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Article

Social innovation and digital transformation: education for older adults within the framework of Industry 4.0

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Abstract: The article proposes a social innovation strategy using university social service to promote the digital inclusion of older adults in the context of Industry 4.0. Grounded in a change management approach, it empowers university students as agents of transformation, implementing tailored educational programs. A five-phase framework (design, implementation, evaluation, conceptualization, and dissemination) offers a scalable solution to the digital divide, training students in intergenerational methodologies and using clear impact indicators such as skills gained and intergenerational perceptions. Implemented at the Faculty of Accounting and Administration at UABC, the program achieved notable results: 90% of older participants gained basic digital skills, and 98% of students reported improved perceptions of older generations, with many eager to replicate the initiative. The strategy highlights the role of inclusive approaches in digital transformation, demonstrating the value of intergenerational collaboration and providing a replicable model for other educational and institutional contexts.

1. Introduction

Digital transformation and the integration of advanced technologies such as artificial intelligence (AI), the Internet of Things (IoT), and big data are redefining social and economic paradigms in the era of Industry 4.0 [1]. These advancements are also reshaping everyday life, affecting communication, access to healthcare, financial management, and social and cultural participation. However, the inclusion of older adults in this new environment presents a critical challenge, as this population faces significant barriers related to digital literacy, technological familiarity, and access to devices and connectivity [2].

In this context, university social service programs have emerged as a key strategy within the framework of social innovation to promote the digital inclusion of older adults. These initiatives align with contemporary change management strategies aimed at fostering the transition toward a more inclusive

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and technologically empowered society, while also leveraging the pedagogical value of intergenerational education as a means to reduce the digital divide.

This article proposes an integrated change management approach, based on the design and implementation of educational programs led by university students through professional social service. In addition to serving as an effective strategy for digital inclusion, this model functions as a support mechanism to reduce resistance to change among older adults, through personalized and continuous attention. These social innovation initiatives aim not only to develop technological skills, but also to encourage active participation of older adults in the digital economy and culture, thus contributing to sustainable development from a digital equity perspective [3].

Furthermore, the article analyzes best practices derived from similar and successful programs, highlighting their potential for replication and scalability as an effective change management strategy. This proposal underscores the importance of building intergenerational bridges and applying adaptive educational methodologies that ensure accessible, relevant, and meaningful learning experiences for older adults.

2. Methods and Materials

Digital transformation has revolutionized how modern societies access information, services, and economic participation. However, this transition has been uneven, with older adults being among the most affected by the digital divide. According to Alkureishi et al. [2], this population faces persistent barriers such as low digital literacy, fear of change, and limited access to digital devices, significantly hindering their ability to navigate an increasingly digitized environment.

Digital exclusion limits their access to essential services such as telemedicine, online banking, e-learning, and communication platforms. It also restricts their active participation in an economy increasingly driven by emerging technologies such as big data, artificial intelligence (AI), and the Internet of Things (IoT) [1], thereby exacerbating social inequalities and hindering the achievement of sustainable development goals.

Despite various institutional efforts, traditional digital literacy models have fallen short in addressing the specific needs of this group. As noted by Armijos-Buitrón [4], the lack of adaptive approaches that take into account learning pace, cultural references, and the need for personalized support has limited their effectiveness. Therefore, a strategy is needed that goes beyond technical training to include the human, emotional, and pedagogical dimensions of digital inclusion.

In this regard, social innovation programs supported by university social service provide an innovative alternative. These programs enable trained students to serve as digital instructors for older adults, promoting a learning environment that is close, practical, and empathetic. In addition to facilitating the development of technological skills, this approach strengthens intergenerational ties and fosters a culture of collaboration and social responsibility. According to Abad [3], such initiatives hold significant transformative potential, but they require a structured change management model to ensure continuity, adaptability, and scalability.

2.1. Justification

Addressing the digital exclusion of older adults is both urgent and necessary due to its impact on multiple levels. At the individual level, it improves quality of life by expanding access to essential services, fostering autonomy, and reducing technological dependence. At the educational level, it provides university students with practical experience that enhances key competencies such as leadership, empathy, teamwork, and social responsibility. Structurally, it supports a vision of inclusive digital transformation, where technology serves as a tool for equity and social cohesion rather than a source of exclusion. Furthermore, the proposal aligns with the Sustainable Development Goals (SDGs), particularly SDG 10 on reducing inequalities, by promoting more accessible and universal technological environments. As Abad [3] notes,

embedding these programs within academic and institutional settings enables the development of replicable intervention models with sustainable and measurable outcomes. In this context, the research introduces a methodological model of social innovation based on university social service, designed to address a concrete social challenge through a viable, scalable, and impactful strategy.

2.2. General Objective

To propose a social innovation strategy based on university social service as a methodological model to promote the digital inclusion of older adults, establishing a framework for its implementation, measurement, and evaluation as a viable option for decision-makers in the realm of digital transformation and Industry 4.0.

2.3. Specific Objectives

- To design a detailed methodological model structuring the implementation of educational programs focused on developing digital competencies for older adults, aligned with the principles of social inclusion and digital transformation.
- To propose clear evaluation indicators to measure the strategy's impact in terms of acquired skills, intergenerational perception, and reciprocal learning, utilizing tools such as structured questionnaires.
- To establish a conceptual and practical framework that decision-makers can adopt to replicate the strategy in various contexts, ensuring its sustainability and scalability.
- To promote the use of university social service as an effective tool to strengthen the social fabric and implement intergenerational educational programs that reduce the digital divide.
- To facilitate evidence-based decision-making by presenting a well-grounded proposal that includes strategies, evaluation metrics, and potential benefits for stakeholders.

3. Theoretical framework

This research's theoretical framework is structured around theories and concepts that support the development of inclusive strategies for older adults in digital transformation. These theories include digital transformation in Industry 4.0, digital inclusion as a pillar of social equity, and social innovation strategies for change management.

3.1. Digital transformation in the Industry 4.0 era

3.1.1. Digital transformation and its impact

Digital transformation refers to the integration of advanced technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), and big data into social and economic activities [1–5]. Within Industry 4.0, these tools have led to major advancements in efficiency and productivity, but they have also generated inequalities in technology access and use, particularly among older adults.

3.1.2. Digital divide among older adults

This group faces increased vulnerability due to barriers such as limited digital literacy, complex interfaces, and scarce resources [2]. This not only restricts their participation in the digital economy but also increases their social exclusion. Therefore, there is an urgent need to design accessible educational strategies that enable older adults to integrate into emerging digital environments.

3.2. Digital inclusion as a pillar of social equity

3.2.1. The concept of digital inclusion

Digital inclusion is defined as equitable access to information and communication technologies (ICT) and the necessary skills to use them effectively [3]. This concept includes both physical access to devices and connectivity, as well as the capacity to use them meaningfully to improve quality of life [6].

3.2.2. Relevance for older adults

For older adults, digital inclusion means access to essential services such as telemedicine, social networks, and online banking. However, the lack of technological training and non-inclusive interfaces hinder this integration. Laurente [3] highlights the need for personalized approaches to overcome these barriers.

3.2.3. Digital inclusion and sustainable development

Digital inclusion aligns with the Sustainable Development Goals (SDGs), particularly SDG 10, which aims to reduce social and economic inequalities [7]. Promoting digital literacy among older adults contributes to more equitable and resilient societies.

3.3. Social innovation and change management

3.3.1. Social innovation for digital inclusion

Social innovation focuses on developing sustainable solutions for complex social problems. In this case, digital literacy programs for older adults can be designed through intergenerational collaboration, where university students act as mentors [8].

3.3.2. University social service as a tool

University social service not only contributes to digital literacy but also fosters values of social responsibility and empathy in students. According to Armijos-Buitrón [4], this approach strengthens the social fabric by facilitating meaningful intergenerational interactions.

3.3.3. Change management in vulnerable contexts

Resistance to change is a common barrier among older adults, requiring structured change management approaches. According to Kotter [9], an effective process includes preparation, implementation, and reinforcement, ensuring that participants gradually adapt to digital technologies.

3.4. Social change theory and its application

Theories of social change and social capital offer a complementary framework for understanding digital transformation in vulnerable populations, particularly among older adults. Social change theory suggests that sustainable transformations emerge from planned actions aimed at overcoming structural barriers. Thus, digital literacy initiatives must focus on removing initial obstacles such as lack of technical knowledge or fear of change, and set clear goals such as sustained and meaningful access to digital tools [10].

Meanwhile, social capital theory highlights the value of networks and social relationships as fundamental resources for individual and collective development. In digital inclusion contexts, intergenerational interactions help build trust and collaboration between young people and older adults, facilitating mutual

learning and strengthening social cohesion. According to Tomczyk et al. [8], these dynamics not only improve digital literacy but also foster the active integration of older adults into digital society.

Both perspectives agree that digital transformation requires not only structural and cultural conditions but also social support. The proposed methodological model is therefore grounded in a change-oriented logic with clear objectives, relying on collaboration and the mobilization of intergenerational networks that promote both technological inclusion and social equity.

3.5. Diffusion of innovations model

The technology adoption model proposed by Harris [11] explains how innovations are gradually adopted by different social groups. In the case of older adults, this process involves guiding them from an initial awareness of the technology's usefulness to continuous and meaningful use. Understanding their learning pace and motivations, and offering a supportive environment, is essential to facilitate their progressive familiarization with digital tools.

Personalization and accessibility are key elements for successful technology adoption in this population. Designing user-friendly interfaces and applying adaptive educational methodologies not only reduces technological anxiety but also promotes effective integration into digital environments. Castilla [12] argues that accessibility must address both physical and cognitive needs through simplified and structured processes. The methodology proposed in this study incorporates these principles, supporting older adults from their first contact with technology to achieving autonomous and functional use.

Various initiatives across Latin America have demonstrated the positive impact of digital inclusion programs for older adults. In Mexico, the National Institute for Older Adults (INAPAM) has promoted training in the use of computers, smartphones, and the internet, enabling this population to perform daily activities such as video calls, online payments, and app usage—fostering autonomy, active aging, and intergenerational relationships [13]. Similarly, in Placilla, Valparaíso (Chile), government programs focused on digital literacy have strengthened self-efficacy, self-determination, and self-directed learning among older adults. These experiences underscore the importance of the practical "learning by doing" approach, as well as the need to adapt digital content to the sociocultural realities of the target group, promoting social integration and empowerment through contextualized use of digital tools [14–16].

The theoretical framework provides a solid conceptual foundation for the proposed model, connecting the challenges of digital exclusion with approaches such as digital transformation, change management, and social capital. These theories not only explain the context but also support the relevance of university social service as a social innovation strategy for achieving effective and sustainable digital inclusion of older adults.

This educational approach stands out for enabling citizens to gain a contextual understanding of technological tools and digital environments, especially regarding access to information via new state-created platforms. Additionally, it seeks to develop participants' skills to interpret and understand multimedia languages, integrating them into the codes inherent in digital systems. This comprehension allows them to communicate accurately within web environments where new services are designed [16].

4. Methodology

This study adopted a mixed-methods approach with a qualitative predominance, combining techniques such as participant observation, the collection of testimonies, and thematic analysis, complemented by descriptive quantitative indicators to validate outcomes and perceptions of impact.

The methodology designed to achieve the proposed objectives is structured into five key phases (see Figure 1), ranging from the design to the evaluation of the social innovation strategy. This structured

approach ensures systematic development through measurable and replicable steps, aligned with the principles of social inclusion and digital transformation.

Participant selection was based on purposive non-probability sampling. Each cohort included between 15 and 20 older adults, and 6 to 10 university students per module, depending on the availability of resources and facilities. This ratio aimed to ensure close support and personalized guidance throughout the educational process.

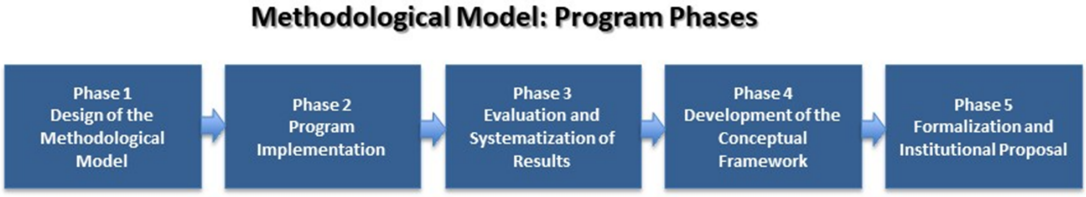

Figure 1. Methodological model to achieve the proposed objectives.

4.1. Phase 1: Design of the Methodological Model

This phase focuses on planning the educational programs and developing the conceptual framework that supports them.

Main activities:

1. **Context analysis:**
   - Identify the specific barriers faced by older adults in adopting digital technologies.
   - Collect data on the digital divide and the educational needs of the target group.
2. **Definition of digital competencies:**
   - Establish the basic and advanced skills to be developed, such as the use of digital tools, web browsing, and cybersecurity.
3. **Design of content and materials:**
   - Create educational modules adapted to the cognitive and cultural needs of older adults.
   - Incorporate practical methods such as interactive exercises and demonstrations.
4. **Instructor training:**
   - Design workshops for university students focused on pedagogical strategies for teaching older adults.
   - Include key aspects such as intergenerational communication, patience, and conflict resolution.

4.2. Phase 2: Program Implementation

This phase validates the feasibility and effectiveness of the designed methodological model.

Main activities:

1. **Participant selection:**
   - Recruit older adults with limited access to digital technologies.

- Include students from technology-related fields as instructors and assistants.

2. **Execution of educational sessions:**

   - Organize in-person sessions in small groups (15–20 participants per session).
   - Conduct seven sessions, each lasting four hours, emphasizing practical and guided learning.

3. **Monitoring and feedback:**

   - Carry out periodic evaluations during the sessions to adjust content and dynamics.
   - Collect both qualitative and quantitative feedback from participants and instructors/assistants.

Qualitative analysis techniques

In addition to quantitative indicators, the program included a qualitative component focused on observations and testimonials collected during implementation. Feedback from older adults and university students was analyzed through thematic coding using an inductive approach.

The procedure involved:

- **Information collection:** Comments and observations expressed during the sessions, as well as written responses from open-ended forms completed at the end of the program, were recorded.
- **Initial coding:** Data were organized by identifying recurring expressions related to the learning process, the practical usefulness of the content, and the interaction with instructors.
- **Thematic grouping:** Meaningful units were grouped into three main dimensions: (1) perceptions of technology use, (2) persistent challenges, and (3) contributions of intergenerational interaction.
- **Interpretive analysis:** Each category was analyzed based on its recurrence and alignment with the program's objectives. This systematization enabled the identification of common narrative patterns, such as the need to reinforce specific content, the value of personalized support, and the usefulness of the intergenerational model in facilitating digital familiarity.

Justification:

The inductive approach allowed categories to emerge directly from the data without imposing predefined theoretical frameworks, offering a contextualized understanding of the learning process for older adults and the pedagogical experience of the students.

To ensure the reliability of the emerging categories, the qualitative analysis included an open coding process with double review. Two researchers independently conducted the initial coding, followed by triangulation to reach consensus on thematic groupings. A saturation analysis was also applied to ensure that the identified categories adequately reflected the participants' recurring experiences. This methodological strategy enhanced the interpretative validity of the findings and provided a more structured reading of the perceptions of both older adults and students.

The program's methodological structure was organized into two modules of seven weekly sessions, each lasting four hours, delivered over two semesters. This allowed for sustained and accessible learning for both older adults and students. Instructor selection focused on youth from technological fields with interpersonal skills and a strong sense of social commitment, who received training in intergenerational teaching. Groups of 15 to 20 older adults enabled personalized attention and a supportive environment for engagement. This configuration was based on operational and pedagogical criteria, as pilot phases had shown that cycles of seven sessions optimized cognitive retention and reduced dropout rates.

4.3. Phase 3: Proposal of Evaluation Indicators

This phase establishes clear metrics to assess the impact and outcomes of the strategy.

Key indicators:

- **Acquired skills:**
  - Number of older adults who successfully complete specific technological tasks.
  - Progress in the digital competencies previously defined.
- **Intergenerational perception:**
  - Changes in students' perceptions regarding the learning capabilities of older adults.
  - Increase in empathy and intergenerational interactions.
- **Satisfaction and mutual learning:**
  - Satisfaction levels reported by older adults and students through Likert-scale questionnaires.
  - Qualitative narratives reflecting mutual learning between generations.
- **Model sustainability:**
  - Assessment of the program's scalability and replicability across different communities.
  - Long-term retention of skills among participating older adults.

4.4. Phase 4: Model Formalization and Design for Scalability

The implementation of the program validated the feasibility of the methodological model through in-person sessions involving older adults and university students. Small groups (15–20 participants) were formed to ensure personalized attention, and seven four-hour sessions were conducted with a practical focus. The students, previously trained in intergenerational methodologies, served as instructors, fostering a collaborative learning experience. In addition to quantitative data, qualitative feedback was collected through observations and testimonies, which were analyzed using an inductive approach. This enabled the identification of patterns related to technology perception, persistent challenges, and the value of intergenerational support. This phase also incorporated logistical and pedagogical criteria that supported the modular structure of the program (7+7 sessions), tailored to the conditions of university social service and the learning pace of older adults.

Subsequently, a conceptual and operational framework was developed to consolidate the model and facilitate its replication in other institutional or community contexts. A methodological guide was created, including structured modules, evaluation tools, educational materials, and feedback instruments. Additionally, strategies for scaling the program were defined, such as adjusting duration, adapting content, identifying minimum resources, and establishing strategic partnerships with universities, governments, or community centers. This framework aims to preserve the core principles of the model while promoting its flexibility and sustainability across diverse settings.

4.5. Phase 5: Presentation of Results and Proposal for Decision-Makers

This phase consolidates the program's results and presents a well-founded proposal for its adoption as a policy or institutional strategy.

Main activities:

1. **Results analysis:**
   - Process the data collected during previous phases to generate a detailed report.
   - Identify achieved outcomes, encountered challenges, and opportunities for improvement.

2. **Proposal development:**

    - Summarize the benefits and impact of the model in terms of digital inclusion, social cohesion, and innovation.
    - Provide impact metrics, case studies, and narratives that support the program's feasibility.

3. **Dissemination:**

    - Present the proposal in educational, institutional, and governmental forums.
    - Publish the findings in academic journals, technical reports, or relevant digital platforms.

The methodology presented here is characterized by its flexibility, practical applicability, and contextual grounding. However, as with any social intervention in real-world settings, it faces challenges in controlling external variables and standardizing outcome, issues that are addressed through continuous monitoring strategies and participatory feedback mechanisms.

5. Results

The implementation of the pilot program at the Faculty of Accounting and Administration of UABC yielded positive outcomes across two key groups: older adults who participated in the training process and university students who served as instructors. The results enable an assessment of the model's impact in terms of digital inclusion, intergenerational interaction, and institutional outreach.

5.1. Descriptive analysis of the sample

The sample consisted of 145 older adults, with ages ranging from 50 to 83 years. Basic statistical analysis revealed the following:

- **Minimum age:** 50 years
- **Maximum age:** 83 years
- **Average age (mean):** 66.8 years
- **Median:** 66 years
- **Mode:** 60 years
- **Standard deviation:** 7.23 years

These data reveal a predominant concentration of participants in their 60s, which aligns with the typical profile of older adults engaged in active aging processes. The moderate dispersion of data indicates a relatively homogeneous age group (see Figure 2).

Figure 2 shows the following key points:

- The highest concentration of participants is between the ages of 60 and 70, with a peak at age 60.
- The distribution follows a bell-shaped curve, slightly skewed to the right, which is common in studies on digital literacy among older adults.
- This supports the observed mode of 60 years and a mean of approximately 66.8 years.
- The age range spans from 50 to 83 years, with moderate dispersion (standard deviation $\approx$ 7.23 years).

In addition to age, educational level is another relevant factor for understanding the participants' profile.

Regarding general educational level, the educational level of the participants was classified into five categories. The distribution shows a significant representation of individuals with completed university studies, as shown in Table 1.

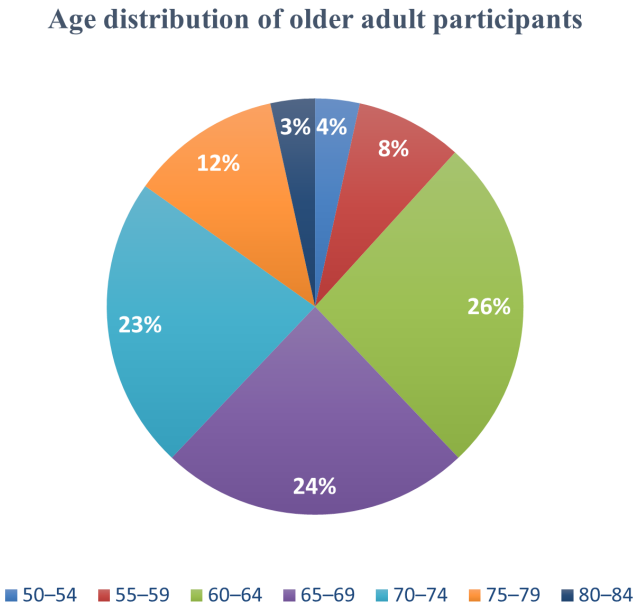

Figure 2. Age distribution of older adult participants.

Table 1. Educational level of the older adult participants.

Educational Level	Frequency
Incomplete/Completed Primary School	15
Incomplete/Completed Secondary School	21
Incomplete/Completed High School	38
Incomplete University	11
Completed University	60

This educational profile is relevant for instructional design, as it allows for tailoring pedagogical approaches according to participants' academic backgrounds. The high proportion of university-educated participants facilitates the assimilation of more complex content; however, a considerable percentage with basic education was also included, as shown in Figure 3.

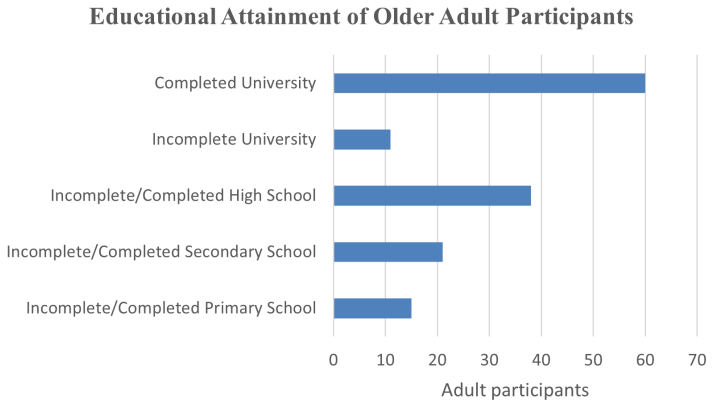

Figure 3. Distribution of Participants by Educational Level.

Alongside educational attainment, the level of prior familiarity with technology is a key factor in designing an effective educational intervention.

Before the beginning of the Basic I course, the level of technological familiarity among older adults was identified through an informal diagnostic inquiry. This information guided the design of a gradual support strategy throughout the training sessions. Table 2 presents the distribution of participants according to their level of prior experience with technology.

Table 2. Prior experience with technology.

Level of Prior Experience	Frequency
None	67
Basic	59
Intermediate	10
Advanced	2

Approximately 46% of the older adults had no previous technological experience, while another 41% had only basic knowledge. Only a small percentage possessed intermediate or advanced skills. This situation justifies the implementation of an inclusive pedagogical approach focused on initial digital literacy and personalized support.

Given the initial diagnostic insights regarding the participants' technological background, the educational intervention was meticulously designed to accommodate their diverse levels of digital familiarity. The significant proportion of older adults with no or basic experience underscored the necessity of adopting an inclusive pedagogical framework. This approach emphasized gradual progression, personalized support, and accessible instructional materials, aiming not only to foster foundational digital skills but also to enhance participants' confidence, autonomy, and sustained engagement in the learning process.

The demographic and experiential profile of the participants highlights the importance of designing an inclusive and supportive learning environment. The combination of older adults with low digital exposure and university students with high technological proficiency required an intergenerational pedagogical strategy. The following section presents the impact assessment of this educational model, focusing on both groups' achievements and transformations.

5.2. Learning outcomes and pedagogical impact on participants

Among older adult participants, 90% successfully completed basic digital tasks, such as using email, conducting video calls, browsing the internet, and applying cybersecurity measures. These accomplishments reflect tangible progress in foundational digital competencies. Additionally, 95% expressed a high level of satisfaction with the educational experience, highlighting the clarity of the content, the close guidance provided by the instructors, and the practical usefulness of the knowledge gained.

In the case of university students, 98% reported an improved perception of older adults' learning capacity, recognizing their willingness, adaptability, and commitment. This experience strengthened their empathy and intergenerational understanding. Moreover, 80% expressed interest in replicating the program in other settings, demonstrating the program's formative impact on their teaching skills and motivation toward socially meaningful projects.

Overall, the model proved to be functional, replicable, and adaptable to diverse educational contexts. The intergenerational interaction fostered a collaborative learning environment in which personalized support was key to successful technological engagement.

The implementation of the program generated key indicators across various dimensions (see Table 3) and produced positive impacts for both older adults and university students.

Table 3. Key outcome indicators.

Dimension	Indicator	Result
Acquired skills	Percentage of older adults who completed basic digital tasks	90%
Intergenerational perception	Students reporting greater appreciation for older adults	95%
Program satisfaction	Participants satisfied with the educational experience	98%
Future applicability	University students interested in replicating what they learned in other contexts	80%

These results support the effectiveness of the model in strengthening digital competencies, fostering intergenerational bonds, and shaping agents of change with social responsibility. Based on this experience, valuable elements have been identified that allow the model to be extended to new cohorts, reinforce its modular structure, and consolidate it as an educational strategy for digital transformation with an inclusive approach.

However, despite the achievements obtained, certain challenges remain that must be addressed to further strengthen the program. Among these are limitations in access to devices or internet connectivity in the homes of some older adults, the persistent insecurity they express when using complex digital platforms, and the ongoing need for guidance in the use of new tools. These factors highlight that digital literacy in this population requires continuous processes, periodic reinforcement, and the incorporation of sustained support networks. Addressing these challenges will enable progress toward more robust, sustainable, and context-sensitive models that are attuned to the sociotechnological realities of older adults.

6. Conclusions

6.1. Strategic relevance for digital transformation

The proposed model offers a practical framework to address the resistance older adults often face when adopting digital technologies. By involving university students as facilitators, it fosters intergenerational collaboration and mutual learning.

Key elements include:

- **Cultural and cognitive adaptation:** The materials are designed to match the characteristics of older learners, promoting confidence and understanding.
- **Clear methodology:** The model follows a structured, replicable approach supported by indicators that guide implementation and evaluation.
- **Potential for expansion:** The results at UABC show that the model can be adapted to other educational and community settings.

This experience confirms that digital transformation is not only about adopting technology—it also requires strategies that involve and empower all social groups, especially those at risk of exclusion.

6.2. Contribution to the field of digital transformation

This model broadens the view of digital transformation by placing people—rather than technology—at the center of change. It highlights that inclusive educational strategies are essential to ensure no one is left behind.

For older adults, the program creates real opportunities to access and use technology meaningfully. For university students, it strengthens their teaching, communication, and empathy skills, contributing to their social formation.

The initiative supports a broader, more ethical understanding of digital progress, where social inclusion is part of the transformation itself.

6.3. Practical implications for policy and higher education

The results suggest actions with real impact for both public institutions and universities:

- **Policy alignment:** The model can be integrated into public programs on active aging, with digital literacy recognized as a key component of autonomy and participation.
- **University–government partnerships:** The experience shows that collaboration can lead to sustainable programs that reach communities with limited access to technology.
- **Curricular innovation:** The model can be embedded in elective courses, service-learning, or social responsibility programs, ensuring continuity and relevance.

Finally, this experience highlights the value of intergenerational learning as a tool to reduce digital inequality. By promoting mutual support, it strengthens confidence, integration, and community cohesion.

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