

The Study of Commercial Business Model of Circuit Training in Elder People Health Club

Lei-Chuan Lin^{1, a}, Chien-Ming Tseng^{2, b}, Chao-Hsing Yang and^{3, c}, *Kuei-Shu Hsu^{4, d}

¹ Planning and Promotion Department, Metal Industries Research and Development Center, Taiwan

² Energy and Agile System Department, Metal Industries Research and Development Center, Taiwan

³ Department of Sports Management, Chia Nan University of Pharmacy & Science, Taiwan

^{4*} Department of Recreation and Health Care Management, Chia Nan University of Pharmacy & Science, Taiwan
^aleichuan@mail.mirdc.org.tw, ^b ming@mail.mirdc.org.tw, ^cyl64651210@mail.cnu.edu.tw, ^{d,*}kshsu888@gmail.com

Abstract

Literature review and analysis

The primary aim of this research is to understand the commercial feasibility of gymnastic ring equipment at senior citizen fitness clubs. Through a literature review, we discovered the “four sectors and nine factors” operation model theory. They are a. consumer interface, which mainly consists of target customers, distribution channels, customer relationships, etc.; b. service interface, which consists of value propositions; c. internal management, which consists of critical activities, resources, and partners; and d. finances, which consist of cost structure and revenue streams. We used these to build the senior citizen fitness club operation model.

Key words: Elder People, Elder People, Business Model

Introduction

In recent years, because of economic growth, Taiwanese people have increasingly more time and money to participate in various sports and leisure activities. Coupled with an increase in health awareness and in the pursuit of a better quality of life, the number of Taiwanese people who exercise regularly has grown steadily. Citizens are paying an increasing attention to leisure activities and have gradually begun to develop regular exercise habits to maintain and promote their personal health. As a result, a wide variety of health clubs, sports centers, and fitness activities have been developing and growing.

The elderly population in Taiwan is growing every year. As of May 2018, there were 3,331,377 senior citizens in Taiwan, accounting for 14.13% of the total population. The National Development Council has further estimated that Taiwan will become a “super-aged” society in 2026; that is, the proportion of the population over 65 years will exceed by 20%. Senior citizens are the present condition, current trend, and ultimate future of the Taiwanese society. With the fact that elderly people are seeking to maintain healthy minds and bodies and considering the advent of the government’s anti-aging policy, needs and opportunities for casual fitness activities for the elderly have greatly increased. As elderly people age, their muscle tissues gradually deteriorate each year. If they do not continue training their muscle strength, they may suffer from atrophy and insufficient muscle strength. Eventually, they may not be able to stand up from their chairs by themselves or even pick up a spoon on their own, thereby leaving themselves dependent on others. Therefore, strength training is not just an activity for the young generation; it is also important for the elderly.

The purpose of this research is to understand the commercial feasibility of gymnastic ring equipment at senior citizen fitness clubs. To this end, we collected and reviewed literature on the following topics: (I) Discussion over muscle strength in senior citizens, (II) Introduction to gymnastic rings, and (III) Three key aspects of business operation models in the fitness industry. We hope that we can use these to develop a model for the commercial operation of gymnastic ring equipment at senior citizen fitness clubs.

(I) Discussion over strength training for senior citizens

1. The importance of physical fitness for the elderly

Aging is often accompanied by the onset of various chronic diseases and the decline of bodily functions. This, in turn, gradually decreases senior citizens’ ability to participate in various types of physical exercise, which affects their physical capabilities and the quality of their daily life. In addition to their inability to maintain their quality of life in their later years, this also increases the burden on family members as well as social costs (Lustosa et al. 2011). As people age, functions of their muscular, skeletal, pulmonary, and circulatory system significantly decline, thereby leading to the decline in their physical strength and mobility and affecting their gait and balance. All of this makes slips and falls much more common. Additionally, exercise has been shown to significantly contribute to improving the quality of life and physical safety of elderly people. The benefits mainly include muscle strength, balance, muscle endurance, and muscle gain. Studies have shown that muscle strength is one of the key factors in determining whether an elderly person can live independently (e.g., climbing stairs, changing clothes, taking bath, etc.) (Doherty, 2003).

2. Ways to improve muscle strength of the elderly

After being introduced to 12 weeks of gymnastic ring exercises, senior citizens gained improved functional fitness and stability in their lower limbs. Hess and Woollacott (2005) pointed out that after participating in high-intensity strength training thrice a week for ten weeks, senior citizens exhibited significantly improved muscle strength and balance. The introduction of exercises that focused on functional fitness was shown to significantly improve their gait when they encountered obstacles, as well as their physical fitness.

(II) Introduction of gymnastic ring

The gymnastic ring is a specific type of sports training

equipment that combines training device exercise with freehand methods. Participants engage in various exercises in the form of set shifting. The duration of each set can be adjusted to achieve the desired intensity. The weight loads are set to 40–60% of the trainee's maximum muscle strength, and 30-second rest periods are added between each set. This method is the circuit training that is familiar to many athletes.

1. Characteristics and benefits of gymnastic ring

Gymnastic ring exercises are, in fact, a combination of aerobic exercise and strength training. They can not only improve muscle fitness but also cardiopulmonary and overall physical fitness. Hydraulic resistance involves adjusting the radius of the oil pressure valve, so the resistance felt by the user is directly proportional to their movement speed. The faster is the movement, the greater is the resistance and vice versa. This effect allows the user to maintain full force during the exercise and continue training under excessive load conditions, even if their muscle strength gradually reduces due to fatigue.

2. Arrangement and implementation of gymnastic ring

Through this study, we found a few important points to notice when arranging hydraulic resistance sport equipment and planning-related fitness classes:

(1) Alternating the training of different muscle groups; (2) customizing the training load according to different users; (3) being able to correctly accomplish the key points of gymnastic ring exercises and understanding its functions that can improve functionality, a difficulty level, and guidance that can allow the participants to complete each station; (4) being able to handle the intensity of the courses and understand the key points is essential; (5) designing exercises according to a level that allows seniors to improve their physical fitness and physical health; (6) teaching senior citizens to develop regular exercise habits and building an interest in gymnastic ring.

3. Benefits of participating in gymnastic rings to senior citizens

Resistance training can improve the BMI and density of those aged over 65 years, thereby improving their upper and lower limb strength, flexibility, and static and dynamic balance. The exercise has five different hydraulic pressure training machines, with pedals placed in a circular formation, and it is accompanied by music. Each training session lasts approximately 90 minutes. After completing an eight-week training course, the elderly would notice a significant improvement in most of their functional fitness test scores.

(III) Discussion of Operation Models

1. The concept and definition of operation models

The operation model will allow companies to accept the fitness industry's challenge to understand or develop a customer base and learn how to provide value and services to customers at a cost that is acceptable to them. The so-called "operation model" is the organization or foundation of products, services, and information circulation. It emphasizes the relationship and structure of the business value chain in positioning and functioning of each participating role and analyzes the benefits and revenue sources that can be obtained to generate profits (Timmers, 1998).

Mahadevan (2000) believes that a sound operation model is defined by three major parts: the value stream (the existence

value of buyers and sellers, market operators, etc.), the revenue stream (enterprise revenue, profit), and the flow of operations (questions related to the company itself as well as its supply chain). The operation model needs to define the customers, products, services, market, and business processes of the company; it also involves process design, customer segmentation, and the allocation of supplier and marketing channels, resources, capacity, etc. so that the overall structure can become profitable. Therefore, it can be said that the most important objective of the operation model is to define how to invest and apply resources to ultimately generate profit.

2. Elements and facets of the operation model

The operation model mainly seeks to understand how an enterprise will operate, and thus requires a few basic elements, including roles, motivations, and the plot (Magrett, 2002). The operating method can be divided into the following three aspects:

(1) Value proposition, which mainly includes what can be sold or what kind of products are delivered to the market; (2) supply chain, which means how the enterprise creates products and delivers them to the market; (3) target customers, which refer to the customer groups that the products will be delivered to.

According to a number of experts and scholars and their discussions of aspects relevant to the operation model, we shall first identify the four main sectors required for operations and then discuss the nine elements that must be included in the model.

(1) Products: These are the main value-adding elements to be promoted; that is, the products or services that will be provided to consumers to make them feel that they have gained value. (2) Consumer interface: This mainly includes the customer base, distribution channels, customer relationships, etc., addressing issues such as what kind of value the company wants to provide to its consumers? How can consumers come in contact with the products? How can the company come into contact with the consumers? (3) The company's basic internal management: This includes key activities, resources, partners, etc., as well as resource allocation and activity planning designed to provide consumers with value and/or enhance the said value and establish alliances with peers in the same industry or in different industries. (4) Financial aspects: These include cost structure and revenue streams, that is, all the money invested in producing products and services, as well as ways to obtain profit/benefits from each channel.

Implementation Procedure and Research Methods

This research used the literature review method, obtaining data from literature relevant to the purposes of the research, which is reviewed and analyzed. The research seeks to explore how to develop operational methods for the senior citizens' fitness industry.

Research Results

(I) Commercial Operational Method of Gymnastic Ring Equipment at Senior Citizens Fitness Clubs

This study summarizes the needs and characteristics of senior citizens with regard to exercise and integrates them with

the operational method for gymnastic ring equipment at senior citizen fitness clubs. We will group nine elements of the model into four major sectors.

(1) Consumer interface: Gymnastic ring equipment aims at customers aged 55+; over half of this generation of consumers have sufficient knowledge, financial means, concern for their health, willingness to spend money in pursuit of better health, and an understanding of the concept of taking better care of oneself so that they can plan their own aging process. Channels: The target customer base is located in top 500 enterprises, public service jobs, etc. Anti-aging centers, senior learning centers, and community care centers are also windows through which we can directly contact the target customer base. Customer relationship: Services must be user-oriented and may be occupation-focused with respect to health benefits, i.e., providing “individualized fitness consultations” and “exercise prescriptions.” At the same time, we will implement “fitness has value” services and set relevant objective health goals.

(2) Internal management of senior citizen fitness clubs: The main factors are as follows: Key activities: Activities that identify elderly employees in the top 500 companies and public institutions as targets for fitness clubs, actively introduce employees into fitness communities and health promotion activity planning. Trial courses would use gymnastic ring equipment and aerobic activities, allowing employees to experience the fun and benefits of exercise. Key Resources: Having a professional and enthusiastic instructor is primary. Instructors should be able to coordinate the gymnastic ring equipment activities and aerobic exercises, add music, control rhythm, make the exercises fun and interactive, and foster a team atmosphere. Key Partners: On the service side, we must cultivate and develop professional fitness knowledge, so fitness clubs should cooperate with government departments related to fitness management, sports science, and elderly services to cultivate personnel required to help senior citizen health clubs sustain. This is also a key factor in obtaining qualified personnel.

(3) Financial aspects: These mainly include the following: Cost structure: The most important input costs include fixed costs such as space planning and gymnastic ring equipment installation, as well as basic management costs required to provide services and variable costs for website operation and management. Revenue streams: We can actively connect with health-conscious seniors through a variety of different channels, so the fitness outreach service is a fee-based service that reaches deep into many organizations.

Discussion

On the basis of this study’s results, we have brought forth an operation model for gymnastic ring equipment in the Silver Hair Fitness Club as well as a plan for related fitness classes. To that end, we submit the following recommendations:

(I) Understanding types of exercises suitable for the elderly

Give different exercise guidelines for elderly belonging to different age groups; that is, adjust the amount of physical activity and static rest, the cardio/weight training ratio, etc. to improve cardio-respiratory fitness and BMI. The safety and

intensity of each exercise must be considered in order to choose safe, effective exercises for the elderly.

(II) Understanding how senior citizens’ muscles perform when they use gymnastic ring equipment in the sitting position

After being introduced to gymnastic ring equipment, senior citizens can improve their overall body strength, cardio-respiratory health, flexibility, static and dynamic balance, etc.

(III) We must develop a senior citizens’ fitness industry operation model and increase the industry’s competitiveness

The industry should design exercise methods and services suitable for senior citizens and establish a fitness consumer market for the elderly. In addition, it should promote the development of a fitness environment, which would increase opportunities for the elderly to come in contact with and understand gymnastic ring equipment. We can associate with industry alliances or schools to create better services and better guidance for industry personnel.

References

- [1]Doherty, T. J. (2003). Invited review: Aging and sarcopenia. *Journal of Applied Physiology*, 95(4), 1717-1727.
- [2]Timmers, P. (1998). Bussines Model for Electronic Markets. *Journal on Electronic Markets*, 8(2), 3-8.
- [3]Hess, A. J.,&Woollacott , M.(2005).Effect of high – intensity strength-training on functional measures of balance ability in balance-impaired older adults . *Journal Manipulative and Physiological Therapeutics* ,28,582 -590 .
- [4]Lustosa, L. P., Silva, J. P., Coelho, F. M.,Pereira, D. S., Parentoni, A. N., & Pereira,L. S. (2011). Impact of resistance exercisep r o g r a m o n f u n c t i o n a l c a p a c i t y a n d m u s c u l a r s t r e n g t h o f k n e e e x t e n s o r i n p r e f r a i l c o m m u n i t y - d w e l l i n g o l d e r w o m e n : A r a n d o m i z e d c r o s s o v e r t r i a l . *Brazilian Journal of Physical Therapy*, 15(4), 318-324.
- [5]Magret ta, J. (2002). Why Business Models mat ter. *Harvard Business Review*, 80(5), 86-92.
- [6]Mahadevan, B. (2000). Business models for internet based e-commerce, *California Management Review*, 42(4), 55-68.

