

SUFFICIENCY ECONOMY ENTERPRISE MODEL CANVAS (SEEMC): LESSONS LEARNED FROM THAILAND INDUSTRIAL STANDARD 9999 CERTIFIED MANUFACTURING ENTERPRISES

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Abstract

Sustainable development plays a vital role in global and Thailand economy. In 2015, the 17 sustainable development goals (SDGs) were adopted by world leaders to achieve 2030 agenda for sustainable development (SD) with the aim to promote prosperity while protecting planet and people around the world. Sufficiency Economy Philosophy (SEP), conceived by H.M. the King Bhumibol Adulyadej of Thailand and introduced in 1997 to alleviate the impact of economic crisis on industries at that time, was one of the innovative sustainable development paradigms recognized by United Nations in 2006. Thailand Industry Standard (TIS) 9999 was developed in 2013 for industrial enterprises as a management and operation development guidance on sufficiency economy. However, after almost 10 years of TIS 9999 establishment and 8 years left to reach 2030 SD agenda, the TIS 9999 certification rate within industries is only 27 firms out of 63 firms totally trained. This research aims to provide management tools in the form of business model canvas (BMC) to assist leaders to start sufficiency economy up in organizations. The qualitative method was carried out to extract key SEP themes, concepts and properties. Subsequently, BMC was redesigned as Sufficiency Economy Enterprise Model Canvas (SEEMC). SEEMC consists of 9 building blocks: 1) Receiving Stakeholders & Communities, 2) Giving Stakeholders & Alliances, 3) Stakeholder Engagement & Collaboration, 4) Omni-Channel with Integrity, 5) Sustainable Value Repurposing & Balancing, 6) Self-Immune Knowledge & Continuous Capability Development, 7) Moderated & Re-circled Resources, 8) Reasonable Endowment & Investment, and 9) Shared Benefits & Impacts. SEEMC contributes the knowledge diffusion of TIS 9999 certification and SEP among organizations to efficiently transform themselves with sustainable development perspectives yielding higher degree of resiliency against future crisis.

Keywords: Sustainable Development; Industry Standard; Sufficiency Economy; Business Model Canvas



Introduction

The crisis instigated by COVID-19 has affected all business sectors around the world in several aspects including business, education, and government sectors. Research activities in sustainable development were also interrupted causing delay in multiple deliverables. Pandemic forced people into isolation. All business activities and global supply chain were intermittently halted due to limited transportation as well as work from home/anywhere policies (Leal Filho et al., 2020).

During the first half of 2020, COVID-19 impacted small businesses in several ways especially financial fragility for the businesses with less than 2 weeks of cash on hand. Mass layoffs and closures occurred in response to social distancing and city lockdown policies (Bartik et al., 2020). For micro and small enterprises in rural areas, the pandemic damaged production, marketing, and financial activities. Managers from such enterprise reacted to different types of damages dependent on their ability, knowledge and experience (Farani et al., 2022).

COVID-19 impact to Thailand's manufacturing sectors, studied by United Nations Industrial Development Organization (UNIDO), revealed respective findings. First, small-sized, and low-tech firms have been severely struck by crisis due to demand shrinkage and find difficulties in access to government stimulus scheme support. Second, the factors of production including raw materials were disrupted in global and local supply chain, from upstream to downstream firms. Third, the more dependency to global value chains (GVC) the small-sized enterprises, the higher probability the revenue loss will be more than half compared to pre-covid year (UNIDO, 2020).

For Thailand, the pandemic crisis was not the first time. Back in 1997, Thailand encountered Asian financial crisis initiated by its currency devaluation. The crisis subsequently spread to

Southeast Asia and East Asia (Federal Reserve Bank, 2013). Overly financially leveraged companies with overseas debt went collapsed due to insolvency. Majority of businesses were not cautious about crisis as GDP growth rates of the region approaching 10 percent. Financial support was provided by several supranational financial institutes.

Sufficiency Economy Philosophy (SEP), conceived by H.M. the King Bhumibol Adulyadej of Thailand and introduced in 1997 to alleviate the impact of economic crisis on industries at that time. The philosophy contains three pillars of *moderation*, *reasonableness*, *self-immunity* and two conditions of *knowledge* and *morality*. Such principles can be applied in solving business and national problems from various crises because it emphasizes sustainable balanced development with people centricity. It suggests planning the considerate use of natural resources, financial planning, and building a happy society for the present and the future and so on. Every commercial bank in Thailand changed their monetary policy to have more serious monitoring of various risks such as allowance to incur debt, ability for debt repayment, management of cash reserves (Office of the National Economics and Social Development Council, 2007).

SEP became one of the innovative sustainable development paradigms recognized by United Nations in 2006 as H.M. the King Bhumibol Adulyadej was awarded with "Human Development Lifetime Achievement Award" (Ministry of Foreign Affairs of Thailand, 2017). It was also adopted by Thailand Industry Standard Institute (TISI) in 2013 (TISI, 2013).

In 2015, the 17 sustainable development goals (SDGs) were adopted by world leaders to achieve 2030 agenda for sustainable development (SD) with the aim to promote prosperity while protecting planet and people around the world (UN, 2015). Thailand Industry Standard (TIS) 9999 was developed in 2013 for industrial enterprises as a management and operation development guidance on SEP for sustainable development as well.



However, after almost 10 years of TIS 9999 establishment and 8 years left to reach 2030 SD agenda, the TIS 9999 certification rate within industries is only 27 firms out of 63 firms totally trained as of 2021.

This research aims to provide management tools in the form of business model canvas (BMC) to assist leaders to start sufficiency economy philosophy up in organizations to be gain higher extent of crisis resilience. The qualitative method, adapted from grounded theory, was carried out to extract key SEP themes, concepts, and attributes. Subsequently, BMC was redesigned as Sufficiency Economy Enterprise Model Canvas (SEEMC).

Research objective and question

The main purpose of this study is to craft sufficiency economy philosophy as implemented in Thailand Industry Standard TIS 9999 in the style of business model canvas. The resulted canvas would be beneficial to Thailand SMEs business and large enterprises by embracing the standard to transform organization for future crisis resiliency. Therefore, research question is posited as:

“What should be the components inside manufacturing enterprise model canvas within a single page that can summarize the overall TIS9999 implementation of Sufficiency Economy Philosophy with comprehensibility and practicality?”

Literature review

This section outlined the literature from two domains. The first domain represented the content about sufficiency economy philosophy and Thailand Industry Standard (TIS) 9999. The second domain incorporated business model canvas and its related model canvas in sustainability.

Sufficiency Economy Philosophy (SEP) and Thailand Industry Standard (TIS 9999)

Sufficiency Economy Philosophy (SEP) was a royal initiative of His Majesty the King Bhumibol Adulyadej, which has been bestowed for more than 30 years. It was a concept based on the foundation of Thai Buddhist culture, which acted as a development guideline based on the Middle Path. Taking into account of *Moderation, Reasonableness, Self-immunity* as well as using *Knowledge and Morality (consciousness, wisdom and perseverance)*, the philosophy outlines the basis for sustainable living and business conduct. His Majesty foresaw that the national development approach that mainly focused on the country's economic expansion caused negative effects. Therefore, His Majesty emphasized the self-sufficiency of the majority of the populace as a preliminary first. Once there was a sufficiency foundation, it can secure a creation of prosperity and higher economic status which will lead to gross “happiness”.

SEP guided the way of life and behavior of populace at all levels from the family, community to the state levels. It shed lights on how country could proceed economic development in parallel with society and environment to keep pace with globalization.

SEP consisted of three interrelated pillars and two underlying conditions. The three pillars were as follows:

1. Moderation referred to the right fit/match that is not too little and not too much. Without hurting or harming oneself and others, production and consumption should be done at a moderate level
2. Reasonableness denoted deciding the level of sufficiency by taking into account the relevant causal antecedents as well as the expected effects and results from such actions rationally
3. Self-immunity indicated preparing for impacts and changes in multiple aspects to



occur considering the probability of various scenarios anticipated in the future

The conditions as fundamental to all business decisions and activities consisted of:

1. Knowledge signified multidisciplinary knowledge and expertise with prudence, carefulness to integrate into business planning and operation
2. Morality implied awareness of virtues, integrity, mindfulness, wisdom, diligence, perseverance, patience, sharing to lessen greed and thrift, responsibility to live harmoniously with others in society.

In 1997, SEP helped transform Thai people and enterprise survive from economic crisis. By employing patience, perseverance, diligence, wisdom and prudence to balance critical challenges from business environment uncertainty, business sectors could build self-immunity to such challenges. Self-immunity, practiced by Thailand consumer goods conglomerate: Sahapat group, included reducing debt-to-equity ratio, investing in feasible projects with optimum and reasonable returns. Not only self-immunity was practiced, Sahapat group also put morality conditions of perseverance, diligence, patience to use. Toshiba Thailand utilized the concepts of moderation with core competencies, knowledge and morality conditions. Their executives voluntarily reduced their own salaries to keep company viable. Knowledge management through coaching systems enabled organization to have deep knowledge and actual skills in sustaining company growth. Amata industrial estate development group applied the moderation pillar in working within capacity and debt-free, reasonableness pillar in creating win-win situation, and self-immunity pillar in continuous improvement for the better future (Bangkok Business News, 2016).

Finally, SEP was recognized by United Nations (UN) in 2006 as one of the innovative sustainable development paradigms for global landscape. UN Development Program presented a Human Development Lifetime

Achievement Award to H.M. the King. In 2015, UN adopted 17 sustainable development goals (SDGs) as a development framework for 2016-2030 to end global poverty, protect the planet with peace, participation, and prosperity. 17 SDGs consisted of 1. No Poverty 2. Zero Hunger 3. Good Health and Well-Being 4: Quality Education 5: Gender Equality 6: Clean Water and Sanitation 7: Affordable and Clean Energy 8: Decent Work and Economic Growth 9: Industry, Innovation and Infrastructure 10: Reduced Inequalities 11. Sustainable Cities and Communities 12. Responsible Consumption and Production 13. Climate Action 14. Life below Water 15. Life on Land 16. Peace, Justice and Strong Institutions and 17. Partnerships for the Goals. In 2016, Thailand was a chair for G77 (alliance of 77 developing countries) UN summit, SEP was introduced to be development model for environmental restoration, societal equality improvement, and economic development to alleviate hardship for G77 countries (Ministry of Foreign Affairs of Thailand, 2017).

Despite the fact that SEP was widely prominent in the world and in Thailand, the diffusion and adoption in manufacturing sectors were quite limited compared to agricultural sectors. To respond to this challenge, Ministry of Industry of Thailand considered how SEP should be used as a standard in manufacturing sectors of Thailand. In 2013, SEP was adopted and implemented as TIS 9999 or Thailand Industry Standard number 9999 firstly as 9999 Volume 1-2556 (B.E.) publications. It acted as a guidance on sufficiency economy for industries. The standard identified definition, principles, guidance on sufficiency economy philosophy for all types of industry, size, and location. Its intention was to 1. Promote human and organization development to transform management and operation, based on SEP principles 2. Demonstrate organizational capability to implement SEP sustainably (TISI, 2013).

TIS 9999 Volume 1-2556 consisted of the following sections. 1. Scope, 2. Definition 3.



Principles 4. Guidelines and Components of SEP for Manufacturing Enterprises 5. Integration Approach for Organization Level and 6. H.M. Royal Works Principles. Principles of implementing SEP in organization were developed with main 4 themes: 1. Involvement of people 2. Respect for stakeholder interests 3. Holistic management 4. System approach to management. Integration approach for organization level was aligned with total quality management processes comprising Lead-Plan-Do-Check-Act (L-PDCA). Each process was highly embraced with SEP-driven concepts (TISI, 2013).

“Lead (L)” process: leaders should demonstrate belief in SEP and lead by example with integrity. Local wisdom and ethics should not be compromised. Continuous review of performance was encouraged.

“Plan (P)” process: organization planning should be carried out for required resources and capabilities for both present and future timespan by considering both internal and external environmental changes. Uncertainty and risks from such factors should be studied at strategic and operation level.

“Do (D)” process: organization put the plan into practices for employees, economy, society and environment. For employees, training regarding capacity development, environmental resources usage, work-life balance should be delivered. For economy, organization should optimize value for both short-term and long-term horizons by using appropriate technology and wisdom co-created

with stakeholders to match with geo-society context.

“Check (C)” process: organization should define surveillance methods for periodic performance measurement and review. The review incorporates examining strategic objectives, policies, operations whether they were optimized to external and internal change or not.

“Act (A)” process: expansion of SEP results should be made step by step; continuous improvement should be done according to performance. Prevention and correction should be acted with employee and alliance involvement.

The appendix of the standards outlined H.M. the 23 Royal Works Principles. It included 1. Doing systematically research for accurate information, 2. Explosion from inside, 3. Solution initiated at micro-level problem, 4. Step-by-step work, 5. Geo-societal consideration, 6. Holistic thinking, 7. Not totally dependent on textbook, 8. Be economical, 9. Simplification, 10. Participation, 11. Common benefits focus, 12. One-stop services, 13. Nature-for-nature, 14. Injustice suppresses Injustice, 15. Reforestation in mind (Merit Implantation), 16. Deficit is Profit philosophy, 17. Self-reliance, 18. Living in contentment, 19. Sufficiently economy, 20. Honesty, trustworthy and sincerity, 21. Joyful working, 22. Perseverance, and 23. Knowing, love and harmony.

Figure 1 represents overall picture of TIS 9999: SEP standard for manufacturing enterprises (TISI, 2013).

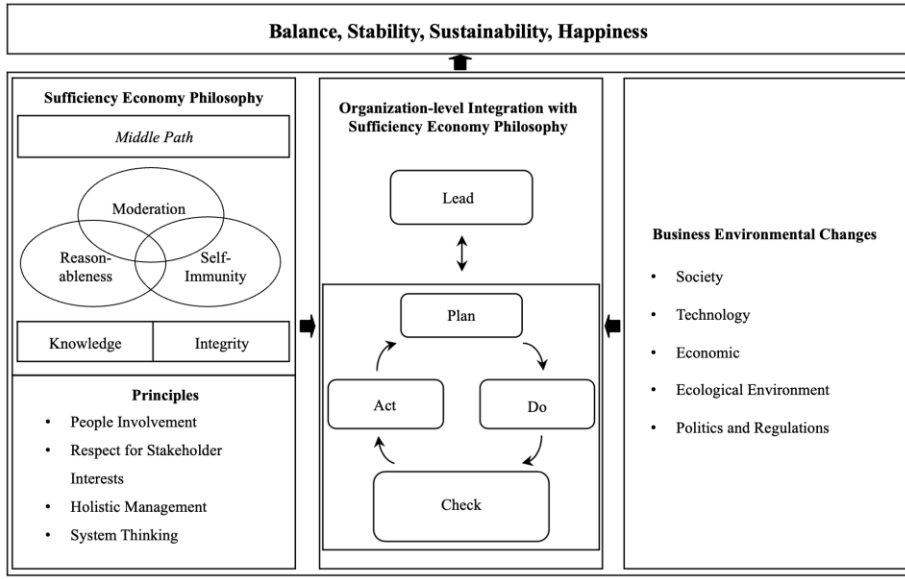


Figure 1 TIS 9999 Framework

Business Model Canvas (BMC) and Sustainable Business Model

Canvas, a single page, was a very popular tool in business planning and communication especially Business Model Canvas (BMC). BMC was developed in 2010. It was first published in the Business Model Generation book (Osterwalder & Pigneur, 2010). According to Strategyzer research, more than 5 million Business Model Canvas have been used worldwide. It was widely used in new business development up to 36% (Amarsy, 2015).

The Business Model Canvas provided a quick overview of the business and eliminates unnecessary information in the diagram, compared to traditional business plan writing. It could be developed more easily and help brainstorm new ideas. Business Model Canvas was used in newly established startups to large companies, for example, companies like 3M, Microsoft, Lego, Coca Cola, etc. Business Model Canvas allowed everyone to have a clear understanding of their strategy. Business functions would align in the same direction as

holistic view was visualized in BMC (Osterwalder & Pigneur, 2010).

There were 9 components totally in BMC: 1) Customer Segments: our target customer groups & characteristics, 2) Value Propositions: the values firms delivered to customers 3) Channels: channels to reach customers, 4) Customer relationships: how to create and maintain relationships with customers 5) Revenue Streams: multiple revenue sources and pricing strategies 6) Key Resources: tangible and intangible factors of production & service delivery 7) Key Activities: Process to be excel at to deliver the values 8) Key Partners: firm's suppliers or partners who contributes key resources and capabilities 9) Cost Structure: total cost of doing business.

Although BMC was a great tool in communicating business model, it mainly focused on profit and loss bottom line which is financial perspective. Therefore, in order to embrace sustainable development perspectives, there should be proper modifications with academic vigor and practicality.

Recent efforts in integrating sustainability into

BMC included canvases from CASE, Opinum, and Threebility. The details of each sustainable BMC were as follows:

1. CASE (Competencies for a sustainable socio-economic development of Europe) proposed two new building blocks of “Eco-Social Costs” and “Eco-Social Benefits” added as additional bottom line (CASE, 2018).
2. Opinum, in much the similar way, added two new building blocks of “Negative Externalities” and “Positive Externalities” to bottom line (Opinum, 2020).
3. Threebility integrated sustainability into the canvas with more sophistication. Customer Segments and Key Partners were changed to “Responsible Customers” with “End of Life” and

“Sustainable Partners”. Value Propositions, Customer Relationships, Key Activities, Key Resources were renewed as “Sustainable Value Propositions”, “Sustainable Customer Relation”, “Sustainable Customer Relation”, “Sustainable Value Creation”, “Sustainable Tech & Resources”. Bottom line of Revenue Stream and Cost Structure were changed to “Cost Structure & Additional Costs” with “Subsidization” and “Revenue & Sustainability Premium”. Top line was added with “Positive Impact (Maximize)” and “Negative Impact (Minimize)” (Threebility, 2020).

Figure 2 and Figure 3 depict business model canvas and sustainable business model canvas of Threebility respectively.

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
	Key Resources		Channels	
Cost Structure			Revenue Streams	

Figure 2 Business Model Canvas

Positive Impact (Maximize)			Negative Impact (Minimize)	
Sustainable Partners	Sustainable Value Creation	Sustainable Value Propositions	Sustainable Customer Relation	Responsible Customers
	Sustainable Tech & Resources		Sustainable Channels	End of Life
Cost Structure & Additional Costs		Subsidization	Revenue & Sustainability Premium	

Figure 3 Sustainable Business Model Canvas of Threebility

Research methodology

This research followed the framework of Chun Tie et al. (2019). It contained five steps including 1. Purposive Sampling 2.

Generating/Collecting Data 3. Initial Coding, Intermediate Coding 4. Advanced Coding and 5. Grounded Theory. The processes and inherent inputs and outputs of each step were described in Table 1.

Table 1 Grounded Theory employed in the Research to Formulate Sufficiency Economy Enterprise Model Canvas (SEEMC)

ID	Action	Input	Output
1.	Purposive Sampling	Successful companies using SEP to survive during both 1997 financial crisis and 2020 COVID-19 pandemic. TISI database of TIS 9999 certified companies	Sahapat group, Toshiba Thailand, Amata Group. 3 SEP companies were selected as good practices.
2.	Generating/Collecting Data	Recorded executive interviews, UN data, Royal Project websites, Journals and Business Model Canvas in sustainable development	Literature reviewed and data structured as 1) Sufficiency Economy Philosophy and TIS 999 2) Business Model Canvas and Sustainability.
3.	Initial Coding	TIS 9999 Volume 1-2556, SEP publications, SEP good practice	Keywords were extracted coded. The categories included Moderation Reasonableness, Self-Immunity, Knowledge, and Morality.
4.	Intermediate Coding	Codes of category and properties were mapped with BMC	Building blocks of BMC were re-defined in SEEMC.
5.	Advanced Coding	Storyline related to crisis and resilience was developed and infused into new building blocks of SEEMC	Sequence of how to develop SEEMC was proposed.
6.	Building Theory	Grounded New SEEMC concept was developed. Practicality should be proven in the future by using new TIS9999 certified companies	Definition for each SEEMC block were crafted

Research results and key findings

This section of the study contained data analysis and key findings. The analysis included:

- Initial Coding: Concepts extracted as codes from TIS 9999 Volume 1-2556,

SEP publications and case firms

- Intermediate Coding: Redefining building blocks from BMC to SEEMC
- Advanced Coding: Storyline created by sequencing SEEMC building blocks
- Building Grounded Theory: Definition in each SEEMC block were crafted



Results from Initial Coding and Intermediate Coding to design SEEMC Building Blocks

Table 2 represents Coding Results

including initial coding (keyword extraction), first intermediate coding (mapping with BMC building blocks), and second intermediate coding (putting relevant codes into SEEMC category).

Table 2 Coding Results

Raw Data	Initial Coding	1 st Intermediate Coding to redefine BMC building blocks	2 nd Intermediate Coding to define SEEMC building blocks
1. TIS9999 Scope	“Employee” “Organization”	<i>Customer Segments</i> <i>Key Partners</i>	1. Customer Segments => Receiving Stakeholders & Communities {People, Employee, Organization, Society} with {Interest}
	“Economy” “Society” “Environment” “Sustainability” “Happiness” “Balance” “Change Readiness” “External” “Internal” “Management Capability” “Lead” “Plan” “Do” “Check” “Act” (L-PDCA)	<i>Cost Structure</i> <i>Revenue Streams</i> <i>Value Propositions</i> <i>Key Activities</i>	
2. Definition	“Sufficiency” “Middle Path” “Happiness” “Kindness” (Wishing Others Well) “Symbiosis” “Joy” “Serenity” “Self-reliance” “Keeping Pace” “Establish Self Economic Foundation”	<i>Value Propositions</i>	2. Key Partners => Giving Stakeholders & Alliances {People, Employee, Organization, Society} with {Interest}
	“Moderation” “Self-immunity” “Reasonableness”	<i>Key Resources</i>	
	“People” “Family” “Community” “Government” “Development” “Administration” “Globalization” “Decision Making” “Cause and Effect” “Information” “Prudence” “Preparation” “Optimization” “Economic” “Frugality” “Simple” “Usefulness”	<i>Customer Segments,</i> <i>Key Partners</i> <i>Key Activities</i>	
	“Scenarios” “Short term” “Long term” “Not Harmful” “Modesty” “Impact”	<i>Key Resources</i>	
3. Principles	“People” “Employees” “Stakeholder” “Interest”	<i>Customer Segments,</i> <i>Key Partners</i>	3. Customer Relationships => Stakeholder Engagement & Collaboration {Involvement, Respect, Management, Expert Engagement, Efficiency and Effectiveness}
	“Involvement” “Respect” “Management” “Efficiency” “Effectiveness” “Holistic” “Systematic” “Capability” “Vision” “Objectives” “Information” “Process” “Results”	<i>Customer Relationships</i> <i>Value Propositions</i>	
	“Improvement” “Development for Present and Future” “Identification” “Understanding challenges” “L-PDCA” “Feedback” “SIPOC” “Environment Fit” “Fairness” “Legal” “End-to-end”	<i>Key Activities</i> <i>Channels</i>	
4. Guidelines and Components of SEP for Manufacturing Enterprises	“Philosophy” “Moderation” “Reasonableness” Self-immunity” “Knowledge” “Ethics”	<i>Value Proposition</i>	4. Channels => Omni-channel with Integrity
	“Consideration” “Necessity” “Economic Status” “Optimum” “Match”	<i>Cost Structure,</i> <i>Revenue Streams</i>	



Raw Data	Initial Coding	1 st Intermediate Coding to redefine BMC building blocks	2 nd Intermediate Coding to define SEEMC building blocks
	“Environmental Impact” “Environmentally friendly products” “Energy Efficiency” “Conservation” “Check”: “Monitoring, Measurement and Review” “In line with SEP” “Appropriate for Changes” “Protection and Correction” “Act”: “Continuous Development” “Step-by-Step” “Monitoring & Surveillance” “Remediation” “Network Involvement”	<i>Cost Structure, Revenue Streams</i> <i>Value Propositions</i> <i>Key Activities</i> <i>Key Activities</i>	Surveillance, Control, Protection & Correction, Response to Crisis} 7.Key Resources => Moderated & Re-circled Resources {Known Capacity, Optimization, Frugality, Useful not Harmful, Biodiversity of Natural Resources, Cultural Capital, Human Resources with Clear Authorities &Responsibilities, Appropriate Technology for Environment, Climate for Creativity, Business History, Experts}
6.H.M. Royal Works Principles	1. Doing systematically research for accurate information 2. Explosion form inside 3. Solution initiated at micro-level problem 4. Step-by-step work 5. Geo-societal consideration 6. Holistic thinking 7. Not totally dependent on textbook 8. Be economical 9. Simplification 10. Participation 11. Common benefits focus 12. One-stop services 13. Nature-for-nature 14. Injustice suppresses Injustice 15. Reforestation in mind (Merit Implantation) 16. Deficit is Profit philosophy 17. Self-reliance 18. Living in contentment 19. Sufficiently economy 20. Honesty, trustworthy and sincerity 21. Joyful working 22. Perseverance and 23. Knowing, love and harmony.	<i>Value Propositions</i>	8.Cost Structure => Reasonable Endowment & Investment And 9. Revenue Streams => Shared Benefits & Impacts {Sustainability, Impact, Environmental, Modest, Necessity, Optimum, Not Harmful, Short-term & Long-term Scenarios, Match, Probability, Local and Global, Debt Coverage Ability}
7. SEP Case Companies with Good Practices	<i>Sahapat group</i> “Reducing debt-to-equity ratio” “Investing in feasible projects” “Optimum and reasonable returns” “Perseverance” “Diligence” “Patience” <i>Toshiba Thailand</i> “Core competencies” “Leader sacrifice for employees and organization viability” <i>Amata Group</i> “Within capacity” “Continuous improvement” “Debt-free” “Win-Win situation”	<i>Cost Structure, Revenue Streams</i> <i>Value Propositions</i> <i>Key Activities</i> <i>Value Propositions</i> <i>Key Resources</i> <i>Key Activities</i> <i>Cost Structure, Revenue Streams</i> <i>Customer Relationships</i>	

Results from Advanced Coding to Build Storyline through Sequencing SEEMC

Sufficiency Economy Enterprise Model

Canvas (SEEMC) with sequence was depicted in Figure 4. The storyline was built based on TIS 9999 Themes: Respect for Stakeholder Interests, People Involvement, Holistic

Management, and System Approach. Therefore, the story to resiliently lead organizations through crisis could be developed as follows:

- Actors (Who): 1) Receiving Stakeholders & Communities, 2) Giving Stakeholders & Alliances
- Interactions (When & Where): 3) Stakeholder Engagement & Collaboration, 4) Omni-Channel with Integrity
- Shared values (Why): 5) Sustainable Value Repurposing & Balancing
- Resources & Capabilities (What & How):

6) Self-Immune Knowledge & Continuous Capability Development, 7) Moderated & Re-circled Resources

- Interests (How much): 8) Reasonable Endowment & Investment, and 9) Shared Benefits & Impacts.

Results from Building Grounded Theory to Define SEEMC Building Blocks

Each building block of SEEMC was crafted with definition based on associated codes. The final SEEMC was visualized in Figure 4.

<p>(2) Giving Stakeholders & Alliances</p> <ul style="list-style-type: none"> • People, Employee, Organization, Society, who have resources, capability, technology, etc. who are in upstream, who provide values, and who commit in SEP-oriented sustainability, who can be our long-term strategic alliance 	<p>(6) Self-Immune Knowledge & Continuous Capability Development</p> <ul style="list-style-type: none"> • Core competencies and L-PDCA management ability for present and predicted future • Continuous Innovation to mitigate risk from unexpected changes <p>(7) Moderated & Re-circled Resources</p> <ul style="list-style-type: none"> • Natural, human, technological, cultural, physical and intangible resources that can be re-circled to maintain diversity for society and the world 	<p>(5) Sustainable Value Repurposing & Balancing</p> <ul style="list-style-type: none"> • Values from Sufficiency Economy : 1. <i>Balance</i> (work-life, short-term/long-term, inside/outside) 2. <i>Stability</i> (self-reliance, diligence, perseverance, zero debt, prudence) 3. <i>Sustainability</i> (zero waste, lean, adaptivity) 4. <i>Happiness</i> (quality of life, respect, integrity, wisdom, simple, kindness, sharing) 	<p>(3) Stakeholder Engagement & Collaboration</p> <ul style="list-style-type: none"> • Activities that involve related people with respect, engage expert with local wisdom in geo-society, managed with efficiency and effectiveness <p>(4) Omni-Channel with Integrity</p> <ul style="list-style-type: none"> • End-to-End online and physical space to listen to internal and external stakeholders every when and where with Fairness, legal, and transparency 	<p>(1) Receiving Stakeholders & Communities</p> <ul style="list-style-type: none"> • People, Employee, Organization, Society, who have common needs and interests in SEP-oriented sustainability, who receive our values, who are in mid/downstream, and who might collaborate to shared value in the future
<p>(8) Reasonable Endowment & Investment</p> <ul style="list-style-type: none"> • Endowment and investment with feasibility study to prepare for cause-and-effect simulation for possible scenarios, and risk/return optimization 		<p>(9) Shared Benefits & Impacts</p> <ul style="list-style-type: none"> • Benefits to stakeholder outcome, and impact to macro-level shared for people, planet, profit, peace & participation 		

Figure 4 The Sufficiency Economy Enterprise Model Canvas (SEEMC)

Discussion and conclusion

The objective of the research was to develop an enterprise model canvas to be the tools for manufacturing sectors to embrace SEP through TIS 9999 guidelines which resulted in

Sufficiency Economy Enterprise Model Canvas (SEEMC).

The SEEMC, in similar design with BMC, was developed by using grounded theory to extract key concepts with predefined SEP themes (Three pillars of *moderation*, *reasonableness*, *self-immunity* and two conditions of *knowledge*



and *morality*). SEEMC contains 9 blocks including 1) Receiving Stakeholders & Communities, 2) Giving Stakeholders & Alliances, 3) Stakeholder Engagement & Collaboration, 4) Omni-Channel with Integrity, 5) Sustainable Value Repurposing & Balancing, 6) Self-Immune Knowledge & Continuous Capability Development, 7) Moderated & Re-circled Resources, 8) Reasonable Endowment & Investment, and 9) Shared Benefits & Impacts.

Comparing SEEMC with previous efforts on sustainable business model canvas (SBMC) from CASE, Opinum, and Threebility. SEEMC has common attributes with their bottom lines. CASE and Opinum bottom lines are “*Eco-Social Costs*” & “*Eco-Social Benefits*” and “*Negative Externalities*” & “*Positive Externalities*” respectively whereas Threebility uses “*Cost Structure & Additional Costs*”, “*Subsidization*” and “*Revenue & Sustainability Premium*”. SEEMC represents bottom lines with “*Reasonable Endowment & Investment*” and “*Shared Benefits & Impacts*”. In this regard, SEEMC has introduced more broader concepts of benefits from eco-social to “*Shared*” or common benefits from economic, social and environmental triple bottom lines. In addition, not only benefits are considered, the short term and long term “*Impacts*” are also reflected. The cost concepts are changed into “*Reasonable Endowment & Investment*” to in line with H.M. Royal Works Principles that our loss is our gain, implying one should invest in long term for others, though short-term loss might incur.

In stakeholder point of view, SEEMC introduces broader terms of “*Receiving Stakeholders & Communities*”, “*Giving Stakeholders & Alliances*” which are derived from people and society centricity whereas Threebility use of “*Responsible Customers*” and “*Sustainable Partners*”.

For the relationship aspect, SEEMC uses more symbiotic concepts of “*Stakeholder Engagement & Collaboration*” and “*Omni-Channel with Integrity*” whilst Threebility

designed these as “*Sustainable Customer Relation*” and “*Sustainable Channels*”.

Considering resource and capability view, SEEMC employs “*Self-Immune Knowledge & Continuous Capability Development*” and “*Moderated & Re-circled Resources*” while Threebility use of “*Sustainable Value Creation*” and “*Sustainable Tech & Resources*”. SEEMC focuses on “*Self-Immunity*” and “*Moderation*” pillars meaning to use resources with consideration for future generations and continuously develop technology and capability to stay relevant with internal and external paces of change.

Regarding the value creation, SEEMC proposes “*Sustainable Value Repurposing & Balancing*” which is quite similar to Threebility’s “*Sustainable Value Propositions*” but “*Repurposing*” and “*Balancing*” are emphasized to align with “*Middle Path*” approach and “*Geo-society Applied Knowledge*”.

Managerial implications

From the study, it implies the leaders to consider SEEMC as a major tool in embracing SEP and TIS 9999 guidelines in their organizations.

SEP has proved its advantages to various organization for more than two decades to manage organization to be resilient to crisis for the present time and the future. Although TIS 9999 was introduced a decade ago to manufacturing enterprises only in Thailand, TIS 9999 could be a steppingstone for long term sustainable development for all types of domestic firms in local and global business landscape.

Quick guide on how leaders can employ SEEMC to design organization are presented here with guiding managerial questions, step by step, as follows.

Step 1 TIS 9999 Theme 2: Respect for Stakeholder Interests.

a) Who are our 1) *Receiving Stakeholders &*



Communities (RSC) and 2) Giving Stakeholders & Alliances (GSA)? What do their psychographics, demographics and geo-socio-graphics look like?

b) What are their sustainability goals, needs and wants, jobs-to-be-done?

Step 2 TIS 9999 Theme 1: People Involvement:

c) How should we design programs for 3) *Stakeholder Engagement & Collaboration (SEC)* and open space for 4) *Omni-Channel with Integrity (OCI)*?

d) How can we design peaceful stakeholder journeys and participating experiences?

Step 3 TIS 9999 Theme 3: Holistic Management

e) What shared values should we create and deliver in 5) *Sustainable Value Repurposing & Balancing (SVB)*

f) What values can be learned from local wisdom or repurpose existing values for the common future?

Step 4 TIS 9999 Theme 3: System Approach

g) What should we be self-resiliently and incessantly excel in 6) *Self-Immune Knowledge & Continuous Capability Development (SCD)* to deliver shared values?

h) What are key resources that can be shared among alliances in 7) *Moderated & Re-circled Resources* to develop mentioned capability?

Step 5 TIS 9999 Theme 2: Respect for Stakeholder Interests

i) What are impact investing and shared benefits to be filled in 8) *Reasonable Endowment & Investment* and 9) *Shared Benefits & Impacts* to support BCG economy growth, Quintuple Bottom Line (People, Planet, Profit, Peace,

Participation), SDG 17 inclusion, resource sustenance and diversity?

Limitations and future research

The research has limitations that should be considered as follows. The study mainly used TIS 9999 as guidelines for SEP, sustainable development for business organizations. The scope was only focused on applying TIS 9999 for manufacturing enterprises. Generalizing the findings to other sectors may not be hundred percent applicable. Moreover, the study employed qualitative method with ground theory to learn from previous case studies which limited to few cases. These cases were mainly large corporates which applied SEP since 1997 Asian financial crisis. However, during the COVID-19 pandemic, limited number of firms and data accessibility for manufacturing enterprises which received complete TIS 9999 certifications.

Therefore, the future research might include the following. First, research should expand scope for application of SEEMC to service firms especially Thailand service sectors accounted for more than 50% of its GDP. Second, SEEMC should be updated in next version to be integrated with global sustainability initiatives including Dow Jones Sustainability Index (DJSI), Global Reporting Initiative (GRI), and Sustainability Accounting Standards Board (SASB). Last but not least, application of SEEMC should be carried out to not only manufacturing businesses in Thailand but also other businesses operating within Asia-Pacific Economic Cooperation (APEC) countries which adopted bio-circular-green (BCG) economic model aligned with conference agenda held in Bangkok during November 2022 (APEC, 2022).



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