

**INTEGRATE TECHNOLOGY AND INNOVATION TO ENHANCE
SOCIAL VALUE FOR HEALTHCARE BUSINESS DURING
COVID-19 PANDEMIC: A CASE STUDY**

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Pacharapapat Dechwasupong

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ABSTRACT

Nowadays, the healthcare business is a famous industry that many people are interesting. Even the healthcare business will survive in the general situation, but the business obviously benefits during the COVID-19 pandemic. However, currently, technologies are necessary for many ways of business. In this study, I research the technologies used in the healthcare business and create social value in social, environmental, and economic aspects. When the company uses the innovative technology with a sustainability concept, the method will help the business survive in the long run.

I find the social value created by the technologies in a literature review. After that, I use the interview information of company A with three levels in the organization. There are corporate level, functional level, and organizational level. However, people may know the importance of the healthcare business with innovative technology and social value concepts. On the other hand, people may not know how to implement this model in real situations. The answer to the issue is the strategic management theory and the triple bottom line. There are tools for implementing this model to practical ideas that occur in this study.

KEY WORDS: Sustainability Concept/ Strategic Management/ Tripple Bottom Line/
Innovative Technology

47 pages

CONTENTS

	Page
ACKNOWLEDGEMENTS	ii
ABSTRACT	iii
LIST OF FIGURES	vi
LIST OF TABLES	vii
CHAPTER I INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	2
1.3 Research Objective	3
1.4 Research Question	3
1.5 Research Scope	3
1.6 Expected Benefit	4
CHAPTER II LITERATURE REVIEW	5
2.1 Social Value and Innovation Technology Definition	5
2.2 Analysis social value in healthcare business	5
2.3 Analysis technologies in healthcare business	7
2.3.1 Geographic Information System or GIS Mapping	8
2.3.2 Virtual Reality (VR) and Augmented Reality (AR)	8
2.3.3 Digital Contact Tracing Technology	9
2.3.4 Big data Analytics	9
2.3.5 Artificial Intelligence or AI	10
2.4 Analysis the relationship between social value and technologies	10
2.5 Relevant Theory	12
2.5.1 AFI Framework in Strategic Management	12
2.5.2 Sustainability by Triple Bottom Line	15

CONTENTS (cont.)

CHAPTER III RESEARCH METHODOLOGY	18
3.1 Research Design	18
3.2 Population and data collection	18
3.3 Instrument	21
3.3.1 Observation about the basic information of company A	21
3.3.2 Interview Question	21
CHAPTER IV FINDING ANALYSIS	24
4.1 Interpretation from interview question	24
4.1.1 General Perspective	24
4.1.2 Identify Perspective	24
4.1.3 Analysis Question	25
4.2 Strategic Management Process	25
4.2.1 Strategic Analysis by observation information of company A	25
4.2.2 Strategic Formulation	28
4.2.3 Strategic Implementation	30
CHAPTER V CONCLUSION AND RECOMMENDATION	31
5.1 Conclusion	31
5.2 Recommendation	33
5.3 Limitation and Future Research	35
REFERENCES	36
BIOGRAPHY	39

LIST OF FIGURES

figure	Page
2.2 Strategic Management Process	12
2.3 The three pillars (with examples) of John Elkington's triple bottom line to sustainable business.	15
4.1 SWOT analysis of company A	27
5.1 Analysis process and Improvement Framework	31

LIST OF TABLES

Table		Page
2.1	The relationship between social value and technologies	11
3.1	Interview Questions	21

CHAPTER I

Introduction

1.1 Background

Nowadays technology is the important tool for driving the business to achievement especially during COVID-19 pandemic, several technologies will help to get a well-being life in many perspectives. Social distancing is the famous word that people understand about physical distancing for prevention of the spread of virus and it is the way that helps to control the number of people who come into close contact with each other. At the same time, people must stay at home and use technology such as the internet, application, and phone for many activities as well as working and relaxing every day.

Refer to the data from Fortune Business Insight shows that the web hosting services marketplace is expected around \$183.18 billion to generate by 2026 and the information from Bank My cell shows that there are 4.88 billion phone users in the world as of January 2021. The information demonstrates that technologies are the necessary instrument for widespread use with many people right now. All technologies not only help to receive the comfortable activity during COVID-19 situation but can also generate the social value in terms of environment value, social value and economic value by direct and indirect aspects.

This study will focus on technologies that relate to healthcare business because the business has the challenges, impact of pandemic and affect to economic condition as well. I plan to analyze the technologies from the literature reviews for finding the way to implement the innovation technology that gains more social value with healthcare business. I will select one healthcare company in Thailand and find out about the ideas from the company that I call the company A for collecting the information with all positions about the perspective of the innovation technology and social value in the company. After that I plan to implement the technologies with

sustainability concept that helps to create the competitive advantage to bring the company to survive during COVID-19 pandemic.

All of the information above means that the healthcare business is the interest sector for research about the strategy to integrate the innovation technology with sustainability concepts to enhance social value. Nevertheless, I would like to know how to implement technologies with sustainability models in the company A for specification the practical learning for using in the future that will demonstrate in this study as well.

1.2 Problem Statement

Usually, the world will change rapidly, which affects many businesses in the world, especially the current situation as COVID-19 pandemic is related to the economic crisis as well. The businesses cannot survive by the old strategic planning. Several companies try to adjust the model of business for survival by using the technologies and planning to use them in the long run. Information and data collection are essential in every industry. Although healthcare businesses will receive little effect from this situation, they try to use the innovation technology for gaining social value during the emergency as COVID-19 problem. The innovation technology and the sustainability concept is one of the best instruments to help the business survive in this pandemic. However, people may know the importance of the healthcare business with innovation technology and social value concepts but people may not know how to implement this model to the real situation. The answer to the issue is the strategic management theory and the triple bottom line in the sustainability concept. There are the tools for implementing this model to practical ideas that occur in this study.

1.3 Research Objective

The study will focus on finding the innovative technology that can enhance social values by sustainability concepts regarding the environment, social, and economic healthcare business during the COVID-19 pandemic. However, I will plan to implement innovative technology and social value that meets the company's needs to fulfill the gap of company A.

1.4 Research Questions

1. What is the social value that the organizations want in healthcare business during COVID-19 pandemic?
2. What are the potential technologies in healthcare business during COVID-19 pandemic?
3. How to generate the social value by the technologies in healthcare business during COVID-19 pandemic?
4. How to implement the technologies to enhance social value in healthcare business?

1.5 Research Scope

This research will be conducted by quality methodology with selected interviewees from the healthcare business in company A. I plan to choose three levels which have the corporate level, functional level, and operational level. After the interview, I plan to analyze the data and implement the strategy by using the requirement of the company's social value for creating the innovation technology combined with the sustainability concept.

1.6 Expected Benefit

Referring to the research scope, the expectation is to analyze the social value point of view with the innovation technology. There may gain the benefit with company A or other healthcare businesses in the future as the below.

- To create a competitive advantage by innovating technology with social value concepts.
- This business concept gains the benefit of the environment, social and economic sustainability concept in many perspectives.
- When running the business by this model, the business will survive in the long run.

CHAPTER II

Literature Review

2.1 Social Value and Innovation Technology Definition

Social value UK which is the professional body for social value and impact management defines social value means quantifying the relative importance that people place on the changes they experience in their lives. The meaning is not the Value for capturing market prices, but it measures those affected by the organization's work.

Tilastokeskus explains that Innovation Technology is a new technology that has distinct characteristics from before. For example, implementing technological product innovations are new products that are called "product innovation." The Implementation process in application is "process innovation" that has been brought to market.

Kimble & Massoud (2016) describes in European Medical Journal that Healthcare Innovation is defined as adopting those best-demonstrated practices that have been proven to be successful and implement those practices while ensuring the safety and the best outcomes for patients and whose adoption might also affect the organization's performance.

2.2 Analysis social value in healthcare business

Social value is widespread in many perspectives right now. Generally, social values may gain the benefit of life, but also enhance social and economic as well. In the healthcare business, the social value is related to the different stakeholders in many aspects. In this part, the study concludes the literature reviews that demonstrate the social value from many topics.

In the literature studies the World Health Innovation Summit (WHIS) by Presch et al. (2020), the mention offers a strong argument since they may facilitate knowledge and data exchange, therefore enhancing the organization's value. By obtaining information from many stakeholders, the researcher focuses on a deal encompassing the environment and society. The study Presch et al. (2020) aims to empower individuals to enhance their health and well-being by enabling community participation and producing value that can share in the short, medium, and long run. As Presch et al. (2020) transition from the digital economy to the knowledge economy, the program can create innovative solutions for enhancing social value. Following the trend of the future business should align with social value.

Healthcare research by Vergunst et al. (2019) has studied the triple bottom line (TBL) through economic, environmental, and social impact. The research related the control of CO₂ emission by using trial data collection to calculate the true cost of intervention with the patients. The research impacts community-based mental healthcare and concludes that the application of TBL helps to evaluate the opportunity to increase healthcare sustainability.

The Technium Social Science Journal by Warda et al. (2020), specifically about the COVID-19 spread prediction and its correlation with social distancing, mentions that the predicted area to prevent the COVID-19 spread is the importance for enhancing community health and the human workforce. Moreover, this factor will decrease the number of beds in hospitals that can help to reduce the cost of hospitals and patients. Thus, they bring cost-effectiveness to the healthcare business as well.

According to ScienceDirect, the research topic about the application of virtual and augmented reality in infectious disease epidemics focuses on the COVID-19 outbreak. The research can conclude that they would like to use the technology to create the entertainment, clinical context, business industry, and education training by adapting the application for mitigating the negative impact from the pandemic situation. (Asadzadeh et al., 2021)

Refer to the JMIR publications; Artificial Intelligence in the fight against COVID-19 by scoping review, the research tries to link AI and Big data with many

stakeholders. The research objective is to make the healthcare system to ecosystem energy-efficient and better services for patient public companies. (Abd-Alrazaq et al., 2020)

International Journal of Information Management, the topic information technology solutions, challenges, and suggestions for tracking the COVID-19 pandemic, the study uses information technology for reducing the COVID-19 spread. In addition, the research demonstrates that the study related to patients, healthcare workers, and the public enhances social value at all (He et al., 2020).

All of the information can express that the healthcare business should consider social value in many aspects. However, all of the literature reviews can conclude with three main points which are environmental, social and economic.

Firstly, the environment, people would like to make the world better by decreasing the pandemic of the disease and reducing the pollution. Nevertheless, people care about the environmental impacts, so that the researcher will focus on the ecosystem. It reflects the direct and indirect health of the world.

Secondly, social society, well-being life, stakeholder engagement, the healthcare business will focus on patients, healthcare workers, education, and better community health.

Lastly, the economy or financing means the cost-effectiveness between patient and hospital. In terms of patients, they will decrease the cost of treatment, and the hospital will reduce the cost of management in the healthcare business as well.

2.3 Analysis technologies in healthcare business

In several journals, especially healthcare innovation topics, the technology has become relevant to relate the healthcare business for a long time. In the last ten year, many journals describe how information technology and information systems

encounter business and create value in many companies. Currently, the technologies used during the COVID-19 pandemic have several formats. However, I would like to select five technologies to review the data that helps to create social value during the COVID-19 pandemic. The details are below.

2.3.1. Geographic Information System or GIS Mapping, from the literature review by Warda et al. (2020), uses the Night Light Development Index (NLDI) adapted by Elvidge et al. (2012) and SIR Model by Penn Medicine's Predictive Healthcare Team, which is Susceptible (S), Infected (I), Recovered (R). Two methods link with the Geographic Information System (GIS) for finding the area of COVID-19 pandemic that helps estimation about the number of hospitals, beds, and ventilators. The information links with the pre-plan command and control structure. The area of study is in Lahore, Pakistan, and an adaptation with other developing countries. So this study shows that GIS enhances community health and the human workforce by calculating the area that infected COVID-19 for managed healthcare workers in the hospital. Nevertheless, GIS technology helps to control the number of beds that can help reduce hospitals' cost and bring cost-effectiveness in the healthcare business as the hospitals and the patients as well.

2.3.2 Virtual Reality (VR) and Augmented Reality (AR)

VR is a new form of the human-computer interface that users can interact with and immerse into a three-dimensional environment using electronic devices, such as headsets and sensors. VR can be used in any infectious outbreaks or disaster situation, such as human behavior, disaster consequences, and experiences (Asadzadeh et al., 2021). Moreover, VR has more applications, professional skill training, and popularization of disaster medical knowledge and post-disaster psychotherapy. Furthermore, VR can provide an educational environment for various complications such as crush injuries, infectious disease, and even disaster. Mixed reality is another emerging technology developed to address the separation of the virtual and natural

world, the most popular AR (Asadzadeh et al., 2021). The application of VR is clinical management using haptic devices, telemedicine, and pre-hospital care to help on-time care and control through remote location and education of procedural training and clinical decision making for medical students through user-environment interfaces. The journal by Asadzadeh et al. (2021) concludes that AR and VR create many value aspects. First, it helps to improve public health by approach and controlling methods of disease. Second, universities and schools help to create a 3d VR environment, holding conferences. Lastly, it affects the healthcare providers by controlling transmission by simulation, effective response against danger.

2.3.3 Digital Contact Tracing Technology studies by He et al. (2021) is the tool for tracking the movement of individuals that will alert people when they are visiting COVID-19 hotspots. The data is accessed by mobile data, social media data via smartphone tracing application. The technology is helpful for the patient, healthcare workers, and the public. The technology gains social value in community health and the human workforce by managing the area that people visit and move to others. So, suppose we can know the movement of people. In that case, we can follow the patient and preparation beds, rooms, and instruments in the hospital for reservation during an emergency that links to the hospital's financial management.

2.3.4 Big data Analytics is the tool for tracking people's movement, understanding epidemic trends, and controlling pharmaceutical supply. Use the information technology for creating the community health, workforce, and financial (He et al., 2021). Big Data gathered by intelligent equipment, location and travel data, medical and health data, news media data, government data, internet consumption data, and epidemic prevention data are all examples of big data. However, the program is still insufficient data collecting efficiency, difficulties ensuring data quality, low data usage efficiency, lack of timely data sharing, and data privacy concerns. The researcher proposes uniform data collecting standards, creative data usage, faster data

interchange and circulation, and a comprehensive and stringent data security system to solve these issues in the future.

2.3.5 Artificial Intelligence or AI has the ability to analyze big data sets through aggregating and sifting through mountains of healthcare data to generate insight that can enable predictive analysis. The technology relates with other stakeholders in the healthcare ecosystem to make effective, safe, and timely decisions to better serve patients and public health policy (Abd-Alrazaq et al., 2021). AI used for forecasting the epidemic development of COVID-19 and predicting its potential hosts and reservoirs. Researchers used AI for patient outcome-related tasks such as assessing the severity of COVID-19, predicting mortality risk, its associated factors, and the length of hospital stay. Abd-Alrazaq et al. (2021) mentions that AI raises awareness to use water, sanitation, and hygiene and the most prominent AI technique used was the convolutional neural network, followed by a support vector machine.

2.4 Analysis the relationship between social value and technologies

As many literature reviews imply that future study should focus on the purpose of practical model and development by patterns, functional integration and operational with proactive business process. In this part, study the literature review and analyze how to generate the social value by the technologies in healthcare. The table below shows the linkage between the information about analyzing the social value in the healthcare business and analyzing the technologies in the healthcare business.

Social Value Technology	Environmental/ Ecosystem	Social/ Community	Economic /Finance
GIS Mapping		X	X
AR/VR	X	X	
Digital contact tracing technology		X	X
Big Data	X	X	X
AI (Robot)	X	X	X

Table 2.1 The relationship between social value and technologies

GIS Mapping and digital contact tracing technology (Warda et al., 2020) can generate social value in part of social and financing. For the social, GIS helps to reduce the number of people who are infected with the virus by pre-plan and monitoring after a pandemic. It is related to well-being in community health. For the financing, GIS helps to reduce the number of beds admitted in the hospital, and it can benefit the finance with patients and hospitals.

AR and VR in the study of Asadzadeh et al. (2021) can generate social value in part of the environment and social community. The role of social and community, the technologies help to design the method of disease related to universities and schools for study the surgery, operation room by practical with imagination. Moreover, the technologies can affect the environment by controlling transmission by simulation, effective response against danger that brings to a good environment and well-being.

Big Data (He et al., 2021) and AI (Abd-Alrazaq et al., 2021) will enhance three aspects which have environmental, social, and economical. Therefore, Big Data and AI are the information technology that many journals in 10 years ago will recommend to study in the future because the technology helps to collect the data for developing a good quality of the ecosystem and gaining more of the society with cost-effectiveness.

2.5 Relevant Theory

This part will relate to using the theory for analysis and planning to implement in the next step. The study has the objective to find the technology to enhance the social value with company A. I would use two theories to find the solution to this study. At first, the strategic management process theory will help analyze the current situation and plan the strategy in the future. Second, the sustainability concept by Triple Bottom Line (TBL) can generate social value to the company by three aspects which have environment, society, and economics. These theories will discuss and link to the concept of this study that explains this part.

2.5.1 AFI Framework in Strategic Management

The business strategy is to comprehend the competitive environment and interpret the impact of competition in a business in terms of the research conducted. The strategy is a model of the firm's objectives, policies, purposes, goals, and plans to attain them that describe the type of business the organization is or will be. The strategy has reinforced the study of the categories and competition in strategic management (SM) investigation. (Fuertes et al., 2020)



Figure 2.2 Strategic Management Process

The AFI framework analysis by Business Jargons defines a strategic planning methodology that connects three stages: planning, formulation, and implementation. Organizations employ this strategic strategy to obtain and maintain a competitive advantage. This method has the advantage of separating the initial analysis from the external analysis. (www.businessjargons.com/strategic-management.html)

1. Defining the levels of the strategic intent of the business; vision, mission, and objective
2. Formulation of strategy by performing environment with internal and external appraisals, consideration strategy, carries out strategies analysis, making strategies, preparing plans.
3. Implementation of strategy by practical, developing and managing the structure, system and functional implementation.
4. Strategic evaluation and control by performing evaluate, exercise control and recreating strategies.

The literature review by Fuertes et al. (2020) said that strategic management helps to identify the problem by strategic approaches, strategic creation, strategic formulation, strategic implementation, and evaluation that can explain step by step.

Strategy approaches (Fuertes et al., 2020) combine general, and business strategies are used in strategy techniques. The general strategy is the organization's overall orientation. The strategy can be used for planning, resource allocation, and profit. The firm strategy works with the overall plan. It refers to senior management and project management duties concerning the company's execution plan.

Strategy creation (Fuertes et al., 2020) considers five factors that are taken into account while developing a strategy. At first, think about **organization structure** since a solid organization structure will help leaders succeed in their jobs and ensure that subordinates reach client pleasure. Second, **corporate strategy** aids in adding value to the company's business portfolio, allowing it to outperform

competitors. Each division of a diverse firm will have strategies that describe the products or services offered to the clients who wish to attract, and so on. Third, the **business strategy** is critical for determining how to build and maintain a company's long-term competitive position in the market, such as via innovation. Fourth, a functional strategy responds to how things must be done or how resources must be employed and used. The functional strategy is determined by the corporate and business strategies and must be aligned with them. Finally, **the goal of the operational strategy is to discover competitive advantages** that set an apart from the competition. The strategy will create a value-added of products and services that are linked to long-term sustainability.

The **Formulation Strategic Planning (FSP)** formulation (Fuertes et al., 2020) must act as a road map for visualizing what is wanted and how companies will achieve it. A good FSP should start with evaluating the company's current competitive position and market so that the company's future destiny may be appropriately directed. Strategy formulation, strategy implementation, and strategy assessment are the three steps of the FSP.

The evaluation strategy (Fuertes et al., 2020) determines the impact that strategic planning has had, allowing for the appropriate corrective steps to be taken. In addition, the method assists businesses in determining and reviewing if planned measures are indeed guiding the business in the proper direction.

In conclusion, **Strategic Management (SM)** by Fuertes et al. (2020) proposes a guide based on a systematic literature review that allows administrators and researchers to understand the general concepts. The steps must be followed when conducting SM within their industrial organizations, allowing them to understand their market position and, from there, define their future goals (Fuertes et al., 2020). However, SM might help firms make efficient long-term decisions, put them into the organization effectively, and initiate corrective steps when needed, even if it is not guaranteed success. Integration of intuition and analysis is crucial for good strategic appraisal.

2.5.2 Sustainable Strategy by Triple Bottom Line

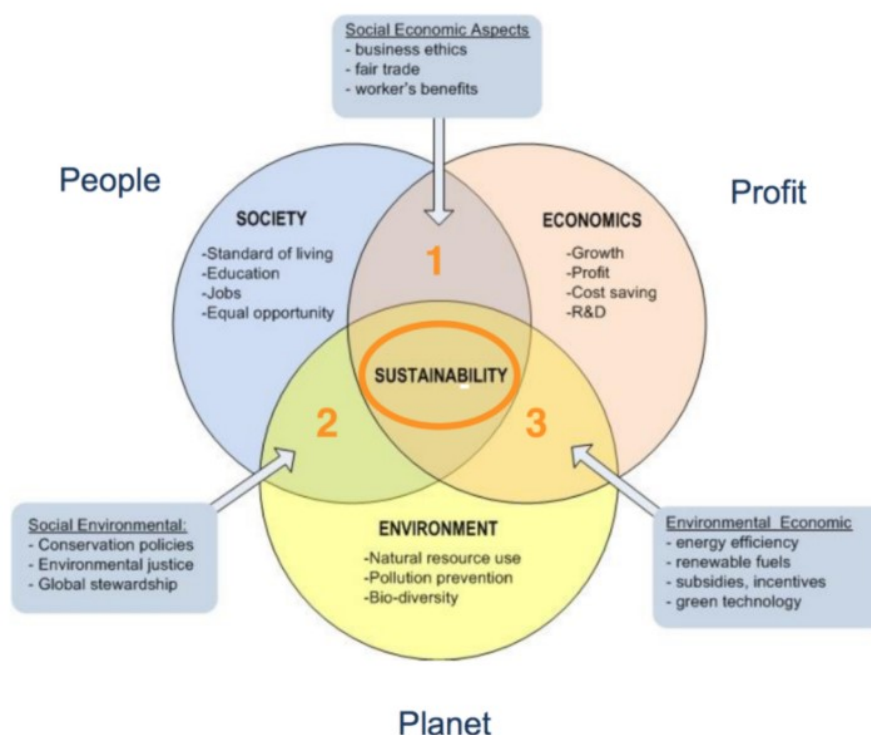


Figure 2.3 The three pillars (with examples) of John Elkington's triple bottom line to sustainable business.

The sustainability concept is the Triple Bottom Line (TBL) business theory that tries to establish how much corporate social responsibility a company should have. The TBL hypothesis contends that there should be two more bottom lines and profit for people and the environment. Thus, it is feasible to create a more sustainable company model and a circular corporation by balancing people, planet, and profit.

The literature review by Lopes et al. (2015) explains that analyzing a hospital's sustainability concludes that innovative technology can deliver sustainability as environment, social, and financing in many perspectives. The combination of innovation and sustainability helps the business to be more innovative, faster, better, and practical while providing well-being in society.

Social Sustainability

In recent years, the relevance of social sustainability has grown in prominence, and the healthcare sector has begun to play a part in the duration of sustainability and the inductive role of social progress, with the expectation that society would benefit from development and welfare. The social component is concerned with human traits, including talents, devotion, and experience, and it encompasses both the company's internal and external environments. Lopes et al. (2015) said that sustainability is concerned with the benefits to society as a whole. It states Lopes et al. (2015) that to reduce inequality between social actors and satisfy fundamental requirements, the operationalization of social sustainability considers a more fair distribution of income, access to the property, work opportunities, products and services, and the potential of social engagement. Essential services, such as safe drinking water, health care, security, protection, and education, may or may not be linked to societal growth. The term "social sustainability" (Lopes et al., 2015) refers to a development process that results in steady growth with an equal distribution of income, reducing present disparities between socioeconomic levels and improving living conditions.

Economic Sustainability

Lopes et al. (2015) describes that business can be regarded as a performance indicator for a financial return over a short or extended term. The economic dimension (Lopes et al., 2015) encompasses the official economy and informal activities that give services to individuals and organizations, hence raising monetary revenue and improving people's living standards. It demonstrates that the financial return reflects customer perceptions of the company's goods and services and the efficiency with which production variables such as capital, labor, natural resources, and expertise are utilized. Moreover, it is acceptable to assume that customers assess products based on price, utility, and quality. So, economic sustainability (Lopes et al., 2015) development is sustainable when economic expansion provides fairness and opportunity for all human beings on the planet, without favoring some species, without

depleting finite natural resources, and without surpassing the system's carrying capacity.

Environment Sustainability

Technological advancements, (Lopes et al., 2015) frequent organizational changes, and the advancement of human knowledge do not substantially impact the social environment; nonetheless, the firm must focus its management in this context to better the society in which it works. In order Lopes et al. (2015) mentions that to work with the social environment, businesses are focusing their management on environmental sustainability. The decrease of human-caused environmental effects leads to tangible measures that allow for a new notion of environmental education one can see that people are becoming more environmentally conscious (Lopes et al., 2015). At the same time, companies are being forced to offer new standards of sustainable products and consumption to benefit future generations. Ecological sustainability increases the planet's capacity by exploiting the potential inherent in various ecosystems while limiting degradation (Lopes et al., 2015).

All three concepts of sustainability provide three outcomes as below.

1. Self-reliance means an ability to stand on one's own.
2. Immunity means an organization is not affected by a crisis or an external shock while others in the same market are affected
3. Resilience means the ability to recover from a crisis and often become even stronger quickly

CHAPTER III

Research Methodology

3.1 Research Design

This thematic paper aims to analyze and implement innovative technology to enhance social value in company A. However, the research methodology must link with three perspectives: organization level, functional level, and operation level in company A by interview method. After that, I will plan to analyze and implement the AFI framework that helps to create a competitive advantage. In addition, I will plan to use the sustainability theory with innovative technology that will help add the value-added in many viewpoints. All of the information is actual data; it helps to create the value that can meet the social wants by concept innovation technology can enhance the social value.

3.2 Population and data collection

3.2.1 Interview with the company A

Due to company A is a global company but currently I'm working in Thailand. I would like to interview with Thailand people based in company A to find information on three levels. This part, I would like to introduce the fundamentals of their background.

Organization Level 1 person

Name: Khun A
Position: SEA Business Director

Education: Bachelor Degree of Medical Technologist and Master Degree of
Master of Business Administration

Interview Date: 28 June 2021

Duration: 35 Minutes

Functional Level 3 people

1. **Name:** Khun B
Position: National Sales Manager (Thailand)
Education: Bachelor Degree of Medical Technologist and Master Degree of
Master of Business Administration
Interview Date: 26 June 2021
Duration: 30 Minutes

2. **Name:** Khun C
Position: Business Development Manager
Education: Bachelor Degree of Medical Technologist and Master Degree of
Master of Business Administration
Interview Date: 30 June 2021
Duration: 27 Minutes

3. **Name:** Khun D
Position: Key Account Manager
Education: Bachelor Degree of Sciences and Master Degree of Master of
Business Administration
Interview Date: 30 June 2021
Duration: 23 Minutes

Operational Level 6 people

1. **Name:** Khun AA
Position: Sales Specialist
Education: Bachelor Degree of Medical Technologist

Interview Date: 26 June 2021

Duration: 23 Minutes

2. **Name:** Khun BB
Position: Sales Specialist
Education: Bachelor Degree of Medical Technologist
Interview Date: 26 June 2021
Duration: 25 Minutes
3. **Name:** Khun CC
Position: Sales Specialist
Education: Bachelor Degree of Medical Technologist
Interview Date: 27 June 2021
Duration: 25 Minutes
4. **Name:** Khun AB
Position: Sales Specialist
Education: Bachelor Degree of Medical Technologist
Interview Date: 1 July 2021
Duration: 25 Minutes
5. **Name:** Khun BA
Position: Sales Specialist
Education: Bachelor Degree of Sciences
Interview Date: 2 July 2021
Duration: 27 Minutes
6. **Name:** Khun AC
Position: Sales Specialist
Education: Bachelor Degree of Sciences
Interview Date: 2 July 2021
Duration: 23 Minutes

3.3 Instrument

3.3.1 Observation about the basic information of company A

The observation regarding the company's information, such as the vision, mission, and strategy, aims to analyze the company's position. This instrument can answer the analysis part in the AFI framework. The information shows the perspective of company A that can help to see the strategy in the future as well.

3.3.2 Interview Question

This instrument can answer the research question that mentions the social value that the organizations want, the potential technologies in the healthcare business during the COVID-19 pandemic. However, it can answer the objective in this study about generating social value by the technologies in the healthcare business during the COVID-19 pandemic.

Table 3.1 Interview Questions

Topic	Question
Interviewee's background	Introduce yourself (Name, Position, Age, Gender, Degree of education)
General perspective	<ul style="list-style-type: none"> - How many the innovation technology that the company A used? - Do you think that the technology that the company used can generate social value? If yes, which is the aspect? If no, why?

	<ul style="list-style-type: none"> - What do you think about the social value with the healthcare business?
<p>Identify perspective by each technology (Base on literature review)</p>	<ul style="list-style-type: none"> - What do you think about the GIS link with the social value during the COVID-19 pandemic? - What do you think about the AR and VR link with the social value during the COVID-19 pandemic? - What do you think about the digital contact tracing technology link with the social value during the COVID-19 pandemic? - What do you think about the Big Data link with the social value during the COVID-19 pandemic? - What do you think about AI link with social value during the COVID-19 pandemic?
<p>Identify perspective by each social value (Base on TBL)</p>	<ul style="list-style-type: none"> - What do you think about the technologies that can generate social value in environmental aspects? - What do you think about the technologies that can generate social value in community health aspects? - What do you think the technologies can generate social value in education aspects? - What do you think about the technologies that can generate social value in human workforce aspects? - What do you think about the

	technologies that can generate social value in financing aspects?
Analysis Question	<ul style="list-style-type: none">- Which is the technology that can generate the three social values created by the technology?- What is the strategy that helps to manage the idea of innovation and sustainability in your individual task and team work?

CHAPTER IV FINDING ANALYSIS

In this section, I propose to utilize strategic management to answer the research question regarding the social value that the company wants, the technology that can generate the social value in three aspects, and how to implement the technology. During the interview session, I collect the data and analyze the information. I divide it into three parts: strategic analysis, strategic formulation, and strategic implementation.

4.1 Interpretation from interview question

4.1.1 General Perspective

The information from the interviewees in company A, everyone knows that the company has innovative technologies for the employees and customers. However, two people from ten do not understand why social value can create by technology. However, around eight people can describe the correct meaning about social value with technologies that the company used to make sustainability part of the social, environmental, and economic aspects. Nevertheless, on the other hand, some people cannot explain that.

4.1.2 Identify Perspective

I interview three levels in the organization: the corporate level, the business level, the organization level, the perspective with five technologies, and the perspective by each social value related to the literature review. The information shows that the corporate level understood the outcome in all technologies. In general, this position can describe the social value of each technology and is interesting for developing the strategy to create innovative technology with a sustainability plan in

the future. Another part is at the business level, and three people liked VR, AR, and Big Data. The technologies will help generate the outcome by reducing the task during the pandemic with them and the customers. This level will concern about social and economic but not concern about environmental aspects. Lastly, at the operational level have the four people like all technologies, especially Big Data and AI but two people like digital contract tracing. However, they may think the same idea of the business level because they are subordinates of the functional group to transfer messages.

4.1.3 Analysis Question

Most people in company A think that the company should select Big Data and AI for creating social value by three aspects.

The employees in company A described that Big Data and AI would help manage the company's information. There is the customer data, the patient information that will reduce the task and create well-being during the pandemic. For example, in a social aspect, Big Data and AI will record the patients' information and predict the spread of a virus that helps to decrease the pandemic. As part of the environmental aspect, the data collection from Big Data and AI will reduce the use of paper or paperless because all of the information will be recorded by the technology that replaces manuals. In the economic aspect, when people understand the technology concept, that will expand the knowledge to data and adapt it to do the strategy and create the value in business or profit.

However, all levels show the idea for using the method that helps to make the innovative technology with sustainability concept. I will explain in more detail the strategic management process in the strategic formulation part.

4.2 Strategic Management Process

4.2.1 Strategic Analysis by observation information of company A

When I search the company's information on the website, company A sells pharmaceuticals, nutritional supplements, diagnostics, and medical goods in over 130 countries worldwide. However, I will focus on the Thailand branch that was

established in 1966. Company A promises more than 100 decades of adherence to corporate practice. We create empathy and strive to make a significant difference in every job we do. **As part of the vision** at company A, *“We think that responsible, sustainable, and unique enterprises are critical to developing a strong and growing society. We are dedicated to fostering economic growth. We do this through our activities and collaboration with others. Every day, people all around the world rely on our products to live longer and healthier lives. That is why we take the proper approach to our business. For the utility of long-term stability and the many individuals we serve. Our civic engagement activities are focused on the top three issues that benefit our communities and companies. They are tailored to our scientific expertise, commercial acumen, and specialized resources”*. **The mission of company A** is *“We recognize that excellent health is the foundation for living your best life. Everything we create is intended to assist you in doing so. That is our dedication to developing game-changing technologies that keep your heart healthy, fuel your body at every stage of life. We plan to help you feel and move better and provide you with information, medications, and discoveries to help you manage your health.”* All of the information about the vision and mission implies that company A has the **core competency** to specialize in the completed solution of innovative technology that contributes to a well-being life with people in the world and gains sustainable outcomes.

I use SWOT analysis because I think that the method will help to improve company A to be better in part of the implementation. **SWOT analysis** is the instrument for seeking the external and internal factors that affect company A. I would like to analyze this part by Strength (S) and Weakness (W) in the internal factors and Opportunity (O) and Threat (T) in the external factors.

Internal Factor means the issue that expresses the strength and weakness of company A. **The strength of company A** is its leadership position in the market, strong brand name, diversified product line, and steady dividend growth. This is the reason why company A has a long time of experience in the healthcare business. Even during the COVID-19 pandemic, the company still is the leader in the healthcare business because the company has brand royalty and excellent staff. **As part of**

weakness, overall company A has the sales growth rate conservative, and research and development efforts may not succeed because company A has the take-over strategy rather than creating the new technology. Another one is that the acquisition strategy has time-consuming when the company will acquire goods that have an average time of around 2-5 years.

External factors are external variables that have an impact on a company's outcomes and performance. These elements are frequently present in the economic, political, and social environments in which the firm works. **The opportunities** of company A are global expansion, mergers, and acquisitions that help to generate the competitive advantage by the different sectors in the world can transfer from the competitors to partners. Nevertheless, company A has sales growth in emerging markets because company A has several branches globally and helps create healthcare technology in the developing country. The healthcare business has intensive competition for **the part of threat** because this business has the widespread especially COVID-19 pandemic. Therefore, the company has high competition. However, company A will receive the factor from the currency exchange rate because the company must change the credit market to company A's credit rating. Another one is that the healthcare regulatory environment is one factor that company A must adjust or invest in creating the solution to match Thailand.

<p><u>Strength</u></p> <ul style="list-style-type: none"> ● Leadership position in the market ● Strong brand name ● Diversified product lines ● Steady dividend growth 	<p><u>Opportunities</u></p> <ul style="list-style-type: none"> ● Global expansion ● Merger & Acquisition ● Sales growth in the emerging market
<p><u>Weakness</u></p> <ul style="list-style-type: none"> ● Overall sales growth rate is conservative ● Research and development efforts may not succeed ● Acquisition activities are time-consuming 	<p><u>Threats</u></p> <ul style="list-style-type: none"> ● Intense competitions ● Currency exchange rate ● Changes in the healthcare regulatory environment

Figure 4.1 SWOT analysis of company A

4.2.2 Strategic Formulation

In this section, I evaluate the approach divided into three tiers using the information from the interviews. I would like to learn about the current procedure in each position at company A and revise a strategy to close the gap at each level.

Analysis corporate level strategy

Refer to the research questions, and I interviewed with the organization position in company A. I felt that this level understood the mission and vision of the company. He said that *"the technologies used during COVID-19 pandemic can create three aspects of social value"*. Generally, he thought that *"company A can use the existing technology for environmental aspects by the recycling package of products packaging innovation. But, on the other hand, company A created the social and financial aspects by producing the products that helped track the cluster or reduced the spread of the virus. Moreover, the technologies can help reduce the workload as healthcare workers counter with the problem about COVID-19 pandemic"*. The corporate level explained his strategy for creating the technology that company A planned to use during the pandemic and the end of the disease by the company intended to partner with the company with innovative technology and design to implement Big Data and AI in the future. The technologies are popular right now, and easy to create three aspects in the Triple Bottom Line (TBL) concept. In addition, he said that *"the company had a competitive advantage when company A used the partner strategy; the competitor will turn around to the partners and help create the best solution to the customers."* In the future, he believes that the company will have innovative technology with the sustainability concept that demonstrates the competitive advantage in the long run business as well.

Analysis business level strategy

I interviewed with the business-level strategy. I felt that this position has different ideas from the organization level because this level explained that *"all technologies used during pandemic have the advantage and disadvantage site."* For example, they said that *"AR or VR helps to study healthcare by the*

imagination, but some technical must practice and do it in the real world." So the technology has the benefit but not all of the aspects. Moreover, the business level might not have an idea about the social value of environmental factors. They might be more concerned about the social and financial elements than ecological aspects. They focus on reducing the number of patients who infect the COVID-19 for creating a healthy well-being life that will affect the income of people. Nevertheless, they focus on the company's revenue and explain that *"normally healthcare business had the profit but during the pandemic that was obviously for survival in this economic crisis."* They don't only focus on the social aspect but also concern the profit of company A and themselves. They described that *"currently they liked the VR technology, digital tracing technology because the technologies can help them too easy to work and the good surrounding."* All of the interview information, this position knows that they and the operational level doesn't align with the organization level in many perspectives. This position has the goal of increasing the company's profit. Sometimes, they don't have time to focus on social value, but they try to find the customers' solutions and achieve sales revenue. However, the business level told me that *"Company A should create an affordable price with Big Data and AI technology because it will help them achieve and help run the business in the long run. However, if they have a clear goal, they will try to communicate the clear message to the operational level later."*

Analysis operation level strategy

According to the information interview with the operation level, they told that *"every technology can generate social value by three aspects."* They align with the business level because they understand that the technology will help us do the easy work, allow people to reduce the spread of the virus, and control the budget or cost of the customer as hospital, government, and the company. As part of the environment, they explain that *"when people used the technologies that will help decrease the number of people came into close contact, it helped reduce bubble and seal right now. Moreover, when people didn't go outside, it helped to reduce transportation and CO2 emission in the environment as well"*. However, all operational level ideas are still concerned about social and

financial aspects than environmental aspects, same as the functional level. Another reason, the group of the interviewers in this level has the age around 25-34 years old. It is the Y generation that might understand the innovation technology but still have their idea and expression by social communication. They think that in the future, big data and AI will come into the work-life because they believe that the technologies will help the world in three perspectives: social, financial, and economic. They said, *"However, the company should provide the career path by developing the ability of employees because they always would like to learn and find the chance. For example, the company should provide grants or special courses for practice and develop employees' skills than the current."* Nevertheless, they suggested that *"Supposed that the company planned to enhance social value. Then, the company should create an activity that aligns with the operational level, such as a donation for people, society, and the environment that will help the company to survive in the long run by the good perspective of the employees in the company."*

All of the data that I interviewed with three levels, I think that company A should communicate the vision and mission to every position, especially the corporate level, to transfer the smart goal to the business level about the mindset, method, benefit, social output, and timeline. After that, the business level should send the right message to the operational level that will help to create a successful business in the future. However, technology plays an important role inevitably right now as the interview information; all positions told that Big Data and AI would help to generate three social aspects in Triple Bottom Line theory. Therefore, I would like to implement the technology in the next part of this study.

4.2.3 Strategic Implementation

After I interview with all positions in the company, the employees understand the social value from different perspectives. However, the employees would like to implement Big Data and AI because they think that this is the trend of technology globally and help to create valuable data for the company and the customers. Moreover, I will plan to describe in detail for the implementation plan in the recommendation part later.

CHAPTER V CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusion

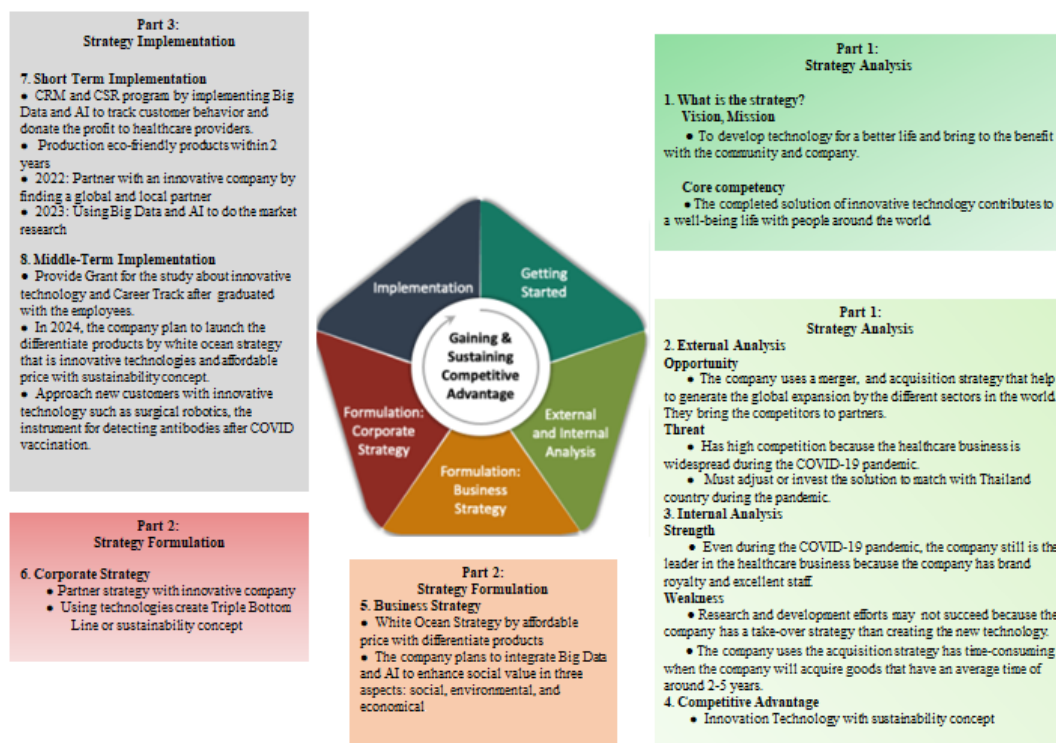


Figure 5.1 Analysis process and Improvement Framework

To illustrate, I have created a framework as figure 5 above to show the research process of integrating technology and innovation to enhance social value for healthcare business during the COVID-19 pandemic in company A. In addition, the framework displays the link between theory and the process of analyzing and

implementing the organization's strategy. This is the summary for describing the entire project that I study. The conclusion is that the social values that company A wants during the COVID-19 pandemic are to reduce the virus's spread and help create a well-being life with people in the world. Therefore, the company's objective can describe in the sentence of the vision and mission of company A completely. However, the technologies affect daily life more than before, especially the COVID-19 pandemic. After I interviewed the employees in company A, every level understood the importance of the technology that can generate social output, economical and a good environment, especially Big Data and AI. On the other hand, they might not align at every level because company A is a global company. Even though I will focus on Thailand's business, the company is still big in the country. So the employees might not communicate in every department and not be clear about the company's objective. Every position has a different goal.

At the corporate level, when I interviewed with this level, he would like to implement the partnership with the innovative company. They plan to create a competitive advantage and generate a sustainability concept that matches its vision and mission.

At the functional level, they would like to create a differentiated product at an affordable price. Their interest in technology as Big Data and AI will help reduce the spread of the virus and bring the excellent community together. However, this level focuses on the social and financial aspects rather than environmental aspects. They think that all the technologies can generate social value and have advantages and disadvantages as well. They illustrate that they are concerned about the company's profit and the customers because it is the middle position between the organizational and operational levels. Therefore, they must monitor the budget and targets that affect the company's income.

At the operational level, this level has the same idea as the business level because that is subordinate to the business level. However, this level has a different notion than the business level because the positions don't have subordinates. Therefore, they will focus on their career path and income. But, on the other hand, they will focus on the technologies that help reduce the double tasks in the company and the customers as hospital or healthcare workers.

In conclusion, I would like to implement short-term and middle-term programs that use innovative technology by Big Data and AI with sustainability concepts with company A. From the interview information, I see the different perspectives in many positions in company A. I will know about the social value that the employees want and the technology that can create social value in the future. So, I can make the implementation plan part of the recommendation to align with the organization level, the business level, and the operational level. The strategy will help company A that encounters a pandemic issue survives in the long run business.

5.2 Recommendation

I recommend implementation that meets with the corporate strategy, business strategy, and operational strategy. I would like to plan two projects which are short and middle run.

In the short-run projects, even the COVID-19 pandemic will stop in the future. I think that people will use technology and move to the new normal in daily life. The strategy that will help catch up with the customers with company A is developing the Customer Relationship Management (CRM) program with Corporate Social Responsibility (CSR) activity. Company A should implement Big Data and AI to analyze the customers' behavior and create customer loyalty by discount or social community with CSR program. For example, company A should create an activity that donates the money from the company's profit to healthcare providers such as hospitals, caring for the elderly, orphanages. The company should start the activity such as when the customers buy the company's goods, and the company will donate to society. The concept is making the better life of people by contributing to social and environmental institutes. The activity will help the employees to be more concerned about the ecological aspects than before. The value-added activity is selfless or creating the common benefit that gains the competitive advantage in the future.

Moreover, company A should use innovative technology to produce eco-friendly products or less affects the environment. The project should run for two years or more. However, I would like to use SWOT analysis to analyze the middle-term implementation and explain by yearly.

2022: From the strength of the company and organization strategy that I mentioned before. The company should find innovative technology partners by starting with local partners and moving to global partners. Company A should find research country's regulations and develop a solution that allows it to enter new markets while adhering to its rules.

2023: Making the market research by Big Data and AI to develop a CRM, CSR program that gains the trust from the customers in the long run by using technologies. The company will make the corporation's impression to donate the profit to society and the environment, especially in the emerging market.

For the project, I would like to divide by focusing on the employees and clients. Company A should develop the employees' skills by operational strategy and approach the new customers by business strategy. According to SWOT analysis, the weakness of company A that is related to research and development efforts may not succeed. Therefore, I think that company A should focus on developing the employees' skills to improve this part. The program can do it right now by creating the program for giving the grant with the good employees' performance to study the innovative technology and return to work with company A within two years. In the part of a grant for the employees, company A has been using this program until now, but when the employees graduate, they will find a new job and pay the tuition fee in return to company A than work until two years by sign contract. The company should provide a career path to the employees who have received the grants and graduated, replace the grant only, or call it a career track. For part of approaching the new customers, in my opinion, company A should use Big Data and AI in some technology to create social value during the COVID-19 pandemic. For example, the company should develop the technology that can help detect the quality of vaccines or tell people the quantity of antibodies in humans and record the big data to prevent the spread of the virus. Nevertheless, the company should create the surgical robotic that is the new technology that can help the healthcare worker to reduce the encounter with the patient directly during a pandemic. Therefore, all of the projects will generate social value by direct and indirect aspects. If company A constructs innovative technologies that help to create social value, I think that company A will survive even the economic crisis decisively. Moreover, within 2024, launch the model of the different products by

innovation and providing services with affordable prices by white ocean strategy and gain the customers' trust by sustainability concept. This part can be concluded by the innovative technology with the triple bottom line (TBL) mentioned before.

In conclusion, the implementation plans should align with the company's vision and mission by strategic in three basic concepts:

1. The company should have a clear goal for achieving in the short-term and middle-term implementation.
2. The company can analyze the current situation that affects the business.
3. The company should know the suitable strategy for reaching the goal that the company wants to achieve in the future.

All of the above can meet the company's goal in the short and middle term of implementation in the innovation project with the sustainability concept. Furthermore, I can make sure that company A or other companies interested in this topic will continue to be the best of the leading firms of the healthcare business in the future by this concept idea.

5.3 Limitation and future research

- The study is a case study in company A. Therefore, it may be generalized to other firms. However, the research can apply to the primary strategy and helps to look at the big picture for management in the organization. On the other hand, when other companies find more than one case study and combine it with this study to be practical, this story will benefit the business.

- Future research recommends studying the specific technology with a sustainability plan and using the practical model rather than a study. Even though some people are currently not interested in innovative technology, I believe that the digital transformation will inevitably come into real life and be helpful in the future.

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