

# กลไกการเสริมสร้างทักษะเทคโนโลยีในยุคดิจิทัลของสังคมผู้สูงอายุโดยสมบูรณ์ (Aged Society) กรณีศึกษา ชุมชนมัสยิดอัต-ตักวา

## Mechanisms for Enhancing Technology Skills in The Digital Age of Aged Society: A Case Study of At-Taqwa Mosque Community

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### บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์ 1) เพื่อศึกษาสภาพปัจจุบันและปัญหาการใช้เทคโนโลยีในยุคดิจิทัลของสังคมผู้สูงอายุโดยสมบูรณ์ (Aged Society) กรณีศึกษา ชุมชนมัสยิดอัต-ตักวา 2) เพื่อวิเคราะห์ปัจจัยเอื้อต่อความสำเร็จในการเสริมสร้างทักษะเทคโนโลยีในยุคดิจิทัลของสังคมผู้สูงอายุโดยสมบูรณ์ (Aged Society) กรณีศึกษา ชุมชนมัสยิดอัต-ตักวา และ 3) เพื่อศึกษากลไกการเสริมสร้างทักษะเทคโนโลยีในยุคดิจิทัลของสังคมผู้สูงอายุโดยสมบูรณ์ (Aged Society) กรณีศึกษา ชุมชนมัสยิดอัต-ตักวา วิจัยดำเนินการโดยวิธีการวิจัยแบบผสมวิธี ผู้ให้ข้อมูล เลือกแบบเจาะจง ได้แก่ ผู้สูงอายุในชุมชนมัสยิดอัตตักวา คณะกรรมการอิสลามประจำจังหวัดเชียงใหม่ สมาชิกคณะกรรมการมัสยิด ผู้บริหารศูนย์การเรียนรู้ศิลปะและวิทยาศาสตร์อัลกุรอาน รวมทั้งหมด 46 คน เครื่องมือที่ใช้ ได้แก่ การสัมภาษณ์เชิงลึก

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แบบสัมภาษณ์กึ่งโครงสร้าง แบบบันทึกการประชุม วิเคราะห์ข้อมูลโดยใช้การวิเคราะห์เนื้อหา และจำแนกตามประเด็น ผลการวิจัยพบว่า 1. สภาพปัจจุบันของการใช้เทคโนโลยีในยุคดิจิทัลของสังคมผู้สูงอายุโดยสมบูรณ์ (Aged Society) กรณีศึกษา ชุมชนมัสยิดอัต-ตักวา ประกอบด้วย 12 ด้าน ปัญหาการใช้เทคโนโลยีในยุคดิจิทัลของสังคมผู้สูงอายุโดยสมบูรณ์ (Aged Society) กรณีศึกษา ชุมชนมัสยิดอัต-ตักวาประกอบด้วย 14 ด้าน 2. ปัจจัยเอื้อต่อความสำเร็จในการเสริมสร้างทักษะเทคโนโลยีในยุคดิจิทัลของสังคมผู้สูงอายุโดยสมบูรณ์ (Aged Society) กรณีศึกษา ชุมชนมัสยิดอัต-ตักวา ประกอบด้วย 4 ด้าน 3. กลไกการเสริมสร้างเทคโนโลยีในยุคดิจิทัลของสังคมผู้สูงอายุโดยสมบูรณ์ (Aged Society) กรณีศึกษา ชุมชนมัสยิดอัต-ตักวา ประกอบด้วยขั้นตอนปฏิบัติงาน 11 ขั้นตอน

**คำสำคัญ:** กลไก, ทักษะเทคโนโลยี, ยุคดิจิทัล, สังคมผู้สูงอายุโดยสมบูรณ์, ชุมชนมัสยิดอัต-ตักวา

## Abstract

The objectives of this research were 1) to investigate the current states and problems for the use of technology in the digital age of aged society: a case study of At-Taqwa Mosque community, 2) to analyze the factors supporting success for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community, and 3) to study mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community. The research was conducted using a mixed-method research method. Key informants selected by purposive sampling consisted of elderly people in the At-Taqwa Mosque community, Chiang Mai Provincial Islamic committee, mosque committee members, administrators of Quran Arts and Science Learning Center, for a total of 46 informants. Instruments used were an in-depth interview, a semi-structured interview form, a record meeting. The data were analyzed using content analysis, and classified by issues. The results revealed as follows:

1. The current states for the use of technology in the digital age of aged society: a case study of At-Taqwa Mosque community consisted of twelve aspects. The problems for the use of technology in the digital age of aged society: a case study of At-Taqwa Mosque community consisted of fourteen aspects. 2. The factors supporting success for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community consisted of four aspects. 3. The mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community consisted of eleven operational procedures.

**Keywords:** Mechanisms, Technology Skills, Digital Age, Aged Society, Taqwa Mosque Community

## Introduction

The Thirteenth National Economic and Social Development Plan, 2023 - 2027 (National Economic and Social Development Board, Office of the Prime Minister, 2023) Creating fresh wellness offerings to guarantee health in a geriatric population. Providing digital communities with environments that are conducive to their well-being through innovative products and services that are suitable for modern, everyday lives. To promote longer stays among the active old and visitors who are on the go, residential sections for the elderly should be established along with spaces for sports and exercise.

Network Potential Development and Promotion Group, Elderly Potential Promotion Division (2021) explained in the current aging society and the economy in Thailand, according to the definition, an “aging society” is one in which the percentage of the population that is 60 years of age or over has been rising steadily, whereas the percentage of the population that is working age has been declining and the proportion of elderly people has been rising. This issue is already present in neighboring countries.

Moreover, Thailand Development Research Institute Foundation (TDRI) (2023) indicated that Thailand is on the verge of becoming a super-aged society in the next 15 years, when an estimated 21 million older people will make up 30% of the total population. In 2023, the country became a complete aged society, with 14 million people aged 60 and older making up 20 percent of the population.

In terms of a mechanism, Bromiley & Johnson (2005) previously illustrated as a convincing explanation for how a systematic relationship between variables is created. Because we attempt to both explain and prescribe, strategy researchers in particular need to comprehend the dynamics that drive business behavior and outcomes.

Recently, Junsang & Chimmamee (2021) studied work self-adjustment among elderly Muslims: a case study of Songkhla Province. The research results showed that elderly Muslims in rural areas were more likely to work due to insufficient income, despite the government’s income guarantee policy. They needed to adjust their lifestyle or find new careers. Additionally, they played a role as religious leaders, educating community members to prepare them for aging society.

As the matter of fact, Rodkhem & Chaiprasit (2019) found that at the moment, Thailand’s aging population and rapid technological advancements are transforming the country’s aging society. Technology enhances the quality of life for the elderly, reducing reliance on others. However, the elderly must adopt a positive attitude and realize its importance for a long, independent life. Families, communities, organizations, and public and private sectors must encourage responsible technology usage.

Likewise, the Office of Digital Economy Promotion (2022) stated in digital literacy and the aging society that nowadays, with advanced technology, the role of the internet and mobile phones has caused everyone to

have to adapt to keep up with the rapidly developing era of technology. Learning digital skills is important for everyone, including the elderly, because it makes us aware, careful, not to disclose personal information to public media, and to maintain our own safety when using online media. These things are all part of the skills and knowledge, ideas called digital literacy, to understand another world where we can only touch the device for communication, how to use it, to protect and make creative use of information in this virtual world. One example of creative use of technology starts with the development of an application to easily communicate.

At-Taqwa Mosque community, Wat Ket Subdistrict, Mueang District, Chiang Mai Province, was originally home to a large group of local people who originally lived in the area of the current Jitpakdee School, which is now located in the Quran Arts and Science Learning Center. Before that, there were many ethnic groups living together. The At-Taqwa Mosque community is the center of religious agencies, such as the Office of the Islamic Committee of Chiang Mai Province and many other agencies. It is a center of learning about Islamic studies in the North. There is an aged society in which the actual elderly aged 60-70 years and over living in the area. Some elderly may have trouble understanding technology, have problems with accessibility, convenience and usability, safety, and trust issues, find it difficult to troubleshoot, have problems with social connectivity, have problems with device use, and lack trust in technology. The research

team is therefore interested in studying the mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community, for which the research results will be beneficial to Muslim communities related to education management at all levels in the future.

## Objectives

1. To investigate the current states and problems for the use of technology in the digital age of aged society: a case study of At-Taqwa Mosque community.

2. To analyze factors supporting success for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community.

3. To study mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community.

## Materials and Methods

The research used mixed method design was divided into three phases as follows:

**Phase 1:** The investigation of current states and problems for the use of technology in the digital age of aged society: a case study of At-Taqwa Mosque community was conducted by an in-depth interview. Key informants selected by purposive sampling, especially those who are healthy and be able to travel by themselves, consist of twenty elderly people aged 65-70 years who live in the At-Taqwa

Mosque community, Wat Ket Subdistrict, Mueang District, Chiang Mai Province. instrument used was a semi-structured interview form concerning the current states and problems in terms of access to technology, lack of knowledge and skills, security problems, privacy, trust in technology, social connectivity problems, device use, etc. The researchers conducted interviews at the homes of the elderly. Instrument used was a record from interviewing. The data were analyzed by content analysis and classified into issues.

**Phase 2:** The analysis of the factors supporting success for enhancing technology skills in the digital age of aged society: a case study of the At-Taqwa Mosque community was organized as a workshop. Key informants selected by purposive sampling consisting of representatives of the Chiang Mai Provincial Islamic committee, mosque committee members, administrators of Quran Arts and Science Learning Center, community committee representatives, and representatives of the elderly, for a total of eleven informants. The instrument used was a record form in a workshop. The issues concerning factors supporting success were as follows: man, money, material, management, and additional recommendations. The data were analyzed by content analysis and classified into issues.

**Phase 3:** The study of mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community organizing through brainstorming. Key informants selected by

purposive sampling consisting of representatives of the Chiang Mai Provincial Islamic Committee, mosque committee members, administrators of Quran Arts and Science Learning Center, community committee representatives, and representatives of the elderly, for a total of fifteen informants as well as a research team. In the meeting, the research team reports the results of the study on the current states and problems in the use of technology skills in the digital age of aged society and the results of the analysis of factors supporting the success of enhancing technology skills in the digital age of aged society. Then key informants brainstorm to create mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community, summarize the mechanism for mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community, and agree, respectively.

The research framework is explained in Figure 1.

## Results

**Phase 1:** The investigation of current states and problems for the use of technology in the digital age of aged society: a case study of At-Taqwa Mosque community was divided into two sections as follows:

**Section A:** The current states for the use of technology in the digital age of aged society: a case study of At-Taqwa Mosque community consisted of twelve aspects as

follows: 1) online usage for religious lectures, 2) online social connectivity, 3) technology training and support, 4) community connectivity, 5) the use of technology devices, 6) updating and modernizing, 7) the use of social media, 8) religious information updates, 9) technology training, 10) connecting with religious communities and organizations, 11) the use of technology devices, and 12) the use of religious applications. (As cited in Supising et al., 2023, pp. 379-380)

**Section 2:** The problems for the use of technology in the digital age of aged society: a case study of At-Taqwa Mosque community consisted of fourteen aspects as follows: 1) understanding and knowledge of technology, 2) efficiency and usability, 3) accessibility

issues, 4) convenience and usability issues, 5) safety and trust, 6) troubleshooting burden, 7) social connectivity, 8) device use issues, 9) trust in technology, 10) lack of popularity in developing technology for the elderly, 11) lack of technology skills, 12) difficulty in adapting, 13) health limitations, and 14) lack of support and training. (As cited in Supising et al., 2023, pp. 381-382)

**Phase 2:** The analysis results of the factors supporting success for enhancing technology skills in the digital age of aged society: a case study of the At-Taqwa Mosque community consisted of four aspects as shown in Table 1:

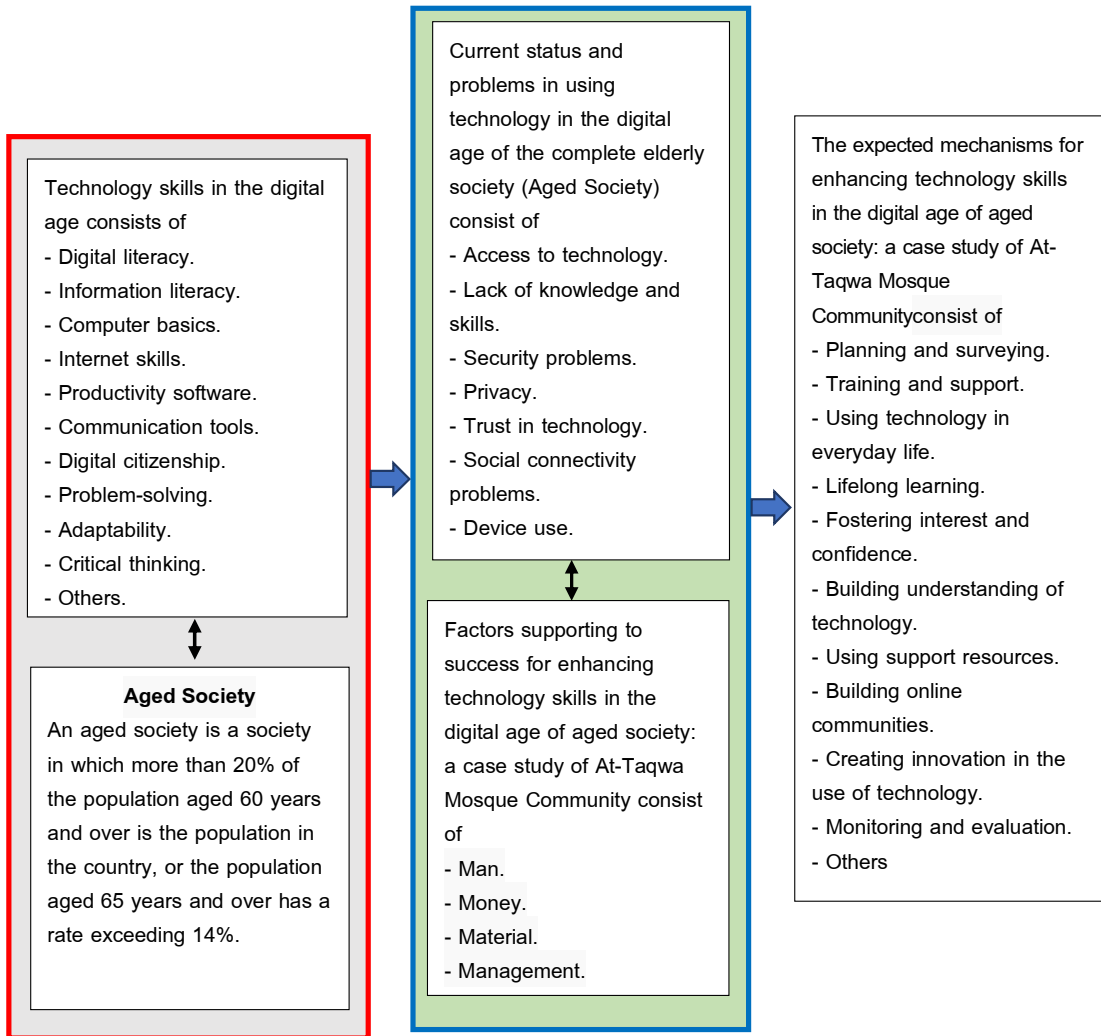


Figure 1 Research Framework

**Table 1** The factors supporting success for enhancing technology skills in the digital age of aged society: a case study of the At-Taqwa Mosque community

No.	Factors	Details
1.	<b>Man</b> consists of	1.1 Influential community leaders, including mosque officials and respected elders, who advocate for and prioritize technology skill enhancement. 1.2 Skilled instructors and trainers who are proficient in both technology and teaching methods. 1.3 Active involvement and engagement of community members in planning and implementing technology initiatives. 1.4 Provide incentives such as certificates, recognition, and rewards to motivate participants. 1.5 Establish support groups and peer networks where community members can share knowledge and help each other. 1.6 Foster positive attitudes towards technology among community members, emphasizing its benefits and relevance to their lives.
2.	<b>Money</b> consists of	2.1 Secure community grants aimed at digital literacy and senior citizen programs. 2.2 Obtain funding from non-profit organizations dedicated to technology education and senior support. 2.3 Encourage community members and local businesses to contribute financially to technology training initiatives. 2.4 Allocate a sufficient budget for technology skill enhancement programs within the community's financial planning. 2.5 Establish a committee to oversee the financial aspects of technology skill enhancement programs.
3.	<b>Materials</b> consist of	3.1 Provide computers, tablets, and smartphones that are easy to use for elderly individuals. 3.2 Offer devices with assistive features such as voice commands, screen readers, adjustable text sizes, large screens, magnifiers, and hearing aids. 3.3 Provide high-speed, reliable internet connectivity within the community center or mosque. 3.4 Install Wi-Fi hotspots in common areas to ensure all members can access the internet. 3.5 Prepare projectors and large screens for group instruction and demonstrations. 3.6 Implement interactive whiteboards for engaging and interactive teaching sessions, that seniors can access for self-study. 3.7 Conduct regular maintenance and updates of hardware and software to ensure everything is in good working order.

No.	Factors	Details
4.	<b>Management</b> consists of	<p>4.1 Establish clear specific goals for the technology skills enhancement program.</p> <p>4.2 Develop a long-term strategic plan that outlines the steps and milestones to achieve the goals.</p> <p>4.3 Appoint committed leaders and coordinators to oversee the program and ensure its success.</p> <p>4.4 Engage community members, including elders, youth, and religious leaders, in the planning and implementation process.</p> <p>4.5 Create channels for ongoing feedback from participants to continuously improve the program.</p> <p>4.6 Allocate resources effectively, ensuring that funds, materials, and personnel are used optimally.</p> <p>4.7 Develop a curriculum that addresses the specific needs and skill levels of the elderly community members.</p> <p>4.8 Offer flexible scheduling options to accommodate the availability and preferences of participants.</p> <p>4.9 Provide ongoing training and professional development opportunities for instructors and trainers.</p> <p>4.10 Encourage trainers to stay updated with the latest technological trends and teaching methodologies.</p> <p>4.11 Conduct regular assessments to monitor the progress of participants and the effectiveness of the program. 4.12 Establish partnerships with educational institutions, technology companies, and non-profit organizations.</p>

**Phase 3:** The mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community consisted of eleven operational procedures as follows:

1. Conduct needs assessment refers to identifying current technology skill levels and gaps through surveys, assessments, and feedback from twenty elderly people aged 65-70 years who live in the At-Taqwa Mosque community, Wat Ket Subdistrict, Mueang District, Chiang Mai Province, and analyzing social trends to determine the essential technology skills needed.

2. Set clear objectives refers to defining specific, measurable goals for technology skill enhancement and establishing timelines and schedules for achieving these objectives.

3. Design curriculum refers to developing an appropriate curriculum that includes theoretical knowledge and practical applications and incorporates a variety of learning resources, including online courses, workshops, tutorials, and hands-on projects.

4. Select platforms refers to selecting appropriate tools and learning management systems to oversee the training courses and gaining the required internet access.

5. Implement programs refers to conducting the training programs at Quran Arts and Science Learning Center and online platforms using a blend of in-person and online learning methods.

6. Provide support refers to establishing mentorship programs to provide personalized support and advice and facilitating peer learning and collaboration through group discussions and guidance.

7. Assessment and feedback refer to measuring overall technology skills, collecting feedback from aged society learners to identify areas for improvement.

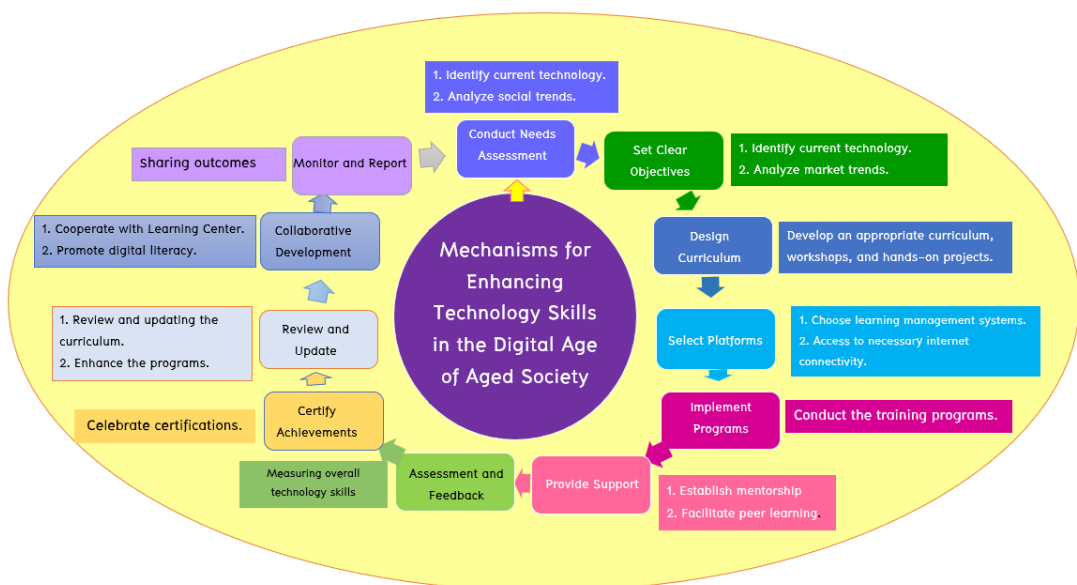
8. Certify achievements refers to celebrating certifications to motivate and encourage continued training.

9. Review and update refers to reviewing and updating the curriculum and training programs to keep pace with technological advancements and enhancing the programs.

10. Collaborative development refers to cooperating with Quran Arts and Science Learning Center to support and promote digital literacy and technology skill development.

11. Monitor and Report refers to sharing outcomes with At-Taqwa Mosque community members, administrators of Quran Arts and Science Learning Center, and Chiang Mai Provincial Islamic Committee, At-Taqwa Mosque community elderly committee, including, aged society learners.

The mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community is summarized in Figure 2.



**Figure 2** The mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community

## Conclusion and Discussion

**The authors selected the significant issues to discuss as follows:**

In terms of the factors supporting success for enhancing technology skills in the digital age of aged society: a case study of the At-Taqwa Mosque community, the findings describe comprehensive guidelines for enhancing technology skills among elderly community members. It involves the involvement of influential community leaders, skilled instructors, and active community engagement. Incentives are provided to motivate participants, and support groups are established for sharing knowledge. The financial aspect is managed through community organizations. The material includes easy-to-use computers, tablets, and smartphones, as well as devices with assistive features. High-speed internet connectivity is provided, and Wi-Fi hotspots are installed. The program's management involves setting clear goals, a long-term strategic plan, and a governance structure. A committee oversees the initiative, involving people of the community and guaranteeing its sustainability. The curriculum addresses the specific needs of the elderly community members, and flexible scheduling options are offered. Partnerships with educational institutions, technology companies, and non-profit organizations are established.

In a world that is aging rapidly, Pan American Health Organization (PAHO, 2023) concluded that with the use of digital technologies, elderly can reach their full potential by having access to digital information products and

services.

Similar to the findings of Wuthirangsi (2021), when seniors can access various forms of media by asking family members, and they can also be able to comprehend the substance of that media when they share information about digital media with their relatives. The elderly will be able to recognize digital media and have access to it if they have always accepted information.

Additionally, Krittakom (2024) found that elderly people who use social media have a good overall quality of life; their individual physical, mental, and environmental well-being is also high, but their social well-being is modest. Social media usage patterns among the elderly, such as daily usage, the amount of time spent on social media, and the goal of use, were statistically significant at the 0.05 level in relation to improving the quality of life for the old.

In terms of the mechanisms for enhancing technology skills in the digital age of aged society: a case study of At-Taqwa Mosque community, the findings describe mechanisms for enhancing technology skills among elderly people aged 65-70 in the At-Taqwa Mosque community. It involves conducting a needs assessment, setting clear objectives, designing a curriculum, selecting suitable platforms, implementing programs, providing support, and measuring progress. The process includes identifying areas for improvement, celebrating achievements, reviewing and updating the curriculum, cooperating with the Quran Arts and Science

Learning Center, and monitoring and reporting outcomes. The goal is to promote digital literacy and technology skill development, ensuring that the community benefits from these efforts.

In line with Kleechaya (2021), the case study of elderly shows how they might leverage their collected uniqueness, ideas, knowledge, skills, and efficacy to promote productive aging through technology. The findings, taken together, point to a framework for encouraging active and fruitful aging in Thailand that takes into account core welfare policies related to technology, the standard of living in the 5G aging population, and security policies for older people using technology.

Moreover, Intachum, Wangcham, & Yomsoongnern (2023) indicated that there should be collaborated with supply managers to plan and deliver technological equipment and learning resources, improve environmental conditions, and conduct workshops on information technology exploitation and learning media development. Mentors as resource persons should also receive a computer network system for efficient data processing to enhance their instructional management.

It can be concluded that the At-Taqwa Mosque community's success in enhancing technology skills in the digital age of aged society describes a process for enhancing technology skills among elderly people aged 65-70 in the At-Taqwa Mosque community. It involves conducting a needs assessment, setting clear objectives, designing a curriculum,

selecting suitable platforms, implementing programs, providing support, and measuring progress. The mechanisms include identifying areas for improvement, celebrating achievements, reviewing and updating the curriculum, cooperating with the Quran Arts and Science Learning Center, and monitoring and reporting outcomes. The goal is to promote digital literacy and technology skill development among the elderly community.

## Suggestion

### Suggestions for the application of research findings.

1. The mechanisms can be applied for organizing regular workshops and training sessions aimed at teaching technology skills specifically tailored to the needs and interests of the aged community.
2. The mechanisms can be providing personalized assistance and mentoring for elderly community members who may require more individualized attention to learn and adopt new technologies.
3. The mechanisms can be encouraging elderly learners to apply their newly acquired technology skills in practical ways.

### Suggestions for further research

1. There should be conducting research to track the long-term impact of technology skills training on the elderly in the Muslim community.
2. There should be Investigating the barriers that prevent elderly individuals from adopting and utilizing technology. This could include examining factors.

3. There should be research how technology design can be optimized to be more user-friendly for elderly individuals. This could involve studying user interface design, accessibility features, and the development of age-appropriate applications.

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