

## Introduction

### Chapter 1 : Transformation with Inputs of UNSDGs/ Processes of Technology and Costs/Outputs of Wellness Services

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According to the definition of Brundtland Commission (1992) of the United Nations, “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The basic element of sustainability is the economic aspect to support the business in short term. For business survival and expansion, issues relating to the customers, suppliers, organizations, and the community must be considered in strategic planning, strategy implementation, performance measurement and process review. Environmental considerations in the core and supporting processes may also definitely contribute to sustainable business.

Transformation in wellness related business goes along with government policy and demographics changes of a country. Integration of technology into wellness related service delivery is the future for a sustainable lifestyle. However, the ways of integrating technology and cost planning and United Sustainable Development Goals (UNSDGs), for example, blockchain and Internet of Things (IoT) into wellness related services are worth to be explored for creating decent jobs with quality of life to the community.

This paper is of value to industry practitioners and educators in terms of understanding the key elements in processes of design services (security and cost considerations) for integrating technology into wellness related service delivery

from the perspective of United Nations Sustainable Development Goals (UNSDGs), goal#4 – quality of education with transferable skills, goal # 3 well-being, goal 4# transferrable skills, goal# 8 economic growth with decent job creation and goal #9 innovations with goal#17 partners for sustainable business. Collectively, this shows the application of UNSDGs exceeds the traditional use of inputs /processes/outputs model in supply chain management. This paper concludes by considering how future research in designing new services can be extended through understanding and application of UNSDGs.

**Keywords:** UNSDGs, Wellness, sustainable development, decent job creation,

technology, transferable skills

- 2) literature review with related concepts, 3) research methodology on applying

inputs of concepts and technology /processes of converting needs and wants into new wellness related services with costs consideration/ outputs of desired services, 4) results on relevant skill sets for wellness related projects and 5) conclusion with future research. The overall aims of the paper can be classified into the following domains: (1.) answering important questions

regarding the latest and relevant technology for wellness centres and healthcare hotels; (2.) highlighting and summarizing emerging trends in the inputs/ processes/ outputs design of wellness projects; (3.) uncovering the importance of cost estimation on wellness projects and (4.) suggesting directions for future research. This explorative study serves as a reference for future research in project management education with a focus to cater the needs of wellness tech areas.

### 1. Quality of Life

Living includes areas of clothing, food, housing, and transportation. Regarding Maslow's hierarchy of needs, achieving from the bottom of the pyramid, basic needs with physiological, safety, love, and esteem, to the top, self-actualization which is a growing need that is a motivation leads people toward different life directions (Maslow, 1943). To live healthily, it completes the state of physical, mental and social well-being (World Health Organization, 2018). It is believed that well-being gives a large impact on quality of life. A state of well-being is mental health "in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community (World Health Organization, 2018)." It will be achieved mental health when life is satisfied. Those aging population would be more satisfied while they consider a meaningful life with pleasure in daily activities (Schewe, 1988). They would have a positive sense of one's self with goal achievements (Schewe, 1988).

### 2. United Nations Sustainable Development Goals (UNSDGs)

"UNSDGs" stands for United Nations Sustainable Development Goals. It is a framework of providing a shared blueprint of peace for 2030. There are 17 goals with ideas of global partnership, ending poverty and hunger, and increasing the quality of health and education. The goals are actions related to water, land, energy, climates, oceans, technology etc. The designed service would be focused on Goal 3, promoting well-being for all at all age. The service aim matches Goal 3.4 target which is promoting mental health. In other words, the entertainment service brings happiness that reduces stress and increases live quality of target audience. Goal 9, fostering innovation, would be also a guideline of service nature

with the development of quality and sustainability in order to support economic development and human well-being. (Department of Economic and Social Affairs, 2018)

The project aims to explore the possibility of establishing a wellness centre with wellness related services for semi-retired community with decent job creation for the young people which concerns health and happiness management. It is assumed that yoga, meditation, healing, diet and fusion food management and e-sports related services may satisfy the potential markets which need to have transformation in the use of space, for example, stadium in the US, desert in Inner Mongolia, China and industrial buildings in Hong Kong. Project management skills are needed in re-inventing the use of space for wellness and creating a disruptive business/ social model, for example, technology and finance. Based on a new service research for semi-retired community done by School of Business, Gratia Christian College in May, 2019 with qualitative primary interview data and secondary data of 10 research papers on related literature, it is understood that innovative service providers for semi-retired community need to consider technology in their services offered. It is suggested to explore the entertainment market for the mid age community. A majority of semi-retired interviewees prefer to spend their retirement years:

- 1) on enriching themselves by the explorations in various aspects;
- 2) on activities to satisfy their psychological needs;
- 3) on re-establishing their identity;
- 4) on re-building these social network; and
- 5) on pursuing the meaning of life.

Hence, it is time to explore the ways of improving the quality of psychological, physical and social well-being for the semi-retire community with engagement of young people through a new way of connection to technology and finance.

### 3. The Input of the Services

Various resources are required to invest in wellness related services. Sufficient financial support is a necessary input to the service with the large expenditure of technology development. Funding should be well prepared to create decent jobs in the wellness market. The inputs of technological knowledge and financial skills are critical to this kind of service, requiring technical specialists in pre-planning, planning, designing, programming, developing, piloting, validating, re-validating and marketing wellness-related services in a wellness centre to provide a unique and enjoyable experience to users. Moreover, stakeholder engagement is needed,

for example, health care service providers, insurance and sports professionals, eco-tourism and gastro-tourism partners. They need to be consulted in the design of the wellness centre, wellness related service, design of the games, layout and features of streets and roads, shops, food kiosk set-up with benchmarking of good practices in this area.

### 3.1 Suggested Activities of Wellness Related Services

For the design of application for wellness and e-sports services, mid-age users are allowed to design and build their communities with old buildings, trendy and artistic shops with unique characters while mixing with existing community characteristics that they intend to renovate. Points are collected after completing different tasks, for example uploading photos and stories about a place, taking photos with friends. There is also a level of classification and ranking system in the game. Players may receive coupons or discounts from merchants in the Apps if they accomplish a certain level of mission. Blockchain of content distribution ledger with true data and smart contracts with transparency can be used in this perspective of task completed and coupon received by users.

### 3.2 Expected Outcomes and Impacts

The fundamental objectives of the above proposed wellness Apps can help to bring a second life to mid age community with fun and with a feeling of life enrichment. It is expected to rebuild their social network by meeting their old and new friends while playing the games, as well as building more active communications within peers through initiating common topics about the good old days and cooperation to finish the mission in the games. Additionally, this could help the semi-retired community to have a lower chance to have chronic diseases, such as Dementia, Cognitive Disorder as the games may train them their eye-hand coordination, and strengthening of their social networking.

The game is expected to make an influence on the life of the retirees, spending their time wisely and meaningfully by the way of exploration and new interest development. In the long term, it is believed that the re-connection with peers and satisfaction with task accomplishment from the game can enhance their sense of identity and increase their self-confidence.

### 3.3. Proposed Applications Design for Door Lock in Wellness Centre – Hierarchical Ratchet Key Exchange using modern communication technology

Traditional hotel door locks use punched holes, magnetic cards, and NFC cards for door access control. Some of these encryption methods were designed using “Security by Obscurity” techniques and had long since been compromised. In recent years, with advancement of computing power and tools and widespread availability of information from the Internet, these systems are no longer secure or convenient to operate.

Modern mobile phones all have NFC built in, although only Android phones are open to general development. Also low power wireless radios used by IoT are becoming more and more common. Goal is to use a combination of these technologies to design the next generation of hotel door locks.

#### Core Invention

1. It is hierarchical - master encryption key is used to control floor encryption keys, and floor encryption keys are used to control room encryption keys. If any key is compromised, it is mitigated and controlled to only one area, and can be reset using the encryption key of the next hierarchy.
2. It is a ratchet - each encryption key is used to encrypt the next one, so key changes can only move forward, not backward. Key changes also must be sequential and continuous, like a blockchain. If the chain is broken or out of sequence, all past granted access will render invalid unless a total reset is done
3. Key exchange techniques using the Internet is simulated using NFC cards. A cell phone connected to the Internet synchronizes with the server (with a secure vault) to obtain ability to issue a new key, which is then transferred securely to the door lock via writing a NFC card and applying the card to the locks. Internet - like features are now available without the Internet
4. The above techniques (3) above is made easy when cell phones can write NFC cards remotely. Even when there is no connectivity on site, key exchange can happen when the cell phone is online, then issuing the NFC cards and applying the key exchange onto the locks can happen with zero connectivity.
5. If an Internet connection is compromised, the stream is continuously listened to by the attacker. With the technique (3) above, it is impossible for the attacker to gather a continuous chain of data applied to the locks,

making all Internet based attacks useless, because once the chain has a missing link, access will be terminated. This is similar to the techniques used in the “DarkNet” used by hackers to remain anonymous, such as Tor or Onion

6. Low power wireless will be auxiliary. Again, since some ratchet key exchanges happen over NFC, even if attackers gain access to some of the locks, they will be instantly revoked soon as the next NFC based ratchet key exchange takes place

7. The entire 3-tier hierarchical ratchet key exchange algorithm can be contained in  $16 \times 4 = 48$  bytes of data, making it fit the lowest cost MiFare Ultralight NFC cards used by printable public transport tickets in China

This new door lock key exchange system can take Internet based security techniques and make it available without any connectivity using traditional or low cost NFC tags. It operates under traditional offline environments and at the same time make it upward compatible to future technologies to prevent obsolescence. When this hits mass production, cost can be very low, yet it will be future proof.

#### 4. Proposed Cost and Income Analysis for New Services in Wellness Centre

Wellness centers, Wellness retreats and wellness communities are growing at a much faster pace than ever. An interactive wellness center of a community for semi-retired and young community to develop a sustainable lifestyle is a novelty and a niche opportunity for business, social and education development. A right mix of health and wellness modalities offered by wellness service providers will surely create an unique experience to users. As such, the proposed project of wellness related services is at concept stage. A detailed assessment needs to be followed with stages mentioned by O’Hara and Pockett (2011, p. 176-177):

1. Preparation with a list of all key informants
  2. Data collection with checked data for authenticity by repeating and summarizing
  3. Weighing the data with consideration of the situation and how well the client is functioning in the circumstances
  4. Analyzing the data with identification of theoretical perspectives, using them to gain depth of analysis and being mindful of their implications in practice
  5. Utilizing the analysis with determination of the help needed by the client
- “Assessment should be a joint activity between the practitioner and the client. The end product, the assessment plan, should be a mutually

agreed upon on. Only if assessment is open and shared can the client feel that they have ownership of the process and that the practitioner is not harboring a secret assessment agenda.”

(O’Hara and Pockett, 2011, p.180)

However, the initial demand analysis and financial feasibility study suggests healthy projections and makes the project viable with expected returns in circa of ~35% IRR (Internal Rate of Return). A detailed feasibility will endorse these facts, however, the operating model i.e. membership based, rental and services to be offered with income would heavily influence the return profile of the project.

Wellness Center

	Year 0 factors	2019	2020	2021	2022	2023	2024
<b>Revenue Assumptions</b>							
Inflation Factor	2%						
Projected Unit Absorption	Unit 2						
Average Unit Size (sf)	400						
Net Rentable Area (sf)	800						
Cumulative Units Leased	2 2 2 2 2 2 2						
Monthly Rent per s.f.	66.67 66.67 68.00 69.36 70.75 72.16 73.61						
Occupancy Factor		100% 100% 100% 100% 100% 100% 100%					
Net Operating Income							
Gross Lease Revenues		652,800 665,856 679,173 692,757 706,612					
Annual Operating Expenses	Operating 80%	(522,240) (532,685) (543,338) (554,205) (565,289)					
Net Operating Income		130,560 133,171 135,835 138,551 141,322					
<b>Development Costs</b>							
Percent Built by Year		100%					
Development Costs PSF	900.0 900.0 918.0 936.4 955.1 974.2 993.7						
Development Costs	(720,000)	- - - - -					
Land Cost	-						
Contingencies	10% (72,000)	- - - - -					
Total Development Costs	(792,000)	- - - - -					

Assumptions & Notes

Refurbished units	2
Average Unit Size (sf)	400
Net Rentable Area (sf)	800
Revenue per s.f.	67

Development Costs PSF	900
Contingencies	10%
Land Cost	0

Annual Cash Flow

Net Operating Income	-	130,560	133,171	135,835	138,551	141,322
Asset Value	6%					2,355,372
Costs of Sale	3%					(70,661)
Net Cash Flow	(792,000)	130,560	133,171	135,835	138,551	2,426,034
Net Present Value (8%)	1,207,267					
Unleveraged IRR Before Taxes	35.66%					

## 5. Challenges in Wellness related Services

Disruption in linking up integrated technology with new wellness related services mentioned above is not easy without well-thought and holistic training for competent talents to develop and improve their project management, new applied technology and finance management skills. According to the white paper (2019) of Yogacoin, there are obstacles encountered in existing holistic lifestyle market, for example:

### Cost-related

“Wellness and Holistic holiday resorts have recently started to gain popularity. However, they are yet to become globally and incur substantial costs.” (p. 10)

“Another challenge is that the authentic Yoga, Meditation or Fitness instructors are often freelancers and suffer from limited cash-flow. Hence, they are often unable to compete with the big Yoga and Fitness centers. (p. 10)

Related services offered by Yogacoin is to establish decentralized charity fund

### Quality-related

“Moreover, there is a possibility to counterfeit the certificates that Yoga teachers receive nowadays. Even, when they are valid, they are issued only by centralized organizations having authority. The overall quality of Holistic and Wellness teachings around the world are suffering from this situation. (p. 10)

Related services offered by Yogacoin is to offer D-YogaCert via decentralized system to avoid delay, fraud and mismanagement. (p. 16)

Though the whitepaper of Yogacoin is a detailed report on wellness related services, it has not presented technology used in room control to enhance security and architectural design concept with cost impacts to facilitate the services for UNSDG 4, 9, 12 and 17.

## 6. Conclusion, Implications and Limitation

Yeung (2018), Commerce Daily that the important factors for talent development under the “Belt and Road Initiative” include: employment opportunities and opportunities for further education. Based on concepts provided on innovative technology and finance considerations in this paper, it is suggested to apply SY model (appendix II) with UNSDG 3, 4, 8, 9 and 17 (wellness, transferable skills, decent jobs creation, innovations and partnership) with the UNPRME principles

of values in harmony of a wellness centre, on-going dialogue and research with stakeholders with the key elements of:

1. Multi-disciplinary knowledge in innovations, project management and finance management;
2. Engagements with pilot study on proposed wellness centre and well related services, for example proposed e-game; and
3. Application of design thinking for impacts co-creation for the community.

Transformation is a journey of co-learning and the exploration of wellness related services in a wellness centre may bring in business/ social transformations with positive effects to for the benefit of a community which needs to have a change for upscaling their quality of life.

The commitment of sustainable development related activities for semi-retired community with young people engagement have to be organized with a focus on the humanistic needs of a community. This paper reflects the overall design, considerations and skills required for a wellness centre for UNSDG 3, 4, 8, 9, and 17. It is important for wellness service providers in different countries to share their good practices and failure stories for making not only their financial returns promising, but also the world a better one.

To conclude, this paper shows the application of UNSDGs exceeds the traditional use of inputs /processes/outputs model in supply chain management. And, it opens up future research areas on designing new services with the use of UNSDGs.

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## Appendix I -

### Visualizing the Six Principles of PRME (Principles of Responsible Management Education), United Nations Global Compact

- Principle 1 | Purpose:** We will develop the capabilities of students to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy.
- Principle 2 | Values:** We will incorporate into our academic activities and curricula the values of global social responsibility as portrayed in international initiatives such as the United Nations Global Compact
- Principle 3 | Method:** We will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership
- Principle 4 | Research:** We will engage in conceptual and empirical research that advances our understanding about the role, dynamics, and impact of corporations in the creation of sustainable social, environmental and economic value.
- Principle 5 | Partnership:** We will interact with managers of business corporations to extend our knowledge of their challenges in meeting social and environmental responsibilities and to explore jointly effective approaches to meeting these challenges
- Principle 6 | Dialogue:** We will facilitate and support dialog and debate among educators, students, business, government, consumers, media, civil society organisations and other interested groups and stakeholders on critical issues related to global social responsibility and sustainability.

## Appendix II

