authors.

Based on the responses obtained, we consider it interesting to propose a brief synthesis of the results to date on the following topics:

i. Problem characterization: Most respondents considered that digital inclusion is a problem of moderate to high importance for APEC economies. This importance is related to multiple subjects, including the detachment of OAP from services such as social protection, pensions, and other financial services, as well as from the provision of goods and information. Additionally, the consensus on the impact of group characteristics on digital inclusion within the OAP varies, with particular consideration given to geographic location, ethnicity, and monetary income.

ii. Desired future situation: Respondents believe that in the future, OAP should be able to access multiple services through digital means. These services include, on a primary level, access to digital literacy education, to digital devices and digital coverage. These conditions should allow older adults to access other services, such as healthcare, financial services, entertainment, access to the labor market, information and, more broadly, any type of services that meet their needs, when and where they want to.

iii. Main barriers for digital inclusion: the main barriers identified by the respondents include barriers at the access level, such as access to digital devices, digital coverage, and digital literacy skills. Geographical conditions are also mentioned as being important, particularly with regard to the urban/rural gap, as well as the related economic and infrastructure gap.

Additionally, OAP are generally considered to lack motivation to use digital services, due mainly to a lack of knowledge or understanding of the benefits that these technologies represent. This relates to a general scenario of diminished social participation and social connections found in older adults. Finally, respondents consider that public policy design, as well as private sector initiatives are less likely to be oriented to older adults and often do not reflect any or sufficient consideration towards their specific needs.

iv. Digital inclusion initiatives: Among the respondents who stated knowing about initiatives associated with the inclusion of OAP, we found mentions of mainly initiatives driven by the economies, as well as some that are implemented by NGOs. These initiatives include some that are more indirectly oriented to OAP, including data collection programs such as DSWD Listahanan (the Philippines), connectivity-oriented policies such as the National Broadband Plan (the Philippines) or economic revitalization programs such as the 0 Regional Revitalization Foundation (TWRR, Chinese Taipei). Some initiatives that are more directly related to the OAP digital inclusion are also mentioned, with emphasis on the provision of digital literacy skills to the OAP, such as the Digital Literacy Training for Seniors initiative (New Zealand), the BSP's Digital Literacy Program (the Philippines), as well as government-led IT and digital education programs in Russia.

5.3. Survey 3: Thematic experts

The implementation of the survey oriented for thematic experts was successful and managed to attain the goal set by the research team to obtain answers from at least 20 thematic experts with experience related to digital inclusion and the OAP.

These 20 experts consist of 15 women and 5 men, which is well above the required minimum of 40% of woman respondents. These thematic experts come from the European, American, African and Asian continents. The respondent's distribution can be seen in the following table.

Table 5. Distribution of thematic experts

Economy	Sex	Number
Canada	Female	01
Portugal	Female	01
Poland	Female	01
Ireland	Male	01
Japan	Female (2)	02
Nigeria	Female	01
USA	Female	01
Netherlands	Male	01
Romania	Female	01
Israel	Female	01
Brazil	Female (1), Male (1)	02

Malaysia	Female	01
Spain	Female	01
Mexico	Female	01
Argentina	Male	01
Peru	Female (1), Male (1)	02
Total	**Female (15), Male (5)**	**20**

Prepared by the authors.

Of these respondents, 18 mentioned being in the 35 to 59-year-old age group, and 2 of the 60 years old and above.

The main findings of this survey can be organized along the following thematic areas:

i. Characterization of the problem

When asked about the importance of the digital inclusion of adults in poverty in the public agendas of economies around the globe according to a scale that ranges from 1 to 4, where 1 is less and 4 is more important, the respondents considered that the problem is of very significant importance, with 80% of the respondents mentioning the highest importance possible.

Regarding the reasons behind this evaluation of the importance of the problem, the main focus is aimed at the wellbeing of the OAP. Thus, the respondents consider that the increasing trend towards the digitalization of the majority of social services such as healthcare, education and social protection, as well as financial and information services creates a need for older adults to be able to navigate the digital media efficiently. This scenario implies that, without proper

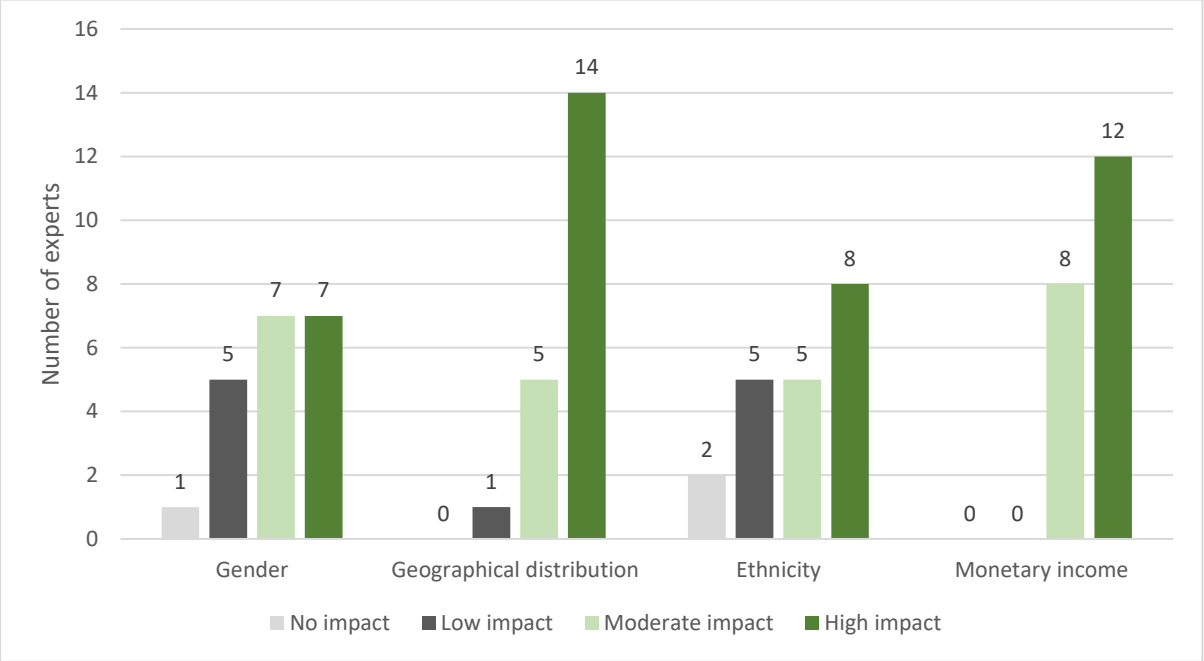
access to digital technologies and the skills to use them, older adults will be left increasingly behind in their ability to satisfy their everyday needs.

Additionally, respondents consider that the social aspects of the problem need to be considered; namely, that older adults that are unable to participate through digital media will be left without a sense of belonging to society, the possibility of social fulfillment, of an active social life and active ageing in general.

ii. Characterization of the affected population

Respondents were asked to evaluate the impacts of several possible variables that may influence the vulnerability of certain groups within the OAP. The results of their evaluation of these variables' relevance can be seen in the following graph:

Graph 20. Impact of sociodemographic factors on the inclusion of OAP



Prepared by the authors.

From these answers, we can observe that all the mentioned variables are evaluated as having potential impacts on the digital inclusion of OAP. Although none of these variables can be perfectly isolated from one another, this characterization of the affected population proposes a structure to these factors: both gender equality and ethnicity tend towards a more moderate to high impact, whereas geographical distribution and monetary income are considered to be of very high impact. On the one hand, results put particular emphasis on areas such as the urban/rural gap, as well as on the infrastructure and provision of services in distant or difficult to access areas. On the other hand, results strengthen the notion that older adults living in poverty conditions are particularly vulnerable to digital exclusion.

iii. Desired future situation

The thematic experts considered that OAP in a context of increased digital inclusion should have access to a number of services or products. Among the mentioned services, two are considered to be especially important for older adults; firstly, older adults should be able to make use of government's health services through digital technologies, including tele-healthcare, as well as accessing their own medical information, such as health records and test results. Also, older adults should be able to access economic and financial resources through digital access to the banking system, insurances, commerce, and e-commerce.

Additionally, other types of government services are expected to be delivered and accessible for older adults digitally, such as social welfare programs, pensions, and retirement funds, as well as educational services, both in a general sense and those specifically oriented towards their acquisition of digital skills. Finally, some respondents consider that older adults should

be able to socialize digitally if they desire, to satisfy their need for adequate information, as well as being able to partake in entertainment and leisure activities.

When asked about the role of older adults not only as consumers but also as providers of digital services, we found that most experts agree that this scenario would not only be possible but necessary, and would provide benefits to older adults, as well as towards the general economy. Among the possible ways in which OAP could participate as provider of services, several respondents mentioned micro and small-scale services and products, such as the elaboration and sale of manual and traditional products such as those that relate to painting, woodworking, and knitting. If their conditions allow it, older adults are also considered to be able to provide more general services, such as childcare, cooking, and housekeeping, as well as language teaching if they have the disposition and skills. Experts mention these services could also be articulated through a community-based development perspective, where older adults could be considered to play an active role in the development of their communities in areas where their expertise and experiences are of value to others.

iv. Regarding the measurement of digital inclusion for OAP

Respondents were asked to mention what variables should be monitored with regard to the ability to measure the quality of digital inclusion in the older adult population. On this subject, most experts agree that a first level of indicators that should be monitored relates to the first level of the digital divide. This means that the existence of adequate infrastructure, access to digital devices and connectivity, the relative affordability of these products should constitute a necessary base of information.

On a second level, the characteristics of this population's situation should be taken into account. Variables that should be considered include the levels of digital skills present among individuals, as well as general educational levels attained. Additionally, the physical and psychological conditions of older adults need to be assessed, including mainly the level of the population's cognitive functions and potential limitations related to motor coordination, hearing, and eyesight. The motivational aspect of the usage of technologies must also be evaluated, which translates to being able to measure older adults' perception of digital services, their knowledge of potential and benefits and perceptions of risks involved in their use, as well as their confidence in their digital skills and willingness to learn and adopt new digital technologies. Finally, it is of particular importance to have an understanding of their social support situation, regarding both their connections to social institutions and healthcare providers, as well as their personal networks, with emphasis on the presence of relatives in their everyday lives.

In addition to these variables, information must also be gathered regarding the existence or lack of services designed specifically towards older adults, as well as their quality and characteristics. This implies the evaluation of public policies in light of their ability to address the needs and requirements of older adults, as well as the evaluation of specific services and their capacity to be malleable enough to adapt to older adults' manners of use, as well as the existence of adequately trained professionals in all areas that intersect with older adults, such as the provision of health services, with increased importance for services oriented exclusively to this population, such as digital literacy programs and platforms.

v. Barriers for the digital inclusion of OAP

Respondents were asked to identify the principal barriers that negatively affect the digital inclusion of older adults, based on their expertise in research and their knowledge as thematic experts, with the following barriers being identified as predominantly impactful.

In the first place, the aforementioned characteristics of the older adult population need to be taken into consideration, which implies a focus on their education, digital skills, and difficulties related to cognitive decline, loss of motor skills and the decline of the quality of physical functions such as sight loss and hearing loss.

Secondly, a cultural barrier exists in the form of ageism and self-ageism. The notion that older adults are unable to learn new skills and are technologically averse can have significant effects on their motivation to both acquire related skills and use digital technologies, and results in lower obtainment of digital skills and employment of existent services. This barrier also implies a lack of interest in the development of older adults' capacities, which itself is materialized in lack of specialized services and adequately trained service providers. In close relation to this point, technology design and digital innovation are mostly considered to be driven by and oriented towards young users; the imagined stereotypical user is not an older adult. This implies that neither the government nor the tech industries in general consider the adequacy of technological design in regard to older adult users.

Finally, there exists a general scenario of public policies not including older adults in their design, a problem that is exacerbated in areas related to the provision of digital services. For example, adults living in public care facilities are not traditionally considered to be in need of

being digitally included, and thus no effort is made to guarantee basic access to digital services, such as those that relate to their ability to communicate digitally, nor is any type of support related to the use of digital devices provided. Thus, experts concur on the notion that domestic level policies are insufficient in their orientation towards inclusive e-governance frameworks, inter-operability, and general provision of services towards older adults. This situation closely relates to a lack of public funding towards initiatives that are oriented to this population's needs, both at an overarching and local level of administration.

vi. Regarding future lines of research and data collection efforts

Experts were asked to mention areas of research regarding the older adult population that need to be addressed in the future to guarantee a better understanding of their situation, as well as to provide a better picture of available alternatives of solution to the existent scenario of digital exclusion.

The respondents agreed that both qualitative and quantitative research areas will be necessary, regarding multiple dimensions of the situation of OAP. An initial level of approximation to this area of study relates to older adults' usage of digital technologies: studies must be carried out that help identify how older adults utilize digital technologies; what specific technologies they employ, and why; the mechanisms through which they acquire sufficient skills to employ said technologies, and how these relate to their individual lived experiences must also be studied.

One topic of particular importance relates to the need of understanding older adults' needs from their specific perspective; thus, an effort must be made to consider older adults requirements of services that may extend beyond the scope of basic services such as healthcare. Data

collection must be performed directly considering OAP's opinions, and their takes on their situations, needs, and reasons that articulate their usage of digital technologies. This implies that a top-down approach to the design of public policies is insufficient and inherently flawed and must be complemented with a bottom-up approach based on collaborative advocacy that utilizes inputs directly obtained from older adults.

Finally, an effort must be made to evaluate the importance of community level initiatives, and the roles that social networks play in older adults' acquisition of digital skills and their utilization of digital services.

5.4. Interview: Thematic Experts

The implementation of the interviews aimed at thematic experts was successful, and the research team managed to conduct 10 interviews with thematic experts with research experience related to digital inclusion and the OAP.

These 10 experts consist of 9 women and 1 man, which is well above the required minimum of 40% of woman respondents. These thematic experts come from the European, American and Asian continents. The respondent's distribution can be seen in the following table:

Table 6. Distribution of thematic experts

Initials	Economy	Sex	Sector
M. C.	Poland	Female	Private
J. P.	Peru	Male	Private
R. Q.	Peru	Female	Private
G. R.	Peru	Female	Private
S. L.	Peru	Female	Public
L. I.	Romania	Female	Private
S. W.	Canada	Female	Private
A. Q.	Portugal	Female	Private
M. M.	Japan	Female	Private
M. F.	Cataluña	Female	Private
	Total	**Female (9), Male (1)**	

Prepared by the authors.

The main findings of the interviews can be organized along the following thematic areas:

i. Characterization of the problem

First, we asked about the characterization of the problem, which implied that the interviewees described the situation of digital inclusion of older adults in the economies where they work. Although there is a notion that the use of digital technologies among this population has increased in recent decades, and particularly during the pandemic, the specialists emphasize that (1) such use is not widespread among the total population, (2) there are still wide gaps in

the quality of the devices available to older adults, and (3) there is still a lack of promotion of the use of technologies to facilitate daily activities for older adults.

Indeed, there were several comments on the difficulties in maintaining the use of quality technologies in a sustained manner over time. This was mainly due to the scarcity of economic resources associated with many older adults. In particular, the interviewees from Peru emphasized that poverty was a fundamental factor in access to digital technologies, a condition that was exacerbated in rural areas of the economy. In addition, other sociodemographic factors such as inequalities in Internet coverage in the domestic territory, a low level of education and racism were also identified, as well as the fact that older women tend to have less access than their male counterparts.

> For example, if it is an intelligent device or if it is a much older device, or, for example, I am thinking of a cell phone, and in experiences I have had with elderly people with low income or extreme poverty, in which, surprisingly, you find that quite elderly people in those situations and in rural areas, use cell phones, for example. But when you ask them why they use cell phones, how they use them, if they do not even know how to read and write, or speak languages other than Spanish, they tell you that they are old devices belonging to their children, their grandchildren, who have given them to them so that they can stay connected to them. So, the way they use it is quite precarious. (G. R., Peru)

In addition, some interviewees pointed out that there are still limitations in the use of technologies due to the lack of digital skills and devices designed for the specific needs of the older adult population. As will be seen below, a first major problem identified by the specialists

seems to be the lack of definition of the benefits that technologies would bring to this age group.

> So, the ownership of these iPhones and technology, you know, (…) the computers, iPhones increased dramatically but I don't think the usage of a very effective usage to make their lives easier has not happened yet. So, there is a huge gap to provide more age-friendly services from educational perspective, you know, how to use the machine as well as expansion of the services. (M. M., USA / Japan)

Among the possible consequences of limited digital inclusion, the following points were highlighted: (1) this situation can increase loneliness and disconnection of older adults from different social networks, (2) it can deprive them of access to fundamental services that are increasingly distributed by technological means, and (3) it limits the development of autonomy of this population, conditioning a dependence on other people for daily life.

> You can talk to individuals who have everything set up, but on the other hand, it's usually individuals that don't have this kind of family support network who are often left out and aren't able to use technologies. (S. W., Canada)

In short, it is considered that this problem is still a scarcely explored and even invisible issue in the public agendas of several economies. Only in the case of Poland was reference made to funding for the promotion of digital inclusion among older adults provided by the European Union. Similarly, it was mentioned that in Canada this type of funding exists, although in a more limited way.

ii. Characterization of the affected population

At the time of characterizing the affected population, the interviewees took up some of the points discussed in the identification of the problem. More precisely, there was a consensus that the panorama of digital inclusion and exclusion is not the same for the entire older adult population. This implies that different sociodemographic factors condition access, use and appropriation of digital technologies. Perhaps the limiting factor most frequently mentioned was poverty or scarcity of resources.

> I think it's individuals that sort of lack the financial capabilities to purchase. Specially in Canada, there are prices for internet are incredibly high, and in addition to that, there's been studies that've shown that older adults are quite often targeted to buy the huge packages that they don't actually even need and that are completely overpriced. (S. W., Canada)

Likewise, having a low level of education, and specifically illiteracy, were strongly associated with lower access, use and appropriation. It was also explained that both factors tended to concur in the life experiences of several older adults. In the specific case of Peru, it was added that residing in rural areas was another characteristic closely linked to the population having less access to digital technologies. Next, it was indicated that older people within this age group were at a greater disadvantage in terms of the digital skills available to them, which could be associated with lower educational levels.

> (All those who successfully completed the digital literacy program promoted by an NGO) They had some communication skills more developed than the others, that is, although it is true that they have not gone to school in the course of their lives, they have learned to read some things, to write, to do business. So, they had some previously developed skills that allowed them a better chance of completing the program. Those who have completed the program, mostly men,

> people with related skills, various communication skills and mathematical calculation skills, have been accompanied (...) (S. L., Peru).

With respect to gender equality, several interviewees pointed out that women tended to have more limited access to technologies than men due to various factors. The main reason for this inequality would be that women would have less economic independence, which would restrict their purchasing power and decision-making. These circumstances would be added to other sociodemographic factors, such as living in rural areas and limited labor autonomy.

> One of those dimensions is definitely gender. In the last study conducted by INEI[3] last year, women had less access to cell phones among older adults. And within these groups, those living in rural areas had even less access. Not only because of lack of access but also because of their purchasing power. And if they could have equipment, its use was limited (J. P., Peru).

> I observed that women can usually (participate) in community projects more than men. But when I did the digital inclusion workshops, men are more capable to use the device. Maybe because the men, older adults men, are (…) the worker in their home and need to communicate with other people, but the women do more domestic work and don't (practice) these abilities in their whole life. (A. Q., Portugal)

In some cases, it was found that older adults with few or limited support networks were more exposed to conditions of vulnerability and, consequently, less access to digital technologies. Specifically, people living alone tended to have a greater disconnection from these interrelationships and less motivation to make use of digital media.

[3] National Institute of Statistics and Informatics of Peru (Instituto Nacional de Estadística e Informática).

> So, the most vulnerable population will be probably people living alone and the people who don't have their social activities and people who are reluctant to get involved as well. I don't know maybe the very people older person who were living in remote areas not within the community and it's also in the danger so people because of their families are the separate single you know unique families and only and if you're living with your spouses on the in the in the 80s and 90s you know one of your partners dies and then you're going to be alone unless you have a family member near nearby (...) (M. M., USA / Japan)

In this regard, it should be noted that the conditioning factors for a lower use of digital technologies tend to be closely related and concur in the life experience of several older adults. In this sense, the perception that the condition of poverty is strongly linked to other socioeconomically unfavorable circumstances and situations of vulnerability in older adults stand out.

iii. Desired future situation

In general terms, it is expected that the digital inclusion of older adults provides benefits corresponding to the needs of this population. On the one hand, it is considered that it would allow them to access more public services and, specifically, social and health services. On the other hand, it was commented that digital technologies could promote greater economic insertion of older adults, allowing new spaces for consumption, but also for them to offer their products and services.

> Digital tools open a channel of consumption, they move the economy. It could even allow the elderly to offer products, to do business with the elderly, intergenerational work, so that the

> elderly and young people complement each other, helping them to get out of poverty. (J. P., Peru).

However, to achieve this scenario, it would be significant to provide solutions to the barriers exacerbated by digital inequalities. These include the need to address the doubts and questions that the older adult population has about the use of technologies, as well as to promote equitable access to the means to make use of fundamental services.

> We have created a barrier, haven't we? In other words, if before a health promoter went to the place, he didn't look for it. Now you have to make your appointment by phone and through the Internet. So this population will never be able to have access (S. L., Peru).

It was also noted that, although some interviewees mentioned the potential benefits of opening up digital markets for older adults, one expert said that before thinking about this, it would be crucial to address other basic living conditions, such as ensuring food. This divergence of perceptions could be due to differences in the quality of life of the older adult population in each economy.

> I think that this poverty population, that's not, uh, that's the important is the food and life. I think that is not priority for them and then maybe don't need to, don't need to do the priority. (A. Q., Portugal)

iv. Barriers to digital inclusion

Regarding the barriers to social inclusion, all the interviewees referred to the sociodemographic conditions mentioned in the previous topics. Precisely, poverty was positioned as a condition of life that must be overcome to promote greater access to digital technologies. Likewise, the

promotion of equitable education and opportunities for the autonomous development of people, regardless of age and sex, are fundamental.

However, a theme that emerged in this discussion was the production of digital technologies, including from devices to applications and configurations. Specifically, a reflection arose around the limited accessibility for older adults, which should be overcome through the inclusion of this population from the design of digital technologies. This barrier was associated with "old ageism" or discrimination against this age group, which prevents the incorporation of their demands and needs at the time of developing and offering them in the market.

> Whose voices are actually included in our planning for digital features? I think this is not just something specific for older adults, this is for anyone, but in addition to that there's nuancing the ideas of affordability and usability. It's looking at the complexity of different contexts to see what does that actually mean. (S. W., Canada)

Another issue that attracted attention was the motivation for using digital technologies. Indeed, insecurities and the frustration of "getting it wrong" when using the devices were highlighted. At the same time, reference was made to feelings of distrust and fear when accessing the Internet due to potential risks of fraud. It was highlighted that the lack of support networks could add to the perception of negative experiences, as there is a lack of mechanisms to dismiss such preconceptions, identify potential benefits of digital media, and learn how to use them. These differences would also be configured on the basis of cultural experiences, as the support of the economies and the support of closer social ties play different roles according to domestic realities.

> In the LA (Los Angeles) context some of these problems are more severe than in Europe. Poor people have a tendency to reject a lot of solutions because they distrust the government. Who they trust? They trust their network, their community, the close persons that help them undertake everyday activities. If you want to educate you need to understand you are educating a very demanding target who has very limited abilities to learn at all. (M. C., Poland)

Finally, the perception was found that barriers at the social and individual level are strictly linked to the limitations found in regulatory frameworks and domestic policies. Thus, it is not surprising that the older adult population tends to have greater access to digital technologies in economies with greater funding and promotion of digital inclusion from domestic agencies.

> The primary barrier has to do with the socioeconomic condition of older adults, that is key and structural. At a more secondary level, which has more to do with the individuality of older adults, is training, which I believe is not only the responsibility of older adults, but also depends on public policies. (R. Q., Peru).

v. Solution alternatives

With respect to the alternatives proposed to provide a solution to digital exclusion, there was some consensus. A first theme that stands out is the emphasis on identifying the benefits that digital technologies could bring, instead of assuming the intrinsic value of promoting homogeneous access to them. In this sense, it is crucial not only to identify "what is missing" (barriers), but also to understand "what is wanted" (potential benefits) on the part of the older adult population.

> You have to measure social environment, social economics, the poverty level, the access to transportation, a big amount of indicators. What must be stressed is that indicators must be connected to benefits, the issue is to combine indicators towards a certain goal. My point of view from previous research is that the list of barriers is not enough, the issue is to understand this target group. What I say is highly contextual. You can start with a list of indicators that you think are highly important, but without knowing what services they use you cannot have a list of indicators. (M. C., Poland)

To understand this scenario, it would be important to recover information for indicators of physical access to technologies, as well as to know the conditions of exclusion for each context, including access to material, economic, social, cultural resources, etc. Subsequently, it is considered necessary to know the perceptions and opinions of older adults in relation to these different experiences. In order to achieve this, it is proposed to carry out both quantitative and qualitative studies to complement the data collected. It should also be noted that it would be important to collect data from public and private sources.

> Probably couple steps in the first whether or not they have access to the physical devices that's probably easier to quantify identify and then the applications whether or not this the right applications are installed in that devices for particular group of people and then whether or not they are actually using it or not and so. Then finally, whether by using uh for instance, this is poverty alleviation and cash transfer and they received the cash and whether that using that cash, whether they're able to start their own business or they send the kids to school or you know, doing whatever the increased well-being of this older person, that's probably difficult to quantify, but then you have to do a survey for interview. (M. M., USA / Japan)

There was a widespread consensus that changes at the social and cultural level with respect to digital technologies must be accompanied by changes at the regulatory and public policy level. Specifically, it is expected that these include the demands and interests of older adults in their planning in order to ensure compliance with the benefits perceived by this same population. Likewise, it is considered of utmost importance to pay attention to community centers and care services, since they constitute fundamental spaces for the socialization of the use of digital technologies.

Support networks appear as an indispensable factor for the promotion of a positive digital inclusion for older adults. Indeed, it is argued that family members, friends, doctors, caregivers, among others, are an important source of motivation and use of technologies based on the benefits perceived by the older adult population itself. In this sense, it is equally crucial for public policies to identify the "main points of contact" for this group in the communities.

> In the area of long-term care, there's been a number of (...) I know they (Japan) were coming up with a government initiative which was to bring iPads or tablets to more long-term residents. And then, the same in Canada there have been a few initiatives brought up by research institutions or universities that have helped older adults living in care homes. But I need the issue here is that there needs to be a comprehensive look at this, as far that we need policy change. We don't just need more services; we need changes in the funding policies to enable support with digital technologies. (M. M., USA / Japan)

Furthermore, training in digital skills emerges as a fundamental mechanism once the coverage of internet access and quality, affordable and "age-friendly" technological devices is guaranteed. In this regard, successful experiences in economies such as Spain and China, where

telemedicine applications have been developed incorporating the perspective of older adults and promoting self-efficacy with respect to their health, are recovered. In Peru, the experience of CAMs (Senior Citizen Centers, for its acronym in Spanish) and CIAMs (Integral Centers for the Elderly, for its acronym in Spanish), which are spaces provided by the government, where digital literacy workshops can be implemented, has been mentioned. However, the offer of these workshops depends to a large extent on the economic resources available locally and the priorities established by each center.

In short, the experts consider that it is necessary to coordinate various public and private efforts that consider the expectations, needs and demands of the older adult population, both for the development of technologies and the digital services offered. Even so, before this step, it is important to guarantee the exercise of other fundamental rights, such as overcoming poverty. In some cases, it is argued that such technologies can be useful for the same purpose.

vi. Future lines of research

Concerning the research topics that should be promoted, two main lines were highlighted among the thematic experts. On the one hand, the needs and expectations of the older adult population with respect to digital technologies were discussed. In at least three interviews, emphasis was placed on the importance of understanding the concrete benefits that digital technologies would have for older adults, and not only assuming that access to technologies has an intrinsic value. On the other hand, discrimination and "ageism" were emphasized as limiting factors for the exercise of rights by this age group.

> One that is really relevant right one is on ageism, and a lot of people are taking the angle right now, that the issue lies in entrenched stereotypes of how older adults use technologies, and this influences at the technology innovation level, and what kind of services are offered, and to show the diversity and unique needs for digital technologies among different older adult groups. (S. W., Canada)

Other lines of research were also mentioned in some interviews. These include the study of the living conditions of older adults in rural contexts, as well as the role of digital technologies in the provision of health services for this population.

> For the research itself in Andean economies, a lot of information is needed to support decision making. This information is functionally non-existent, there are times when the information is there, but where will it be. Then one takes the initiative for good intentions. Then digital things can also be used as tools for research, to have more data on the health of older adults. From the point of view of research, we are missing a lot (J. P., Peru).

In short, it is argued that research should be contextualized -that is, take into account the specific living conditions of different older adult populations- so that it can be used by decision-makers. In this sense, it is argued that studies should start from both private and public initiatives, to complement the information gathered and to be able to cover more sociocultural realities.

5.5. Case studies on best practices

Phases 4 and 5 of the research involve the selection of case studies on good practices and their analysis. For this purpose, six initiatives were initially proposed, each corresponding to an APEC economy (see Table 7).

According to Sunkel and Ullman (2019), not all initiatives on digital inclusion necessarily comprise "good practices"; for this, they should demonstrate positive results in accordance with the changes they hope to generate. According to the authors, efforts aimed at the digital inclusion of older adults should involve (1) coordination between the public and private sectors, (2) intergenerational development of digital skills, (3) peer-to-peer training for older adults, (4) the design of technological tools that meet the needs of older adults, (5) the extension of fixed and mobile Internet access; (6) adequate collection of indicators on access to ICTs, (7) collection of qualitative information on barriers to ICT use, and finally, (8) promotion of the participation of older adults in the development of ICTs, as well as in the elaboration of strategies aimed at their dissemination. In this sense, these criteria will be considered for the analysis of the selected good practices.

The case studies were selected based on these criteria, as well as on the basis of the data collected in the thematic surveys. In order to cover these initiatives, key elements of each good practice have been identified, with special emphasis on their characteristic, strengths and weakness, as well as lessons learned and potential for replicability in order to generate recommendations supported by the economy’s experience.

Table 7. List of case studies according to the corresponding APEC economy

#	APEC economy	Initiative	Brief description	Relevant features
1	Australia	Be Connected	Australian government initiative aimed at building the confidence, digital skills and online safety of people aged 50 and over with little or no experience with digital technologies.	● Coordination between the public and private sectors. ● Digital competencies are promoted.
2	Chile	Chile Mayor Digit@l 2.0	Program promoted by the public-private partnership of the National Service for the Elderly of Chile and the Rural Life Foundation of the Pontificia Universidad Católica de Chile. It promotes digital literacy for people aged 60 and over, offering courses and seminars, and teaching about the benefits of digital literacy.	● Coordination between the public and private sectors. ● Digital competencies are promoted.

3	New Zealand	Digital Inclusion Action Group for Older People	Partnership articulated by the Office for Seniors (main government advisor on issues related to seniors, part of the Ministry of Social Development - MSD) to facilitate the development of partnerships and explore mechanisms to increase the digital inclusion of seniors. It focuses on collaborative work to increase the impact and reach of digital literacy practices in the economy.	● Coordination between the public and private sectors. ● Digital competencies are promoted. ● Design of technological tools to meet the needs of older adults.
4	Singapore	Seniors Go Digital	A program of the Media Development Authority, an agency of the government of Singapore, that provides targeted assistance to older adults in learning to use digital technologies.	● Coordination between the public and private sectors. ● Digital competencies are promoted. ● Extension of fixed and mobile Internet access. ● Encouragement of the participation of older

				adults in the development of digital technologies.
5	Russia	ABC of the Internet (Azbuka Interneta)	The program was launched by the Russian largest telecommunication group "Rostelecom" hand in hand with the Pension Fund of Russia. The educational program is aimed at digital upskilling of the older adults and people with disabilities, providing the basics of using computers and the Internet.	● Digital competences are promoted (including those regarding delivery of state and municipal services) ● Solving the issue of distrust (through the course on secure use of ICTs)
6	Mexico	IFT Digital Literacy program	The program seeks to help reduce the digital divide and promote the empowerment of users, with information that will enable them to strengthen their decision making when contracting and using their telecommunications services and	● Digital competencies are promoted. ● Both general computer skills and specific smartphone usage skills are developed

			equipment, to take advantage of the benefits of incorporating ICTs in their daily lives, and to know and enforce their rights in the digital environment.	

Prepared by the authors.

Of the 6 pre-selected initiatives, 3 were finally selected for the study cases, on behalf of the respective economies' willingness to participate in the data sharing process. These economies were Australia; New Zealand; and Russia. Thus, the following sections take an in-depth look at these economies initiatives.

5.5.1. Australia: "Be Connected"

i. Initiative characteristics

The Be Connected initiative aims to support Australians aged over 50 to increase their confidence, skills and safety in using digital technologies.

This initiative is led by Australia's Department of Social Services, which funds the Good Things Foundation to manage a network of over 3,800 partners, with whose help the program is delivered to the target population. This is attained through the delivery of one-on-one, small group and online learning support.

The partners have local presence in many areas of the territory, and thus are able to tailor the program's delivery and contents to the specific needs and characteristics of local communities. For this purpose, the Good Things Foundation also supports partners with training, small grants

and communication and marketing materials used to raise awareness about the program at a local level.

To complement this effort, the eSafety Commissioner develops and manages the Be Connected online learning portal, through which more than 30 modules are offered to flexibly address multiple subjects regarding digital inclusion, while also directing users to local partners. Thus, participants are able to either independently access learning materials through the portal, or by reaching their local available partners.

ii. Participants and results

For the 2021-22 period, over 11,000 learners were able to receive one-on-one, small group and online support from network partners. These participants were distributed in the following age groups: 25% were aged 50 to 64, 38% were aged 64 to 74, and 37% were aged 75 or over.

Additionally, more than 300,000 learners were able to employ the Be Connected online portal during the same period.

With regard to user satisfaction, surveys were conducted to over 6,000 participants of the Be Connected online portal in 2021-22, with very encouraging results attained, as follow:

- 94% of learners agree or strongly agree that “the content was well organized and easy to follow.
- 92% of learners agree or strongly agree that “the content is relevant to me.
- 92% of learners agree or strongly agree that “the material is interesting and engaging.

- 90% of learning agree or strongly agree that they "feel inspired or confident to continue to practice the skills covered.

iii. Strengths and challenges

The initiative main strengths', as identified by an independent evaluation of the program conducted in 2020, are the following:

- The network configuration of the initiative allows the participation of diverse partner organizations in a way that allows the program to reach older adults through trusted relationships at a local level, while being domestically funded.
- The initiative has been able to develop the capacities of close to 10,000 mentors that are the program's driving force. These mentors are often volunteers and older adults, and highly motivated to help others.
- The program is able to address the needs of three types of learners: those that had low digital engagement and saw important general improvements; those that had moderated engagement and seek more targeted improvement; and those that had relatively high digital skills to start with and would often become mentors. By accommodating these different approaches, the program has been able to maximize participant's engagement and its own effectiveness.
- Evaluation of the program has shown that it has been able to achieve positive social return, by creating AUD4.01 in social value for every AUD1 invested, creating an additional AUD230 million in social value since its launch.

With regard to the challenges faced by the initiative, the economy highlighted the following topics:

- The network configuration, while being a key strength of the program, also poses challenges regarding data collection and management of change. To address this, early and consistent feedback mechanisms are implemented by the program to ensure successful adaptations are attained when needed.

iv. Lessons learned

The 2020 independent program evaluation identified the following topics as relevant information gathered by the program's experience:

- Although no marketing of the program was conducted through television, radio, news, or outdoor marketing, both learner and partner participation has continuously increased since the program's inception, despite this potentially restrictive limitation to recruitment. This further confirms the potency of the network structure of the initiative.
- Feedback mechanisms are essential to guarantee that online resources are kept relevant and up to date to guarantee the program's efficacy.

v. Replicability

The network structure of the initiative has been identified by the economy as one of its key components. This type of structure could be replicated in other economies in a way that addresses the characteristics of their territories and population, to leverage the locally built capacities of organizations and their trustworthy relationships with local communities.

Additionally, an emphasis on the integration of volunteers as mentors through grants and adequate training could also be considered a replicable strategy by economies interested in building initiatives that are able to continuously grow in their reach and ability to provide learning opportunities to older adults.

5.5.2. New Zealand: "He Oranga Kaumātua" & "Digital Literacy Training for Seniors"

i. Initiative characteristics

Better Later Life – He Oranga Kaumātua 2019 to 2034 is the name of a strategy implemented by the Office for Seniors to guarantee the wellbeing of senior New Zealanders. This strategy aims at several articulated goals, including, but not limited to:

- Achieving financial security and economic participation
- Promoting healthy ageing and improving access to services
- Enhancing opportunities for participation and social connection

As part of the attainment of these objectives, the digital inclusion of older adults is considered to play a key role. Thus, the Office for Seniors has been delivering the "Digital Literacy Training for Seniors" programme to older adults in New Zealand since 2019. This initiative articulates a network of organizations to provide digital training to seniors, such as the 2020 Communications Trust, the 360 Tautua Trust Board and the Digital Inclusion Alliance Aotearoa.

ii. Participants and results

The “Digital Literacy Training for Seniors” program aims to support older adults digital inclusion through multiple programs. Among these, the following results are of notice:

- The Pacific Senior CONNECT programme had 378 learners reach completion of the programme, with internal evaluations showing promising results, including 100% of participants mentioning they have “learned and can use at least one new skill”. The results show significant improvement in basic digital skills, social connections, skills to carry out online activities and the ability to safely navigate online services.
- The Better Digital Future for Seniors initiative has reached over 2300 participants, who have completed over 5000 learning modules. These participants report significant increases in their basic digital skills, their social connections, and their ability to perform online transactions and activities in a safe manner, with 89% of learners defining their experiences as satisfactory or very satisfactory.

iii. Strengths and challenges

The economy has identified that the main strength of this initiative resides in its ability to address all aspects of digital inclusion, including:

- Motivation: allowing seniors to feel both ready and willing to access services digitally.
- Access: creating opportunities to access affordable, fit-for-purpose digital devices, services, software and content.
- Skills: bringing older adults the knowledge and skills required to used devices for specific purposes.

- Trust: building seniors' confidence and ability to safely make use of online services and carry out online activities.
- Additionally, these initiatives are oriented towards culturally appropriate delivery models, which take into consideration the needs of specific target groups, regarding the special characteristics of their locations, languages, and customs.

As far as challenges go, the economy has mentioned that:

- The sector capacity to deliver the service to all older adults within its territory requires significant expansion and budget commitments, which are currently being developed.
- On an organizational level, the network structure of the initiative, which currently articulates multiple organizations and government agencies with delivery partners still lacks adequate alignment and coordination. With this in mind, a future state where all institutions are aligned, coordinated, and a collaborative approach is shared by all is currently being implemented.

iv. Replicability

The economy's experts mention that network structure of the initiative is dependent on the existence of partners that are connected with communities locally to deliver services to older adults at the community level. However, if an economy is able to identify such organizations and potential network partners and provided that sufficient funding is available to create a supporting and coordinated network for digital inclusion efforts, this model could well be replicated in other economies.

5.5.3. Russia: “ABC of the Internet”

i. Initiative characteristics

The ABC of the Internet program’s goal is to improve people's quality of life by eliminating digital barriers and ensuring the availability of digital solutions. To ensure that this goal is reached, the initiative focuses on the following subjects:

- Digital skills: improving the quality of life by teaching digital literacy.
- Access: facilitating retirees’ access to public services in electronic form via the Internet.
- Inclusion: elimination of digital barriers and ensuring accessibility of digital solutions for all citizens of the Russian Federation, regardless of age, place of residence, income level or social status, etc.
- Older adult’s quality of life: socialization of seniors, prolongation of active longevity

Courses are usually organized for groups of 10-12 participants and utilize an individual approach to the participants’ needs. To support this methodology, webinars for teachers on relevant subjects are organized twice a year. More than 9,000 personas have been registered as “teachers” on the website azbukainterneta.ru.

ii. Participants and results

The program was launched in September 2014, and as of January 2023 has had more than 450 thousand participants, including close to 50 thousand participants in 2022.

For its implementation, cooperation has been established between the program and multiple organizations such as libraries, universities, and social protection institutions, among others. These institutions support the teaching effort of the program.

iii. Strengths and challenges

The initiative main strengths', as identified by the economy, are the following:

- Attention to the details that relate to the needs of its audience, taking into account their particular characteristics.
- An approach that includes physical accessibility at its core, including options for the visually impaired, and special motor exercises to work with the mouse for the physically impaired.
- The utilization of feedback from users, including their opinions and requirements to further improve the services offered.
- The team of professionals that work in the project is well prepared for the task, and includes developers of methodological materials, as well as teachers, partners from multiple institutions that bolster the program's expansion across the economy.

With regard to the challenges faced by the initiative, the economy mentioned the following:

- Russia has close to 42 million pensioners and a geographically extensive territory for the program to access, including hard to reach and physically remote areas.
- Digital literacy levels among pensioners is still very low and the need for training is high. The participation of multiple institutions to fulfill this need implies an organizational challenge with regard to the offering of a unified program and the recompilation of unified statistics relevant to this initiative.
- Although physical copies are printed yearly by PJSC Rostelecom, this production is as of yet insufficient to cover the demand for such materials; thus, the educational

textbooks are not always accessible, although manuals can be printed by the participants at their own expenses.

- Since the Internet is constantly evolving and new services are being implemented, the service must evolve to address these new educational challenges, while updating existing materials to keep the information relevant and up to date. This implies a time intensive effort that the initiative must sustain.

iv. Lessons learned

The initiative's importances has been confirmed by the extent of the users' participation and has shown very valuable in allowing older adults to access services online. In particular, participants have shown an increased ability to utilize online services for communication and socialization, for health-related needs such as obtaining appointments for medical purposes, general search for information, as well as economic inclusion through online payments and other financial services.

This allows older adults to remain active members of society and to participate in society according to their interests, as well as to be able to satisfy many of their needs through the use of online services. This shows that the initiative has been able to obtain its desired results.

v. Replicability

The initiative has been able to satisfactorily adapt some of its materials for use in other economies such as Armenia, with Russia-speaking residents in mind, with the inclusion of chapters relevant to the Armenian population characteristics.

This experience shows that the initiative could be replicated in other economies, and cooperation with other economies that are interested in making use of its methodology and materials could be considered moving forward.

Case studies conclusions

The information gathered through these case studies sheds light on a number of topics that are relevant to the digital inclusion of older adults. In particular:

i. There is a need to work with variables beyond access. Although it is and will remain a key component of older adults' use of digital technologies, other subjects are also essential to understanding their digital inclusion.

ii. Among these subjects, there is a focus on the importance of digital skills that enable older adults to perform online activities and make use of online services that respond to their needs and interests.

iii. The acquisition of digital skills must also be accompanied by a strengthening of older adults' willingness, confidence, and ability to safely navigate digital environments. These variables shape older adults' experiences and perspectives on digital technologies, and play an important role in mediating their motivation to utilize them.

iv. Additionally, maximizing the initiatives' reach means taking into account older adults' heterogeneous characteristics with the highest possible specificity. This requires the utilization of culturally appropriate approaches in matters such as language and customs.

On an organizational level, the initiatives share some characteristics. Among these, we find the following to be of most importance:

i. Network configurations, where public institutions are able to articulate locally positioned actors from civil society and the private sector to work as the driving force behind the

ii. This type of network approach has to face important organizational difficulties, mainly related to the articulation of network partners towards the offering of coordinated educational services.

iii. These initiatives must also aim at gathering relevant feedback from users of the services, such that appropriate modifications to the services can be carried out to better attend to the users's needs and experiences with the provided learning experiences. For this purpose, standardized evaluations of performance are highly encouraged.

iv. These initiatives must also strive to remain updated to keep up with the constant improvements and advancements in digital technologies. With this goal in mind, methodological approaches and contents must be continuously monitored to ensure that they remain relevant and up to date.

6. List of barriers to the digital inclusion of the older adult population

Based on the information gathering process, we believe a list of barriers can be proposed. This list consists of the following barriers:

i. Limited economic resources and low educational level

Older adults who lack sufficient economic resources face a major obstacle to accessing quality digital technologies and using them in a sustained manner over time. In addition, illiteracy, and a low level of education -commonly associated with a low socioeconomic level- limit the development of digital competencies in this population.

ii. Health-related difficulties

Older adults often must face difficulties related to their physical health. Among others, bodily functions such as fine motor control, visual acuity, hearing, and general mobility are often limited in this population. Furthermore, the generally higher prevalence and vulnerability to several medical conditions can also affect this population's general wellbeing. All these factors can lead to an increase in the difficulty to use digital technologies.

This problem is especially important for older adults living in poverty, since this group might often not have the means to obtain proper medical care or treatment for their conditions.

iii. Social isolation

Social isolation is a phenomenon that affects the older adult population to a high degree. This problem is potentially greater in intensity for the population living in poverty, which may be geographically isolated or in areas subject to unfavorable migration patterns. Thus, older adults

who are less socially connected have difficulties to access all types of services, including digital services.

In addition, high levels of isolation imply the difficulty of establishing a "point of contact" between service providers of all kinds, including digital ones, and older adults. In this sense, any digital technology or public policy aimed at promoting them will have to face the difficulty of establishing a connection with this population.

iv. Ageism

The stereotypes commonly associated with older adults often negatively impact how persons and institutions act towards or think about this population. This negative perspective translates itself into a system of thought that discriminates older adults on the basis of their age. This discrimination is associated, among other things, with the conception of older adults' inability to learn and their inability to be productive individuals for society, or active members in their respective communities.

This problem cannot be reduced to a single expression or specific situation; on the contrary, it must be understood as a phenomenon that cuts across many of the other barriers mentioned in this document. Thus, the motivation of older adults to make use of digital technologies, the accessibility of the technologies themselves and the logic under which they are designed, the lack of consideration of older adults in the design of public policies, as well as the way in which they are incorporated into these policies when this happens, are all manifestations associated with this problem.

v. Motivations to use digital technologies

Older adults often lack motivation to use digital technologies, or to invest time in learning the skills required to use them (when a learning opportunity is available).

This lack of motivation can be related to multiple factors. Based on the data collected to date, we consider two to be of particular importance. First, older adults might not know the potential benefits of the utilization of digital technologies. This lack of knowledge can be related to many factors, such as a general lack of digital skills, a lack of exposure to digital technologies during their first years of life and throughout their work history; as well as a lack of proper communication from service providers, both in its reach and in its adequacy to connect with this population. Independently from its specific causes, older adults find no reason to use digital technologies if these cannot be related to a benefit.

Secondly, many adults consider that their age may represent a very difficult or potentially impossible barrier to be overcome, particularly in terms of acquiring new digital skills. This perspective, which can be related to ageism, also connects to the lack of services oriented to the ease of use of older adults, both at the level of teaching digital skills and of the services themselves. In this sense, the current scenario of digital services available to older adults increases the feeling of facing a potentially insurmountable barrier, making any investment of time or energy aimed at overcoming it a waste of time.

vi. Lack of older adult oriented digital technology design

As mentioned by multiple experts, digital technologies are often designed with a target user that is generally of young age, with a wide experience and familiarity with technologies, and

with no significant difficulties. This lack of older adult-oriented design makes it harder for this population to utilize both hardware and software that could be used to improve their quality of life.

vii. Lack of information available for decision-making

There is a lack of detailed information about the older adult population living in poverty, both qualitatively and quantitatively. Based on what has been collected to date, information on the patterns and ways of use of older adults with respect to a series of services, including digital services, is not adequately available. In addition, when it does exist, this information is not properly centralized, organized and/or available for use in decision making associated with the development of public policies, which makes it difficult to design measures with precision, efficiency and effectiveness. Finally, there are suboptimal levels of articulation between the public sector and the institutions and experts usually oriented to research on these issues.

viii. Lack of specifically designed policies and limitations in existing policy design

There is a lack of public policies specifically oriented to the digital inclusion of OAP. Based on the information collected to date, we were able to gather the general impression among experts of the need for the existence of public policies at the domestic level aimed at the digital inclusion of this population. This implies thinking about the design of public policies that propose wide-ranging programs aimed at improving the digital skills of the older adult population, articulating both public and private actors, as well as civil society. In contrast, we find that currently most of these initiatives are implemented locally, by actors with limited scope or resources, and therefore tend to be limited.

In addition, the inclusion of older adults in public policies should be achieved through the active participation of this population in the formulation and design processes. In this sense, a top-down approach to the problem implies leaving aside the specific perspectives and experiences of this population, and therefore implies failing to collect the real needs and demands of older adults, the ways in which they would like to incorporate digital technologies in their lives and the benefits they would like to obtain from them.

7. Triangulation of findings and Conclusions

This section synthesizes the main findings recovered from the data collection. For this purpose, conclusions are presented regarding the barriers to digital inclusion of the older adult population, and are linked to possible alternatives of solution that are based on the empirical evidence gathered throughout this research, including surveys, interviews, literature reviews, and case studies.

i. **About the variable characteristics of the older adult population**

Problem definition: Most thematic experts and members of APEC economies have identified certain socio-demographic factors associated with limited digital inclusion for the OAP, which is also an insight supported by the available literature. These variables include low economic resources, low educational level, restricted access to services in rural areas, being a woman, and social isolation. Although each of these individually predisposes to certain living conditions, the concurrence of several factors constitutes more obstacles to digital inclusion. Specifically, they are a primary limiting factor for access to digital devices and services.

This problematic is aggravated by limitations in public policies oriented at digital inclusion that provide generalized, non-specific services to the general population, limiting their ability to adequately reach the most vulnerable sectors of the OAP.

Proposed solution alternatives: Public policies must be oriented towards initiatives that are designed to take into account the variable characteristics of the older adult population. This necessitates methodologies that aim at achieving the digital inclusion

of older adults through the provision of services that are tailored to their specific needs, which relate to their individual and cultural circumstances.

These good practices should be based on diagnoses carried out from the articulation of the private, public and civil society sectors, with an approach that incorporates local realities, including, in addition to the essential variables of the digital divide, elements associated with cultural, geographic and ethnic characteristics of older adults. This approach is necessary to understand the living conditions of older adult populations from their heterogeneity, as a mechanism to be able to offer specific solutions to these conditions.

With this perspective in mind, any initiative must consider in its design mechanisms to flexibly approach the older adult population in ways that are understanding of their specific situations. Experiences covered in this document have shown that the articulation of territorially relevant institutions -both private and public- under the leadership and guidance of public institutions is a trustable mechanism to achieve this goal. Local organizations' experience with specific populations' characteristics and the trust that they have built in their relationship with local communities has proved to be an invaluable asset in the provision of appropriate services to older adults in APEC economies.

ii. About physical access

Problem definition: Limitations in physical access to internet connectivity and digital devices is still a relevant problematic in many APEC economies. Although the digital

exclusion of older adults is a multi-faceted problem, no approach to their digital inclusion will be successful without taking in consideration this most basic of barriers: the lack of existence of adequate infrastructure and device accessibility for specific groups within this population.

As it has been identified by experts, APEC members and the literature review, this situation is particularly related to the urban-rural gap.

Alternatives of solution: All APEC economies that aim at reducing the digital exclusion of older adults must incorporate public policies aimed at the reduction of the infrastructure gap and device affordability, particularly those that relate to the urban-rural divide.

With this goal in mind, APEC economies are encouraged to develop policies and regulations that encourage investment in internet infrastructure. This may involve creating incentives for private sector companies to expand their networks to underserved areas, promoting competition, and removing barriers to entry. In this regard, economies must encourage collaboration between the government and private sector entities to fund and implement infrastructure projects. Public-private partnerships can leverage the expertise and resources of both sectors to accelerate the deployment of internet infrastructure.

iii. **About digital literacy**

Problem definition: Limited opportunities of learning and training in digital skills focused on older adults has been found in some APEC economies. This problematic is

compounded by low levels of education and illiteracy among certain groups of the older adult population. It is also linked to the scarcity or absence of general support networks for learning new skills for this population.

Alternatives of solution: Economies that lack relevant initiatives aimed at increasing digital literacy among the OAP must aim at implementing this type of service if the digital gap that limits this population ability to digitally interact with public services, socialize and attain active and fulfilling live conditions at this stage of their lives. This implies that initiatives that are aimed at closing gaps in physical access, such as infrastructure gaps or device ownership, although important, will be insufficient in solving the general digital exclusion scenarios that older adults must face.

For this purpose, economies could establish community centers and libraries equipped with computers and internet access. These centers can serve as learning hubs where individuals can access training programs, receive guidance, and practice their digital skills in a supportive environment. Additionally, economies are encouraged to collaborate with non-governmental organizations (NGOs) and private sector companies to leverage their expertise and resources in promoting digital literacy. NGOs can contribute by implementing grassroots programs, while the private sector can support through sponsorships, training facilities, and employee volunteering initiatives.

iv. **About negative perceptions of digital technologies and motivation**

Problem definition: It has been shown that negative perceptions and experiences related to the use of digital technologies can restrict older adult's motivation to use them. Specifically, low confidence in one's digital skills and feelings of distrust towards the possible dangers of using the Internet and digital services can reduce interest in their utilization, hindering OAP's access to online services and any other potential benefits that could be obtained through a digital medium.

This implies that even when physical and digital skill gaps are taken out of the equation, older adults must still find motivation to use digital technologies. To bolster older adults' motivation, initiatives must be able to convert older adults mistrust of digital medium to a more positive outlook.

Alternatives of solution: Initiatives that aim at tackling the digital inclusion of OAP must not only aim at increasing digital skills and physical access within this population, but also at improving the emotional aspect that mediate their perspectives and experiences with digital technologies. Both experts and best practice experiences gathered in this research have shown that initiatives must include components aimed at increasing older adults confidence in their ability to navigate digital technologies, as well as their capacity to do so while being and feeling safe from potential risks related to their utilization.

With this goal in mind, initiatives are encouraged to emphasize the advantages and benefits of using digital technologies; to show older adults how these technologies can enhance their lives, such as staying connected with loved ones through video calls, accessing online resources, public services and information, and engaging in hobbies and interests. Additionally, opportunities could be created for older adults to learn from their peers who have successfully adopted digital technologies, to encourage the formation of peer support groups or mentorship programs where experienced older adults can share their knowledge and experiences with those who are less familiar with digital technologies.

v. About a top-down approach to public policy design

Problem definition: Many public policies oriented at the digital inclusion of older adults are constructed without the participation of older adults in their design. This situation severely limits the extent to which they are able to adequately address the needs of the older adult population. Although certain variables such as physical access or digital literacy play a central role in limiting the digital exclusion of this population, the lack of insight from the older adults specific perspectives implies that the services provided to this population will inherently fail to address the specific needs and difficulties that this population is able to identify through their own particular perspectives and experiences.

In doing so, initiatives that are designed with a top-down approach will limit their ability to fully fulfill this population's demands, while also being limited in its ability to stay ahead of the continuous and evolving development of older adult's needs in regard to digital technologies.

Alternatives of solution:

The design of best practices aimed at the inclusion of older adults living in poverty should not only focus on the existing barriers to their achievement; a perspective based on the benefits of greater digital inclusion for older adults is needed. In this sense, the solution to existing barriers cannot be the only horizon under which good practices are considered.

Initiatives developed to tackle OAP's digital exclusion should promote sustained over time physical and material access to digital technologies, incorporating the narratives and demands of older adults in their development. In this sense, a top-down approach to the problem should be considered deficient, and a bottom-up approach will be necessary to complement this design model. In this sense, initiatives should take into account the experiences, specific needs and particular requests of older adults as they express them from their own life situation and perspectives. This model implies considering older adults beyond their basic needs, such as health care, and should attempt to approach the achievement of more comprehensive quality of life standards,

including the right to socialization and a sense of social belonging, to entertainment, and to the pursuit of participation in the market and the domestic and local economy.

8. Policy recommendations and opportunities for the APEC economies to promote digital inclusion and the provision of services through digital technologies among older adults in poverty

Based on the research findings, the research team has formulated the following voluntary recommendations to be implemented in APEC economies:

i. Communication between the private and public sectors to offer affordable digital devices and services for the older adult population

Scarce economic resources limit the sustained use of quality digital technologies. Although there is a wide variety of devices and services on the market, the offer should correspond to the needs of older adults. In this regard, it would be recommended that the public and private sectors work together to offer digital technologies at affordable prices considering socioeconomic aspects.

The private sector can leverage its resources, expertise, to manufacture and distribute digital devices at more affordable prices. By partnering with the public sector, initiatives can be developed to offer subsidies, discounts, or financing options specifically targeting older adults. This collaboration ensures that cost does not become a barrier for older adults to access digital devices and services.

Furthermore, it is crucial to acknowledge that the older adult population has often been overlooked in the digital marketplace. This group may be under-engaged due to a lack of technology designed specifically for their needs, coupled with limited access to affordable

options. Therefore, concerted efforts are necessary to foster the interest of both sectors in delivering devices and services to this often-excluded market, tapping into its significant business potential.

ii. Enabling network approaches to the delivery of digital inclusion services

Social and private organizations bring different areas of expertise and perspectives to the table. Social organizations often have a deep understanding of community needs and challenges, while private organizations possess technical knowledge, resources, and innovative solutions. By creating collaboration mechanisms through public policy aimed at the establishment of joint initiatives, these actors can leverage their respective strengths to design and implement comprehensive digital inclusion services that effectively address the needs of older adult populations.

In particular, social organizations understand the unique challenges faced by groups with untapped economic potential and can provide insights into the most appropriate digital inclusion strategies. This invaluable experience can be leveraged to ensure that digital services are relevant, inclusive, and responsive to the specific needs of the communities they serve.

iii. Participation of older adults in the design of digital technologies

Digital technologies are typically designed with a specific user in mind: one that is of young age and has none of the difficulties of use that are common in the older adult population. The obsolescence of devices hinders the sustained use of digital technologies by a population that does not have sufficient economic resources, nor the motivation and skills to adapt to rapid

technological changes. If older adults are expected to be able to utilize these technologies, an effort must be made to actively include them in their design.

This implies the firsthand inclusion of their perspective regarding factors such as legibility, accessibility, ease of use, and others.

iv. Incorporating the demands and needs of older adults in digital access policies and address the digital divide in policies aimed at older adults

In several economies, digital inclusion is not a priority in policies related to the welfare of older adults. However, evidence suggests that this may limit their access to various basic services and economic opportunities. In this sense, it would be essential to identify the perspective of older adults in terms of potential benefits.

Given the heterogeneity of the digital divide, it would also be essential to incorporate the age variable in digital access policies. To this end, the opinions, expectations and wishes of older adults should also be considered.

The implementation of policies with these characteristics is fundamental for the implementation of new projects. With this in mind, successful digital inclusion for older adults requires a collaborative effort that spans government, private sector, nonprofit, educational, and community-based organizations. These agencies must work together to address the unique challenges and opportunities associated with bridging the digital divide among older adults, ultimately improving their quality of life and access to essential services.

v. Implementation of projects that promote the use of digital technologies with the support of older adults' social networks.

Family, friends, and peer networks are fundamental for older adults, as they provide support for various daily activities. Consequently, older adults may feel more motivated and comfortable embracing digital technologies when they receive support from their social networks. Thus, key agents within their social circles or trusted professionals in healthcare or other services can provide guidance, encouragement, and hands-on assistance, which can help older adults overcome barriers and build confidence in using digital tools.

It is through these links that access to, and use of digital technologies can be promoted. Indeed, it is not only a matter of motivating use, but also of strengthening confidence in digital services and creating a nexus for learning digital skills. It would be important for policy makers to consider these "points of contact" to facilitate outreach to older adults in the implementation of projects.

This is important for all older adults, particularly those still “offline”. Thus, the process of including the older adults that are entirely without digital skills will require a strategic approach, in which social networks will have an important role.

vi. Strengthening digital literacy among older adults

Digital literacy equips individuals with the knowledge and skills necessary to effectively and confidently use digital technologies. It empowers them to navigate the digital landscape, access information, communicate, and engage in online activities. By improving digital literacy,

individuals become active participants in the digital world, enabling them to fully benefit from the opportunities and resources available online.

Consequently, efforts must be made to include digital literacy in domestic level public policies to foster the digital inclusion of older adults in poverty. This requires the elaboration of frameworks that ensure the existence of digital literacy programs at local level for older adults in poverty domestically.

These programs would need to be designed in such a way that they are appropriate to older adults' characteristics and would be carried out by professionals with experience in communicating with this population. Delivery models should be designed to be able to address the variable characteristics of older adults within specific economies, with consideration for teaching methods, locations, and languages, and the construction of welcoming learning spaces for older adults.

Robust evaluation processes will need to be designed and applied to these programs, particularly regarding their effectiveness on the participant's acquisition of skills, to allow for a continuous learning and improvement process.

vii. Considering geographical factors and physical access

Geographical factors significantly influence access to digital infrastructure, such as broadband internet connectivity and mobile network coverage. Urban areas often have better infrastructure compared to rural areas due to factors like population density, infrastructure investments, and market considerations. Neglecting geographical factors can perpetuate the digital divide, leaving rural and remote communities at a disadvantage in terms of digital inclusion.

Attention to the factors such as digital skills will not be sufficient to guarantee older adults in APEC economies are able to utilize digital technologies if the basic connectivity conditions are not satisfied. Thus, baseline levels of availability, accessibility, and affordability regarding access to the internet must be satisfied in all economies.

By recognizing and addressing these disparities, policymakers, organizations, and stakeholders can work towards bridging the urban-rural divide, reducing inequalities, and ensuring that all older adults, regardless of their geographic location, have the opportunity to benefit from digital technologies.

viii. Fostering joint initiatives among APEC economies

Although the characteristics of OAP in APEC economies is varied and responds to specific sociodemographic and economic variables, joint efforts across APEC economies are encouraged as they provide an opportunity for economies to share their successful strategies and best practices in addressing digital exclusion among older adults. Economies can learn from each other's experiences, identify effective approaches, and adapt them to their own contexts.

Collaborative efforts would allow economies to pool their resources and expertise to tackle digital exclusion. By combining financial resources, technological infrastructure, and human capital, joint initiatives can have a greater impact in implementing comprehensive programs and services for older adults. Joint initiatives could thus potentially facilitate the exchange of tools, resources, and technological solutions that have been developed and proven effective in different economies. This includes educational materials, training modules, digital platforms,

and assistive technologies. Sharing these resources allows economies to leverage existing solutions, adapt them to their specific contexts, and accelerate their digital inclusion efforts for older adults.

Additionally, APEC economies should be encouraged to cooperate towards the sharing of data, research findings, and evaluation results related to digital exclusion among older adults. This exchange of knowledge would permit the construction of a robust evidence base, identify trends, and evaluate the effectiveness of interventions, contributing towards evidence-based decision-making and continuous improvement of digital inclusion strategies.

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ANNEX 1 – Survey 1 Older Adults

SECTION XI. BARRIERS TO THE USE OF DIGITAL TECHNOLOGIES

P155 In the last week, have you...?

(Read alternatives)

1. Listened to the radio	**Yes**	**No**
2. Read the newspaper	**Yes**	**No**
3. Watched television	**Yes**	**No**
4. Received information over loudspeaker	**Yes**	**No**

- Read the statement for each of the alternatives, and record as the user expresses each of the answers.

P156 In the last month, ¿did you use...?

(Read alternatives) (More than one can be marked)

1. Own basic cellular phone (no Internet)
2. Own smartphone (with Internet)
3. Cell phone of a family member or friend
4. Skip to question P159 Rented cell phone
5. → Does not use cell phone

- Explain that the user may provide more than one answer option.
- In case the user has doubts about what a smartphone is (code 2), **clarify that it is a touch screen cell phone with which he/she can access Internet applications. Show the images in Handout 1.**
- If the answer is code 5, skip to question Q159.

P157 Do you communicate by cell phone to...?

(Read alternatives)

1. Receive calls	**Yes**	**No**

- Read the statement for each of the alternatives, and record as the user expresses each of the answers.

2. Make calls	Yes	No
3. Use WhatsApp, Facebook, or others	Yes	No

P158 Have you had any problems to...?

(Read alternatives)

1. Reading on the cell phone screen	Yes	No
2. Manipulating the screen or buttons on the cell phone	Yes	No
3. Listening to cell phone sounds	Yes	No

Skip to question P160

- Read the statement for each of the alternatives, and record as the user expresses each of the answers.

P159 Why don't you use a cell phone?

(Read alternatives) (Only answer)

1. Dislikes/Not interested
2. It is difficult to understand or use
3. It is very expensive
4. Is afraid/fearful
5. Other (specify) _____

Before asking the question, provide the following statement to the user:

"In this question I will read the alternatives and at the end you can answer me. If you do not remember, I will read you the alternatives as much times as you need".

- If the user's answer is different from the alternatives between codes 1 and 4, select code 5 "Other" (Specify) and record the corresponding information.

P160 Do you know what the Internet is? We mean using WhatsApp, YouTube, social networks such as Facebook, among others.

After reading the statement of the question, tell the user that **by Internet we mean having conversations or calls via**

Skip to question P163 (DO NOT read answers) 1. Skip to question P163 Yes 2. → No	**WhatsApp, watching videos on YouTube, or using social networks such as Facebook, among others**.
P161 How often do you use the Internet? **(Read alternatives)** 1. Never 2. Almost never 3. Occasionally 4. Most of the time 5. Always	Before asking the question, provide the following statement to the user: ***"In this question I will read the alternatives and at the end you can answer me. If you do not remember, I will read you the alternatives as much times as you need".*** ▪ If the answer is option 1 or 2, skip to question Q163.
P162 When you use the Internet, what do you usually use it for? **(Read alternatives) (More than one can be marked)** 1. Make paperwork/procedures 2. Communicate with family/acquaintances/friends. 3. Search for information 4. To work or generate income 5. Entertainment 6. Other (specify): End survey	Before asking the question, provide the following statement to the user: ***"In this question I will read the alternatives and at the end you can answer me. If you do not remember, I will read you the alternatives as much times as you need".*** ▪ Explain that the user may provide more than one answer choice. ▪ If the user also mentions/adds an answer other than the alternatives between codes 1 and 5, select code 6 "Other" (Specify) and record the corresponding information.

P163 Why don't you use Internet? **(Read alternatives) (Only answer)** 1. Dislikes/Not interested 2. It is difficult to understand or use 3. It is very expensive 4. Is afraid/fearful 5. End survey Other (specify) _____	Before asking the question, provide the following statement to the user: ***"In this question I will read the alternatives and at the end you can answer me. If you do not remember, I will read you the alternatives as much times as you need".*** If the user's answer is different from the alternatives between codes 1 and 4, select code 5 "Other" (specify) and record the corresponding information.

ANNEX 2 – Survey 2 APEC Economies

Survey on perceptions about digital inclusion aimed at APEC members

Presentation of the survey

Thank you for your willingness to participate in this survey, in the framework of the "Study on Barriers and Opportunities in Using Digital Technologies to Provide Services for Older Adults in Poverty Condition in APEC Economies", conducted by the Asia-Pacific Economic Cooperation (APEC), the Peruvian Ministry of Development and Social Inclusion (MIDIS), the Peruvian Ministry of Foreign Trade and Tourism (MINCETUR) and the Institute of Peruvian Studies (IEP).

The main objective is to analyze the *barriers to digital inclusion* of older adults in poverty condition **(hereafter OAP)**, as well as to identify *best practices* associated with its achievement in APEC economies.

Due to your professional background, you have been contacted to answer a survey that will take approximately 20 minutes. The information provided will be used only for the purposes of the study and your answers will be kept strictly confidential, protecting your privacy.

You are welcome to respond to the survey until Sunday, October 16, 2022.

After reading the information presented above, do you agree to participate in the survey?

a. Yes
b. No (end survey)

Respondent data

Q1. Names and Last name

Q2. Institution / Organization

Q3. Title or position

Q4. Age range

a. 20-34 years old
b. 35-59 years old
c. 60 years old and above

Q5. Gender

a. Female
b. Male
c. I prefer not to say

Q6. APEC Economy you represent

Q7. E-mail Address

Problem characterization

Q8. How important do you consider the digital inclusion of older adults in poverty condition (hereafter OAP) for APEC economies?

a. Not important

b. Not very important

c. Moderately important

d. Very important

Q9. Why do you attribute such level of importance to the digital inclusion of OAP?

Characterization of the affected population

Q10. Some social groups can face more digital exclusion than others. In your opinion, to what extent can the following factors affect the digital inclusion of OAP?

	Does not affect	Affects a little	Affects moderately	Affects a lot
Gender				
Geographic distribution				
Ethnicity				
Monetary income				

Desired future situation

Q11. What services or products would OAP have access to with greater digital inclusion? You may consider both the public and private sectors.

Barriers to OAP's digital inclusion

Q12. Do you consider that there is a digital inclusion gap between older adults in general (OA) and those in poverty condition (OAP)? Why?

Q13. In your opinion, what are the barriers for the digital inclusion of this population in your APEC economy? You may consider barriers at the individual, societal, or economy-wide level, as well as on the supply or demand side.

Possible solutions

Best practices can be understood as procedures (policies, strategies, national plans, programs, etc.) that seek to generate improvements in living conditions for a specific population (Escudero, 2009) and reverse situations of social exclusion (Meneses, 2011).

Q14. In your APEC economy, do you know of any initiatives associated with the digital inclusion of OAP? You can consider public or private initiatives.

a. Yes
b. No (skip questions 15-18)

Q15. Please, mention the initiatives that you know of and consider relevant for the digital inclusion of OAP. In case you have any web link to learn about the initiative, please include it.

Main initiative

Q16. Do you consider that any of the above-mentioned initiatives have had a particular impact on the digital inclusion of OAP? If so, please indicate the name of the initiative and the institution in charge. If you have a web link to learn about the initiative, please include it.

Q17. What were the achievements of this initiative?

Q18. What are the strengths and weaknesses of this initiative? Consider characteristics associated with the design or implementation of the initiative that influenced the achievements mentioned above.

Policy design

Q19. In your opinion, what should characterize a public policy oriented to the digital inclusion of OAP in your APEC economy? You can consider responsible institutions, public or private domain, objectives, aspects that should be included, etc.

Survey closure

Q20. Could you tell us about any other expert whose area of expertise is relevant to this topic, and who could be interviewed as part of this research? Please include contact information, if available.

Q21. Do you have any additional comments on this topic?

(End of survey)

ANNEX 3 – Survey 3 Thematic Experts

Survey on perceptions about digital inclusion aimed at thematic experts

Presentation of the Survey

Thank you for your willingness to participate in this survey. The questions you will see below are part of the project "Study on Barriers and Opportunities in Using Digital Technologies to Provide Services for Older Adults in Poverty Condition in APEC Economies", conducted by the Asia-Pacific Economic Cooperation (APEC), the Ministry of Development and Social Inclusion (MIDIS), the Ministry of Foreign Trade and Tourism (MINCETUR) and the Institute of Peruvian Studies (IEP).

The main objective is to analyze the *barriers to digital inclusion* of older adults living in poverty **(hereafter OAP)**, as well as to identify *best practices* associated with their achievement in APEC economies.

Due to his professional background, he has been contacted to answer a series of questions on the subject. The survey lasts approximately 20 minutes. The information provided will be used only for the purposes of the study and your answers will be kept strictly confidential, protecting your privacy.

After carefully reading the information presented above, do you agree to participate in this survey?

a. Yes
b. No

Respondent Data

Please enter your personal information below.

1. Name and surname(s)

Q2. Institution / Organization

Q3. Title or position

Q4. Age range

a. 20-34 years old

b. 35-59 years old

c. 60 years old and above

Q5. Gender

a. Female

b. Male

c. I prefer not to say

Q6. Economy of origin / Nationality

Q7. E-mail address

Problem Characterization

Q8. Population aging is a phenomenon of particular relevance in the public agenda of many countries [sic]; it is expected that by 2030, up to 16.4% of the world's population will be older

adults (Huenchuan, 2018). In view of this scenario, how important do you consider the digital inclusion of older adults in poverty (hereafter OAP) to be?

a. Not important
b. Not very important
c. Moderately important
d. Very important

Q9. Why do you attach this level of importance to the digital inclusion of OAP?

Characterization of the Affected Population

Q10. Some social groups can face more digital exclusion than others. In your opinion, to what extent can the following factors affect the digital inclusion of OAP?

	Does not affect	Affects a little	Affects moderately	Affects a lot
Gender				
Geographic distribution				
Ethnicity				
Monetary income				

Desired future situation

The social inclusion efforts of various countries are aligned with the United Nations 2030 Agenda for Sustainable Development.

Q11. What services or products would OAP have access to with greater digital inclusion?

You may consider both the public and private sectors.

Q12. Do you consider that OAP could offer products or services digitally? If so, please give some examples.

Q13. What aspects or variables should be taken into account for the digital inclusion of OAP?

Consider: coverage, digital literacy, access to devices, etc.

Q14. What kind of indicators should be considered to assess the digital inclusion of OAP?

Barriers to OAP's digital inclusion

Q15. Do you consider that there is a digital inclusion gap between the older adult population in general (OA) and those living in poverty (OAP)? For what reasons?

Q16. Various studies consider a series of variables that hinder the digital inclusion of OAP. In your opinion, what kind of barriers exist for the digital inclusion of this population?

You may consider barriers at the individual, societal, or national level, as well as on the supply or demand side.

Best practices

Good practices can be understood as procedures (policies, strategies, economy-wide plans, programs, etc.) that seek to generate improvements in living conditions for a specific population (Escudero, 2009) and reverse situations of social exclusion (Meneses, 2011).

Q17. Do you know of good practice initiatives that are associated with OAP's digital inclusion? You may consider public or private initiatives.

a. Yes
b. No (skip questions 18-18)

Best practices

Q18. Please mention the initiatives that you consider relevant to the digital inclusion of OAP. In case you have a web link to learn about the initiative, please include it.

Q19. Of the above initiatives, which do you consider to be the most important for the digital inclusion of OAP?

Please indicate the name of the initiative and the institution in charge. Also, if you have a web link to learn about the initiative, please include it.

Q20. What were the achievements of this initiative?

Consider beneficial effects for the older adults population and relevant measurement indicators

Q21. What were the strengths and weaknesses of this initiative?

Consider characteristics associated with the design or implementation of the initiative that influenced the achievements mentioned above.

Research

Q22. What future lines of research or data collection efforts do you consider necessary with respect to the digital inclusion of OAP?

Survey closure

Q23. Can you tell us if you know of any expert whose area of expertise is relevant to this topic, and who might be important to interview as part of this research?

Please include contact information, if available.

Q24. Do you have any additional comments to make on this topic? **(End of survey)**

ANNEX 4 – Interview Thematic Experts

Semi-structured interview guide with thematic experts

Introduction to the study

Thank you for your willingness to participate in this interview. The questions we have proposed are part of the project "Study on Barriers and Opportunities in Using Digital Technologies to Provide Services for Older Adults in Poverty Condition in APEC Economies", which is being carried out by the Asia-Pacific Economic Cooperation Forum (APEC), the Ministry of Development and Social Inclusion of Peru (MIDIS), the Ministry of Foreign Trade and Tourism of Peru (MINCETUR) and the Institute of Peruvian Studies (IEP). The main objective is to analyze the barriers to digital inclusion of the older adult population living in poverty **(hereinafter, the target population)**, as well as to identify good practices associated with its achievement in APEC economies.

It should be noted that this interview will be recorded to facilitate the systematization of information. The data you provide will be used only within the framework of the study and your answers will be kept in strict confidentiality, protecting your privacy.

With this in mind, do you agree to participate in this interview?

a. Yes [Question 1]

b. No [End survey]

Section 1. Characterization of the problem

As mentioned above, this research focuses on the identification of barriers to the digital inclusion of older adults in poverty. In this sense, it may be interesting to establish a starting point on the overall picture of this population.

1. How would you describe the current situation of digital inclusion of the older adult population in your economy?

2. How does limited digital inclusion or the lack of it affect older adults?

3. What digital services do you know that are provided to older adults? For example, telehealth, online procedures, etc.

Population aging is a phenomenon of particular relevance in the public agenda of various countries [sic] around the world; it is expected that by 2030, up to 16.4% of the world's population will be older adults (Huenchuan, 2018).

4. In view of this scenario, how important do you consider the digital inclusion of the older adult population in the world to be?

Characterization of the affected population

The older adult population is a heterogeneous group, ranging from age variation to differences in gender, ethnicity or geographic location of older adults.

5. Do you consider that there are groups within the older adult population that face greater difficulties for their digital inclusion? Which of these groups face greater challenges for digital inclusion?

6. Do you consider that the digital services or products currently available place sufficient emphasis on these groups within the older adult population?

Section 3. Desired future situation

The current research is articulated with the 2030 Agenda for Sustainable Development of the United Nations, which aims to promote the social inclusion of all people, regardless of their age. In that line, we are particularly interested in knowing the panorama of the adult population living in poverty (hereinafer, **the target population**) and their digital access.

7. What services or products would **the target population** have access to with greater digital inclusion? You can consider either the public or private sector.

8. Do you consider that **the target population** could offer products or services digitally? Could you explain your point of view?

9. What kind of indicators do you think should be used to measure the digital inclusion of **the target population**?

10. Which agencies or institutions should be in charge of collecting information and preparing reports for decision making?

11. How would you describe the availability of indicators to measure the digital inclusion of **the target population**?

12. What actions do you consider necessary to generate relevant and accessible information to evaluate the digital inclusion of **the target population**?

Section 4. Barriers to digital inclusion

Achieving digital inclusion of PAMSIP involves facing a series of barriers that make it difficult to obtain.

13. What kind of barriers do you consider hinder the digital inclusion of the target population?

14. Of these barriers, which one do you think should be addressed as a priority?

15. Do you consider that there are barriers to digital inclusion of the target population that are not being adequately addressed by existing initiatives?

Section 5. Alternative solutions (best practices)

16. Are you aware of digital inclusion initiatives for the target population?

17. What kind of initiatives should be developed to promote digital inclusion of the target population?

18. What variables should these initiatives have an impact on?

19. Which institutions should be in charge of leading these initiatives?

Section 6. Research experience

20. Some of your research focuses on [fill in with the expert's main topics]. How do you consider that this topic could be included in the public policies for digital inclusion of the target population?

21. What other issues do you think should be a central part of the design of digital inclusion public policies focused on the target population?

22. What future lines of research do you consider relevant for the digital inclusion of the target population?

Section 7. Closing the interview

23. Do you have any additional comments on the subject that you would like to share with us?

24. Could you tell us if you know of any expert whose area of expertise is relevant to this topic, and who might be interested to interview as part of this research?

Thank you very much for your time. Your answers will be of great help in analyzing the digital inclusion landscape of the older adults' population in poverty.

ANNEX 5 – Ethical Protocols

Security protocol for the application of face-to-face survey

Before the application

1. Enumerators will disinfect their hands properly, as well as the devices that will be used for recording.
2. Enumerators should have a KN95 type mask in good condition to be used during the interview.
3. Enumerators will avoid any type of physical contact when greeting.

During the application

4. As far as possible, the survey should be conducted in a ventilated place, ideally outdoors.
5. Enumerators should not remove their masks at any time during the interview; if requested by the interviewees, it can be mentioned that the masks are used for the protection of older adults.
6. Accepting invitations for drinks or food should be avoided due to the need to keep masks on for the duration of the interaction.
7. A physical distance of at least one and a half meters should be maintained when conducting the survey.
8. Enumerators will avoid bringing microphones or recording devices close to the interviewee to avoid contaminating the material.

After the survey

9. Enumerators will avoid any kind of physical contact when saying goodbye.

ANNEX 6 – Online Meeting Report

Online Meeting Report

1. General information about the Meeting

i. **Name:** *"Online Meeting: Study on Barriers and Opportunities in Using Digital Technologies to Provide Services for Older Adults in Poverty Condition in APEC Economies: Preliminary Findings"*

ii. Date: 15 May 2023

iii. Time: 20:00 GMT-5

iv. Duration: 2h30m

v. Format:

The meeting was conducted entirely online, through the Zoom videoconferencing platform. The meeting was divided into two sections. The first section (1h30m) was focused on the sharing of the Study's findings through a presentation from the research team, as well as on gathering commentaries and suggestions from the economies regarding this topic. After a short 5-minute break, the second section (1h) was dedicated to the presentations of three economies' best practices regarding the digital inclusion of older adults in poverty: Australia; New Zealand; and Russia.

vi. Speakers

Section 1:

- Roxana Barrantes (Research team)

Section 2:

- Aileen Agüero (Research team)
- Phoebe Duncan and George Minton (New Zealand)
- Libby Cremen (Australia)
- Natalya Shushlina (Russia)

2. Number of participants

The Online Meeting was attended by 46 participants from APEC economies, Peru's Ministry of Development and Social Inclusion, and the Instituto of Peruvian Studies' Research Team.

3. Online Meeting Summary

a. Presentation of the Study's preliminary findings

The research team's presentation focused on the main advances of the study "Barriers and Opportunities in Using Digital Technologies to Provide Services for Older Adults in Poverty Condition in APEC Economies". First, the consulting team presented the relevance and objectives of the research: to identify barriers and good practices for the digital inclusion of older adults in poverty condition. Next, the 6 phases of the methodology were described, as well as the relevant actors and the techniques applied to collect information. Among the findings, they identified physical, cultural, individual and political barriers that act as limiting factors for the access and use of digital technologies. Regarding best practices, they stated the importance of considering the needs of older adults and strengthening their participation in the design of technologies. It was also considered relevant to take advantage of support networks (family members, caregivers, etc.) as mediators in technological access, and a series of

indicators were proposed to measure digital inclusion. Subsequently, a series of recommendations for public policies were presented. The presentation culminated by establishing the next phases to be developed, which include the analysis of case studies and the triangulation of findings.

b. Presentation of selected best practices from 3 economies

i. New Zealand

The New Zealand presentation was led by the Office for Seniors, which works for the well-being of older people in said economy. The delegation identified that, during the COVID-19 pandemic, this group faced obstacles in connecting with others remotely, as well as barriers to accessing online information and transactions. In response to these needs, the "Digital Literacy Training for Seniors", "2020 Trust Pacific Connect", "Better Later Life - He Oranga Kaumātua 2019 to 2034", "Better Digital Futures for Seniors" and "Pacific Senior Connect" initiatives were implemented.

The results of these programs suggest an increase in digital skills and confidence levels regarding technologies among older adults. However, the need for greater coordination among State agencies was also identified, which is why the “Digital Inclusion Action Group for Older People” was implemented in collaboration with digital skills providers. Finally, the delegation highlighted the importance of taking into account the impact of the COVID-19 pandemic on the supply of digital inclusion initiatives, as well as addressing the different dimensions of the technology gap, including motivation, access, digital skills and confidence of older adults towards digital technologies.

ii. Australia

The Australian-led presentation focused on the "Be Connected" initiative, which aims to support people over the age of 50 to navigate the Internet safely and consistently. This program is carried out in collaboration between the Department of Social Services (in charge of developing and managing the program), the eSafety Commissioner (in charge of the learning portal) and the Good Things Foundation (in charge of managing the network of strategic partners). It was also noted that the "Be Connected" online learning portal provides resources to build digital skills, including free monthly presentations, monthly podcasts and over 30 quick reads available.

In addition, it was noted that they worked with an extensive domestic network that includes libraries, clubs, senior centers, and other institutions. As a result, they have managed to exceed the program's established goals, providing support to more than 300,000 people by June 2020. The program has had a significant impact on beneficiaries' basic digital skills, their confidence in technologies, their connection with others and their online safety. Even so, some challenges remain to be overcome, such as expanding the network of partnerships with community organizations, data collection and reporting, financial sustainability of the program, and building a flexible model that adapts to community needs.

iii. Russia

The Russian presentation focused on the "ABC of the Internet" program. First, the delegation justified the relevance of the program, pointing out that in this economy there are more than 40 million pensioners, among whom a large number of people have low levels of digital skills.

The lack of teaching and self-learning materials makes access to digital services difficult, especially for those who are geographically isolated. In response to this situation, the program offers teaching materials adapted for older adults, including audiovisual content and a specialized website.

The challenges identified for the sustainability of the program were also listed, including the fact that teachers are volunteers, that adequate infrastructure is needed for classes and that the quality of the classes must be monitored. In addition, they presented the obstacles concerning the statistical reporting on the program. In this regard, certain actions undertaken were emphasized, such as the holding of webinars for teacher training, the creation of a social network for teachers and feedback on the website from users. Subsequently, the results of the program were mentioned: 450,000 people have received training in digital skills and more than 12,000 have registered in the section for teachers. Finally, it was pointed out that the program can be replicated in other economies, taking into account the clear definition of its purpose, promoting a system of autonomous courses, solving financial issues and informing about the possibilities of the initiative.

The information shared by the economies will be included in the Case Studies section of the Study and will thus be incorporated in the triangulation of findings to be developed as part of the final version of the document. This includes its incorporation in its final conclusions, as well as in the Recommendations section of the document.

4. Economies' suggestions and commentaries for the Study

As part of the Online Meeting, commentaries were collected from the participants regarding several subjects related to the study. These comments were the following:

i. **About social networks:** A request was made to accent the importance of leveraging older adult's social support networks, in the shape of family members, friends, healthcare practitioners, and other members of their local communities as part of the implementation of any initiate directed at improving older adult's digital inclusion.

Related modification to the Study: This perspective is already included in the Study, however, the research team will further detail relevant information regarding this topic in the Best Practices section of the document, as well as in the conclusions and recommendations. In addition to this, some of the Case Studies to be included also utilize this approach, and an effort will be made to highlight these findings in the Case Studies section.

ii. **About online risks and perceived risks:** A request was made to further reflect on the importance of online risks, perceived risks as well as online security as a subject that needs to be included in the Study, in consideration of tis importance regarding older adult's experiences with digital technologies.

Related modifications to the Study: This subject will be included in the sections of the study that focus on barriers that relate to the limitations of digital literacy among older adults. Additionally, the recommendations regarding digital literacy

will be modified to include this topic as part of the relevant subjects that need to be included in digital education initiatives. Finally, this subject is also included in some of the best practices selected for the Case Studies section, and an effort will be made to highlight its importance in the respective initiatives.

iii. **About the definition of joint initiatives among APEC economies:** A request was made to consider the importance of specifying initiatives that could be developed by joint efforts among APEC economies, in particular relation to the best practices identified in the study.

Related modifications to the Study: Potential join effort initiatives will be included in the Best Practices section of the Study. Additionally, the Recommendations section of the study will also include more specific initiatives that could be articulated among economies that related to the digital inclusion of older adults.