智慧銀髮服務生態系統

Smart Aging Service Ecosystem

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Based on service model and service design, the main contributions of this project are to design a service system for supporting different kinds of people to regain the ability of having a better life style. We have collaborated with a local service startup team, "Let we care," to help elder people to build up the habit of doing exercise on a regular basis and help other group of people with mobility difficulty to have better support.

This project is designed with the intention for local area innovation implementation. In this vein, the purpose of this project is to realize the aging service ecosystem in the local district to test our idea and eventually to make the local site as a reference site for future growth. We have spent our effort in doing academic work for publication as well as putting the system into practice for validation and proof of the concept. There are several areas of work that including the following themes.

1. We have established a team in working with different local partners to establish an aging service ecosystem. Our partners include elder activity center, health monitoring and exercise trainers' network, gymnasiums, and city government for project support. Currently, there are three regular exercises ongoing on a regular basis. Our team has work with not only elder's activity center in Hsin-Chu, but also collaborates with centers from other city to expand our service.

2. Co-PI of this project also worked with other researchers to investigate issues that may have negative impact on health behaviors. These issues include procrastination for conducting positive impact program, vision-impaired people health maintenance, and introducing musical treatment for health purpose. We have worked with Tamkang Blindness Center and National YMCT University professors to build and test IoT system for improving blind people mobility and home care system. These subprojects are executed by working with courses and students are working on their capstone project to achieve the results.

3. This project works with "Design for Behavior Change" course to examine several design concepts to improve the problem of procrastination and forming habit for health purpose. The design approach include goal setting and change group size to seek better enhancing results for the subjects.

Publication list:

- Kuo, M. L., Tsai, C. C., Wang, J. C., (2021) Linking web-based learning self-efficacy and learning engagement in MOOCs: The role of online academic hardiness, *The Internet and Higher Educaiton, June, 2021.*

- Hsueh, C. E., Lee, H., Lu, Y. H., Wu, N. H., Wu, Y. W., Lin, S. E., & **Kuo, P. Y.** (2020, April). Exploring the Effect of Group Size on Goal Setting & Sharing to Reduce Procrastination: Lessons Learned in a Field Study. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-8).

- Hsueh, C. E., Lee, H., Lu, Y. H., Wu, N. H., Wu, Y. W., Lin, S. E., & **Kuo, P. Y.** (2020, April). Exploring the Effect of Group Size on Goal Setting & Sharing to Reduce Procrastination: Lessons Learned in a Field Study. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-8).
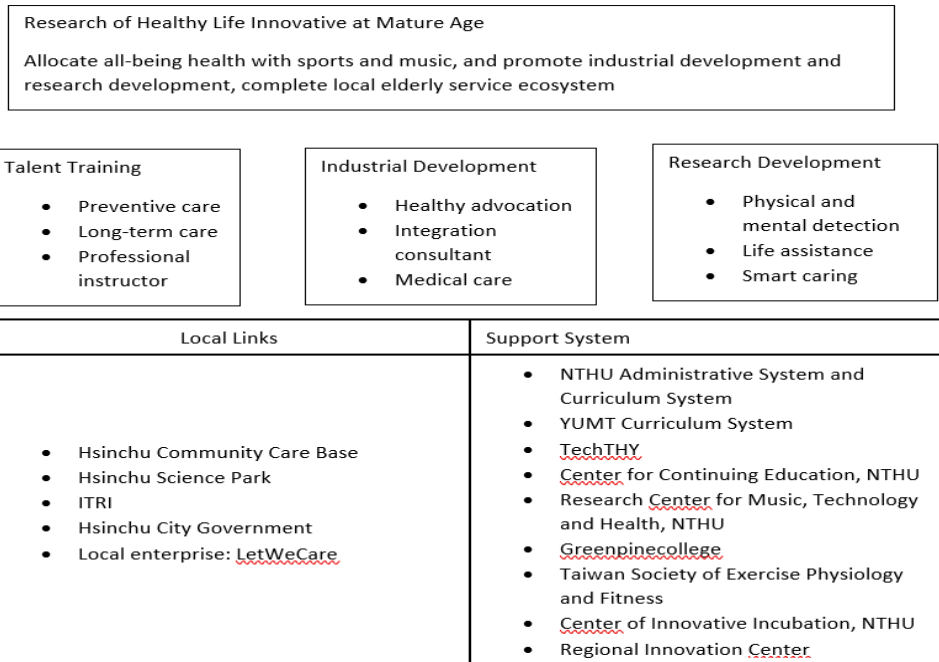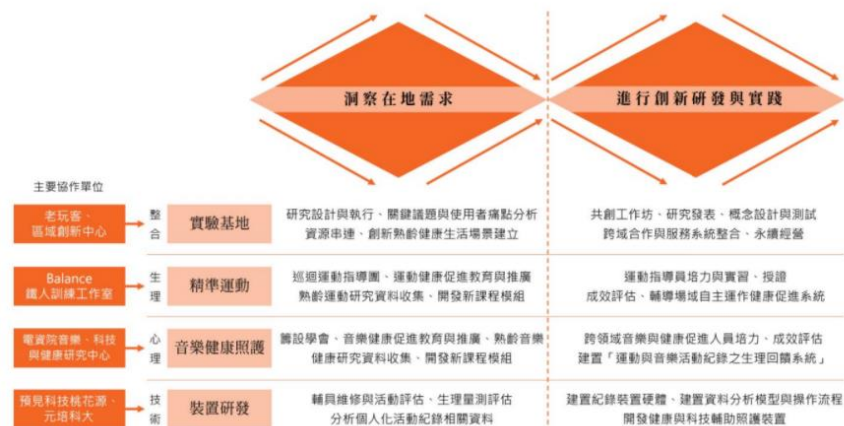
Figure 1: The general design of the aging health ecosystem

Fig 2. Double Diamond for ecosystem service design