

Article

Green Practices and Innovations of Traditional Chinese Medicine (TCM) Industry in Singapore: Idea Worth Sharing

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Abstract: TCM health benefits and pressure to thrive TCM businesses while taking care of the sustainability of resources has challenged the TCM industry to produce more with less. It is of interest to know how TCM businesses innovate to sustainability through green practices. By capturing the perspectives of TCM organizational stakeholders on practices to minimize the negative impacts on the local environment by TCM enterprises (clinics) in Singapore from the lens of a qualitative exploratory study, the present study explored the presence of green practices and innovations of TCM organizational stakeholders though it is less clear whether these engagements are conducted out of the intention to be green, as these are daily practices at TCM clinics. The phenomenological approach was applied to examine the lived experiences of study participants who work or had worked at TCM clinics in Singapore. The highlights of the paper stressed inadequate focus on green practices at the organizational level to achieve sustainable development targets of TCM industry in Singapore, despite the existence of self-awareness at the individual level to protect the environment. The findings can be building blocks for future research on green and policy making. Green practices and innovations to stay healthy while protecting the environment, with more sensible choices, can bring differences to humans' lives.

Keywords: green practices; traditional Chinese medicine; stakeholders; green; innovations; interpretative phenomenological approach



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1. Introduction

Environmental pollutions and degradation have becoming alarming issues as countries around the world are growing, with high consumptions of non-renewable resources such as coals, natural gases and generations of non-clean products from such developments [1]. Pollutions, carbon emissions and global warming are impacting the world with unprecedented effects. However, environmental crisis also presents opportunities for firms [1,2]. Organizations can be environmentally sensitive in their behaviours and their decisions to be green can lead to innovations [3]. Innovations on green practices present fresh ideas on cleaner productions to minimize hazards to the environment [4]. Cleaner productions include practices, processes and procedures to develop technologies, and to assist the efficient management of resources and energy towards creating sustainable development [5]. In businesses, the abilities of firms to utilize resources and being agile in responding to green needs from customers help build a competitive advantage for firms [6]. Within the context of this paper, the research centred on TCM clinics in Singapore, to answer two research questions. First, what are firms' green practices? Second, how do firms practice green? These questions were answered based on three trends—TCM, Green and Sustainability, and Innovations. By exploring the perspectives on TCM of the organizational stakeholders in Singapore, the study aimed to understand how these decision

makers perceive and define the situations of their organizations towards green, whether they have the intentions to be green or not to be green.

TCM: Due to globalization of TCM, TCM is gaining popularity as a complementary alternative medicine around the world, with more healthcare businesses in the market, social networks and media attentions [7], spreading out in 183 countries [8]. There are activities in TCM which entail environmental impacts. Wastes from treatments [9,10] such as cottons, needles, chemical and water wastes from boiling of herbs, greenhouse emissions from travelling, or direct use of energy in the healthcare facilities such as clinics, are growing concerns to human health and the environment [11].

Green Practices: With more growth and development, more trees are being cut down, more waste and carbon emissions are being generated, and there are higher energy consumptions, leading to the pollution of Earth and death of living creatures [12,13]. Demands for natural resources are increasing and might deplete all resources without interventions. The situation is worsened with negative impacts from excessive release and generation of unwanted products which harm the environments, threatening the lives of Earth [14]. People need to get creative and innovative to understand, adopt and play their roles to protect the environment.

UN sustainable development goals aim to achieve awareness for sustainable development and lifestyles with nature by 2030, where people are being educated and relevant information can be easily accessible from anywhere by everyone [15]. For that, being aware and understanding the needs to adopt green initiatives are crucial to consistent and persistent green practices throughout the existing and future systems [12,16]. Hence, sustainability is achieved through economic, social and environmental pillars, in which the policies for protecting the environment, roles and actions of industries, organizations and businesses, and the efforts of individuals in the ecosystems, will leave profound impacts on the planet [17]. A climate neutral world, as proposed during Paris Climate Change Agreements in 2015, is in conjunction with efforts to reduce carbon footprint and global warming, expecting humans to live without net greenhouse gas emissions on the second half of this century [18]. As stated by secretary general António Guterres, in the 2020 greening blue report, it is everyone's responsibility to take care of nature and the environment [14]. Everyone has a part and role to play in building a more sustainable environment for now and the future.

Green practices in the TCM industry involve upstream, downstream and management of TCM businesses. Hence, guidelines on practices in TCM can range from herb farming [18], processing [19,20], TCM treatments [21–23] and organizational management [23,24]. This study is the first of its kind to explore the green practices of the TCM industry through a phenomenological approach. The focus of this study was on TCM organizational stakeholders who work at TCM clinics, as the interactions might not confine to only downstream and management of TCM clinics. The perspective on green practices from these study participants can be extended into other parts of the value chain.

TCM in Singapore: Singapore is one of the crucial platforms for the development of TCM globally and the consumer market of TCM products besides the originating country—China. Singapore has the research and development centres for TCM, with intensive support from the government that push for recognition of medical certificates from TCM physicians and insurance systems which accept claims of TCM treatments [25–27]. All these have brought the TCM industry into another milestone [28]. Despite the accelerated development of the industry in terms of management, educations, research and quality of healthcare services, there is little research on whether there is green and how innovation develops green within the TCM industry [29,30].

Innovations: Attempts to set boundaries on practices which are considered green in TCM industry can be difficult. The challenges for establishing green practices through innovations and standards require a comprehensive understanding of TCM. In addition, it calls for engagement with TCM stakeholders to ensure that these interventions are culturally and institutionally appropriate and compatible. Such interventions may also

vary across contexts as processes of creativity and innovations set different journeys and trajectories even for similar businesses and industries.

With more calls to return to green healthy living and to take up proactive roles in the greening of organizations, TCM businesses and sustainability are not mutually exclusive and being green is here to stay, instead of taking up ad-hoc roles on fulfilling corporate social responsibilities.

With green being more prevalent, TCM businesses, such as clinics, in this study can adopt green or expand green in the system by tapping on new markets, opportunities and innovations. The concerns are whether there is sufficient awareness to translate green into practices and transform the TCM industry in Singapore via green practices.

Contributions: The contributions of the study are to make the TCM industry more accessible to green practitioners to conserve the environment and ensure the sustainability of TCM businesses. Environmental impacts from individual small businesses are not obvious, but collective green efforts from firms can have prominent effects on the industry and environments. Knowledge about green practices by different TCM stakeholders can build the foundation for crafting more comprehensive and extensive best practices to become norms for the TCM industry.

From the knowledge perspective, innovations on green practices allow in depth understanding of organizational behaviours and management which affect the decisions to innovate and standardize best practices which are green. Unsustainable practices have led to increased interests in green research which study practices that pose threats to the environment [31]. Because of more studies related to green initiatives and sustainability issues being conducted, many firms are now picking up green elements to be incorporated into businesses as a way for them to move forward [32,33]. Instead of being forced to practice green, organizations can take up the initiatives to practice green. In balancing the decisions to be green and profit maximizations, green is to be considered to make way for profit making [32]. Pro-environmental behaviours in organizations can lead to green practices by individuals within the firms. Green practices might seem vague and the impacts from green practices might only be visible when the effects from continuous and persistent efforts to be green are exported back to nature and Earth. Recommendations can be made on future research to study the nexus between change management, factors which encourage green practices and impacts from such greening. All these are expected to bridge the gap between theories and practices to achieve sustainability via understanding the behaviours that promote or prevent green practices and initiate change in the organization.

Objectives: The purpose of the study is to discover and understand green practices and innovations in the TCM industry. This study does not exhaust yet aims to present perspectives of TCM stakeholders which will be beneficial to the implementation of green in the TCM industry. An explicit understanding of TCM will allow green practitioners to develop more culturally nuanced policies and management—translate knowledge into development of clinical and management practices, policy and other technologies such as online platforms or systems.

The next section will present a synthesis of the available literature on the TCM industry and green practices in Singapore, and how green is related to TCM via innovation. The subsequent section presents an interpretative phenomenological approach (IPA) in obtaining answers for the research questions. The results and findings are then presented, with discussions on the implication of green practices in the TCM industry. Next, limitations and further research are outlined in the conclusions section.

1.1. Literature Review

A literature review of various researches cover elements which were mentioned in the study and allow researchers to understand how this current study can add on to the existing knowledge and system. The main objective of the literature review was to browse through previous studies on green, Traditional Chinese Medicine, innovations, standardization, roles of stakeholders in the organizations and sustainability. This is necessary to scrutinize

the key data and collect primary components which are up-to-date and relevant in order to conduct the most relevance to the current needs' research. A literature review of these abstracts, journal papers and secondary data formed part of the processes of this qualitative research design. As stated by Boote and Beile [34], it is crucial to be a scholar before furthering the role into a researcher.

The literature review approach was employed in line with the practice in the research work—to investigate what to study, the topics of interests, research problem, how to conduct the study and eventually produce a decent paper for this study. Being able to familiarize with all existing research and studies, collecting data and information from databases prior to collecting specific and relevant data which focuses on the topic of interest are basic to commence a research study [35].

The purposes for having a literature review can be further understood in three different areas. First, directions to conduct the study, based on reviewing different literature from previous and current work, source for problems and prevent the issues of being overloaded at the initial stage of data collection. Secondly, guidance to the researcher, so that he or she stays on the course in achieving the research objectives. Thirdly, the detailed process of reading and reviewing literature allows the researcher to immerse themselves in a vast range of relevant knowledge, from different perspectives and angles, industries and even countries, and build critical views and senses to analyze data and information which will be collected from the study.

The comprehensive understanding of academic development via extensive literature searches from different contexts (from social sciences perspectives—management, health-care) and apprehend the studied phenomenon or reality, as practitioners, are crucial to conduct this exploratory qualitative study. This qualitative study aimed to understand a phenomenon in its rawest states, with emphasis on the meaning, experiences and views of individuals who are in contact with the phenomenon [36]. Analysis is put into context to apprehend the complexity of human sense-making processes to get the subjective views, reasons and meaning that drive their actions and thoughts [37].

Searches using keys words “Traditional Chinese Medicine, Green, Innovations, stakeholders, businesses, management, sustainability” were done using different databases such as PubMed, Web of Sciences, Scopus, and Google Scholar at the initial stages during pre-conception of the idea, reading through different articles, journals and evaluating the industrial conditions before planning and execution, and finally coming to the decisions to conduct the study, and to ensure the novelty of the study being conducted (Figure 1). Searches were being done to conduct the study using terms such as “qualitative study, interpretative phenomenological study/approach”. The literature review and synthesis processes involved examining all aspects of the context in which knowledge is produced. Studies which were written in English on “traditional Chinese medicine, Green, Green Practices, Innovations, phenomenological studies, sustainability” in healthcare, businesses and management were browsed through to search for recent and updated articles in these aspects. Searches on specific terms such as “Stakeholder Theory, Resource Based View, and Natural Resource Based View” were expanded when the ideas and concepts for the study developed from reading of papers during the initial and later stages of the study. No time restrictions were applied, and all the relevant studies were published until 30 June 2022 (date of last search). Papers that provided relevance to research were chosen.

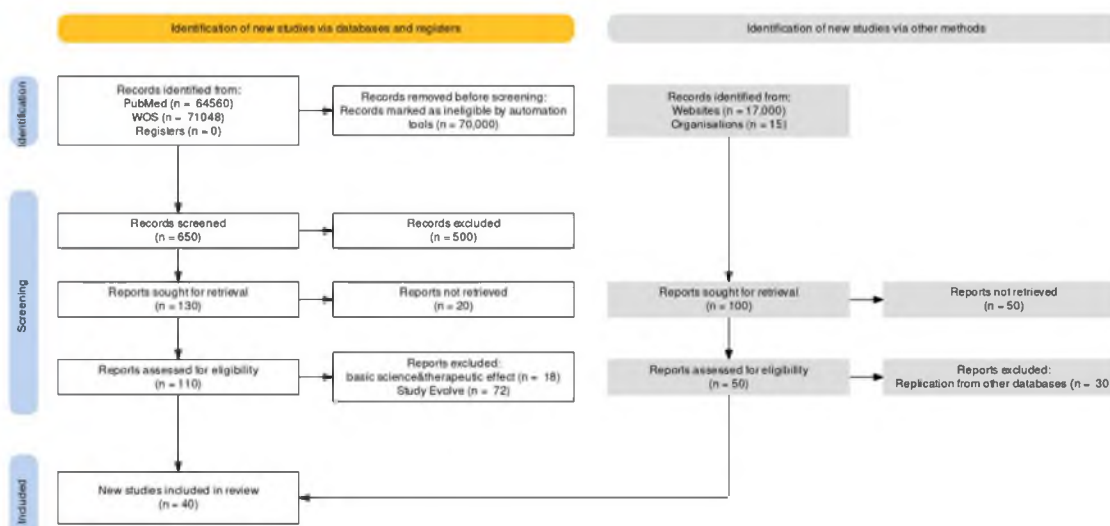


Figure 1. PRISMA as reference for Literature Review.

1.2. Overview of TCM Industry in Singapore

In Singapore, TCM is being approached scientifically, which is in conjunction with calls from World Health Organization that is to “promote universal health coverage by integrating traditional and complementary services into health care service delivery and self-health care” [38]. As Singapore’s populations are ageing, there are rising needs for healthcare. TCM is the traditional and complementary medicine that can reach out to the wider population in Singapore due to a deep-seated culture which believes in the effectiveness of TCM treatments [25,39]. As such, there are research grants by the Singapore government to study TCM and more structured education to train TCM practitioners are efforts to maintain standards of TCM healthcare in Singapore [40].

Traditional Chinese Medicine (TCM) has complementary roles in the healthcare industry and is widely accepted by Singapore’s communities [25,39] due to the influence of culture or initiatives from patients to seek complementary health supports besides having the mainstream western therapies [41]. TCM healthcare is available at private clinics, teaching clinics, charitable clinics, and public and private hospitals in Singapore. The operations of most clinics can be customized which provide agility and flexibilities to these small and medium enterprises. TCM practitioners such as herbalists, acupuncturists and physicians are under the regulations of the Ministry of Health Singapore [42]. Traditional Chinese Medicine Practitioners Board (TCMPB) is a government agency under the Ministry of Health Singapore which aims to register and regulate the TCM institutes and courses.

TCM is being regulated by Singapore’s Traditional Chinese Medicine Practitioners Act. According to the Act, TCM physicians and acupuncturists must go through professional trainings, examinations and registrations with TCMPB. Continuing Professional Education (CPE) Programme for TCM practitioners was first conducted in 2013 on a voluntary basis, which was made compulsory for all TCM practitioners after the enactment of the TCMP (Amendment) Act 2020 in Singapore [25,43]. This allows patients and the public to receive quality care from TCM practitioners who are in continual efforts to improve their skills, knowledge and performance [44]. Singapore’s reputations to drive the TCM industry and practitioners towards professionalism is globally acknowledged [25]. There are “Ethical Codes and Ethical Guidelines for TCM Practitioners” by the Singapore TCM Practitioners Board to impose “the minimum standards required of all TCM practitioners in the discharge of their professional duties and responsibilities in the practice of TCM in Singapore” [45]. There are more rooms for improvement of public trust in TCM [46]. Tremendous efforts have been poured in to upscale the professionalism of TCM practitioners in Singapore. All the conducts and practices of TCM practitioners have been meticulously monitored to ensure the quality of TCM healthcare and businesses [25]. There is also the development of

digital platforms with applications to digitise the TCM businesses and industry [25,41]. All these reasons are why TCM in Singapore is targeted in this study.

Moving towards Green in TCM

Herbal materials such as plants, animals, insects and minerals for medicinal purposes, are under the regulations of Health Science Authority Singapore [47,48]. Among the Chinese and societies which are influenced by Chinese cultures, TCM medicinal treatment is a popular choice by consumers in adopting healthy lifestyles [49]. People are looking for green and natural products to boost their immunities, especially in the current health crisis with COVID-19 rampaging the world [50]. The demand for different species of flora and fauna, such as pangolin, to be used in TCM treatments have raised concerns from conservationists about green in this healthcare domain. The supply to fulfil the needs for endangered species as stated in some of the studies [51–54] alarmed conservationists. Lack of understanding of the industry has made conservation work on plants and animals' species more challenging. The development of TCM towards being more evidently proven and the cultivation of sustainability in the industry through green practices have been encouraging though appear challenging under current conditions [51–55], due to the complexity of TCM theories and concepts which makes TCM less readily to be understood and accepted by many [56,57]. The uncovering and development of new ideas and biology systems will be beneficial to the verification of TCM values in modern sciences [55,58].

Changes in the culture and behaviours of people towards the environment are adaptations of humans towards changes in socioeconomic, political, technological and natural environments [59]. Short term success in changes of practices that are un-green can be tough. It involves active participation to develop knowledge and practices regarding the nature and the universe [60–62]. Incorporations of green in different industries, such as the TCM industry, in this study are possible if green practices are endogenous and practical to the operations and generate values to TCM stakeholders [63–65].

1.3. Stakeholder Theory and Natural Resource Based Theory

1.3.1. Stakeholder's Theory

Friedman proposed the Shareholder Theory in the 1970s which was published at New York Times under the article titled "A Friedman Doctrine: The Social Responsibility of Business is to Increase Its Profits" (Figure 2). Increasing shareholders' values is the prime aim in Shareholder Theory [66]. There is little to no emphasis placed on social responsibilities [67]. In 1984, the book "Strategic Management: A Stakeholder Approach", Edward Freeman detailed the stakeholders' approach in the pursuit of wealth for stakeholders in the organizations, with minimal trade-offs (1984) (Figures 2 and 3), and the theory has evolved since. Shareholders are not the only stakeholders under Stakeholder's Theory; rather, the stakeholder is defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives" [68,69] (Figure 3). Businesses are viewed as the system to create values for stakeholders. The theory linked businesses with values creations while maintaining business ethics at the same time. Stakeholders are internal and external parties whose interests are tightly connected with the performance of the company and are affected by actions, operations and goals of the organization. The study aimed to understand the link of green practices which have social impacts with the economic values of businesses, from an innovations point of view.

Freeman and co-researchers stated that Stakeholder Theory has three distinctive elements which talk about the cooperation of human actors in the system, with values, ethics and norms which are parallel with the growth of companies and such alignments include considerations, contributions and impacts (be it negative or positive) to the world [70]. The roles of stakeholders in the interactions between businesses and their environments are said to affect the designs, implementations and transformations of the business towards more sustainable models [71,72]. Stakeholder is defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives" [68,69]. Businesses

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1.3.2. Natural Resource Based Theory

Hart (1995) introduced the Natural Resource Based view, which talked about creating a competitive advantage based on the capabilities of firms to develop sustainable development while having positive relationships with the environment [73]. The capabilities which were being emphasized in the NRBV are pollution reductions, product stewardships and sustainable development (Figure 4). The theory can be presented in the study which aims to understand practices to reduce pollutions, how green practices affect the development of TCM businesses, its operations and services to be sustainable for the organizations, their patients and customers, without compromising on the quality and core capabilities of TCM healthcare services. Perspectives of stakeholders are important and must be incorporated into the practise of the theory [74]. The focus of the study was the green practices of TCM organizational stakeholders in TCM businesses in Singapore (Figure 2).

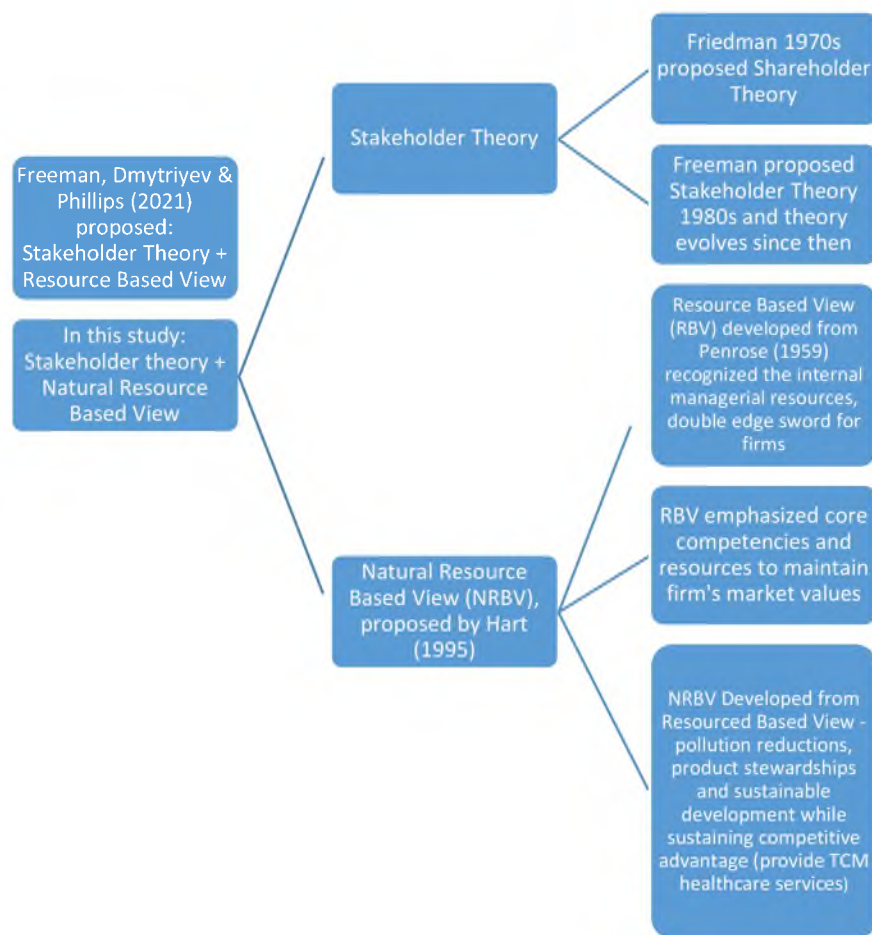


Figure 2. Fusion of Stakeholder Theory with Natural Resource Based View [73,75,76].

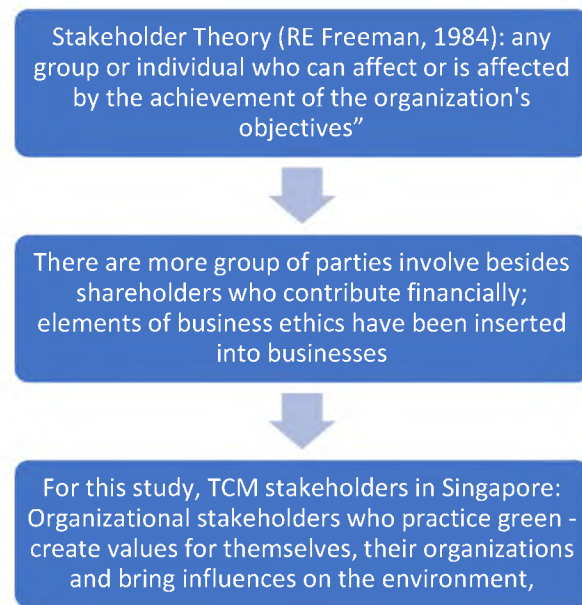


Figure 3. Stakeholder Theory [68,69].

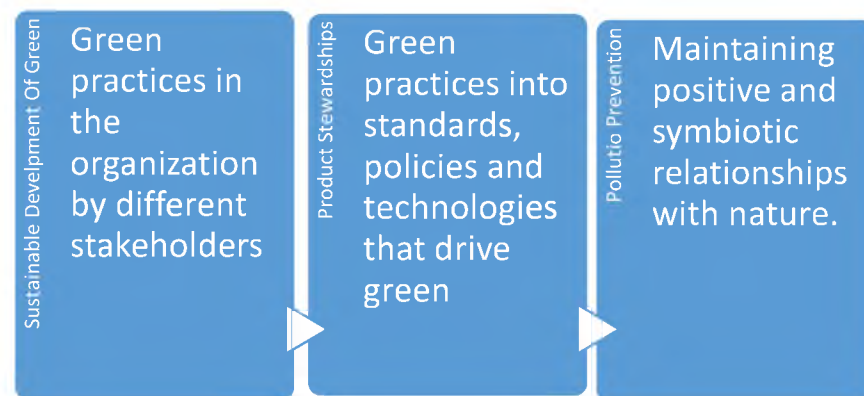


Figure 4. Natural Resource Based View [73,74].

Organizational Stakeholders: TCM industry stakeholders play an important role in ensuring the adoption of green practices because they are the executors and decision makers who affect the adoptions of green into their practices. Hence, it is crucial to explore green practices and innovations of these stakeholders, judging from the significance of their actions on the environments and continuity of businesses. According to Henriques and Sadorsky [77,78], there are four critical environmental stakeholders, namely regulatory stakeholders, organizational stakeholders, community groups and the media. In this study, the targets are organizational stakeholders who are professional, such as herbalists and licensed TCM Physicians (with qualifications which are recognized by the authorities), who practise green in their daily work through treatments, operations and administration of the clinic, which also include the interactions of TCM businesses with other stakeholders and the environments.

1.3.3. Fusion of Theories

Hart (2011) recognized the roles of managers and employees in firms' perception towards the natural environment as a threat to businesses or the drive towards profitability. The elements of stakeholders had been mentioned in Hart's study [79]. Freeman and colleagues offered views on how Stakeholder Theory can provide a resource-based view and integration of both to support strategic management, in terms of normativity, sustainability, people and cooperation [75]. As proposed in this section (Figure 4), the Natural

Resource Based View is integrated with Stakeholder Theory [79,80]. Sets of beliefs, norms and values of society steer the firms' strategies closer to the firm's goals and directions of the world [81], with sustainable ties and interactions with different actors within the events. Instead of solely emphasizing on the profit-maximizing roles of firms, emphasis also places on the social contributions to the environment and Earth, which is in coherent with the sustainability concept in the Natural Resource Based View and Stakeholder Theory [76,80]. People are cores to an organization to create a compatible advantage and build resource capital, in the forms of financial resources, manpower, physical resources, organizational resources, technological capabilities, intangible resources, economic and social capital [82]. Cooperation and competition are imperative to the growth of the company [83,84]. Managers are to cooperate with different stakeholders, build the capabilities of the firm and compete with competitors. In the quest to be better, firms are forced to expand on their capabilities to stay competitive [75]. The study extends such fusion into stakeholders' theory with a natural resource-based view, to understand the environmental impacts of green practices by management and organizational stakeholders through innovations. The fashion of green implementations in an organization is influenced by the innovations of firms' valuable assets: (a) creation and maintenance of sustainable relationships with organizational stakeholders who are the keys to business performance, while (b) ensuring sustainable connections with their environment [85].

1.3.4. Gaps to Be Bridged

When combining the Stakeholder perspective with the Natural Resource Based View (Figure 4), ethical and social responsibilities towards the environment have been taken into considerations with strong interest in such aspects [69] (Jay B Barney, 2018). The Resource Based View looks at the sustainability of competitive edge; whereas the Stakeholder theory looks at sustainability in terms of relationships with internal and external stakeholders [76] (Freeman and Dmytriyev, 2017). Impacts from combining and applying both theories can be extended to firms, when natural and environmental elements are being included into firms' practices. TCM organizational stakeholders in Singapore were targeted in this study to understand the practices of organizational stakeholders in respective firms, which generate environmental impacts, whether these impacts are positive or negative. Gaps in the responsibilities of stakeholders and businesses towards the environment can be filled via change in the perceptions of green in the eyes of businesses, when green is not only adopted and adapted by large firms but also firms of all sizes that demand innovative interventions.

1.4. Importance of Green, TCM and Businesses

Capra (2002) [86] stated that ignoring the link between business and its environment can eventually lead to collapse of the business. This notion derives from the idea that the environment plays a major part in providing the resources and space for businesses to grow. Neglecting the responsibilities to be green and continuing the exploitation of green natural resources at the expense of others can deteriorate the Earth and the creatures living on Earth [17]. The purposes of the study were further explained in this segment.

The environmental footprint from SMEs such as TCM businesses, might be low but the aggregated impacts from these SMEs can be comparatively consequential [87]. It is imperative for SMEs to be aware of their roles in green and protecting the environment. Moreover, green also presents opportunities for businesses to innovate [1]. Green initiatives have become increasingly important as people are aware of their environment and the pollutions that are damaging the environment [88]. As such, there is more emphasis being placed on getting nutritious, healthy and green food, which is good for health with minimized damages to the environments [89]. Being green in terms of entrepreneurship is becoming relevant as there are more voices on being environmentally friendly [90], while maintaining the quality of lives and performances at large [91]. The holistic concept, which is being heavily emphasized in the practices and treatment of Traditional Chinese

Medicine [92–95], has made it a viable choice for researchers to study the green practices in different aspects of TCM, its management, and its applications in daily lives.

There are varied ways to practise green, from person to person, from company to company, as long as the green practices benefit the environments and future through human action. In business, large firms have the resources to practice green, whereas many small firms lack the financial, professional and human resources to put green ideas into practices. Entrepreneurships bring economic contributions and generate values to businesses. Green in entrepreneurships does reflect the intentions and actions to be positive in terms of environmental protections while making profits and generating values for the businesses [96].

Traditional Chinese medicine has potential in improving health [97] especially when preventing and treating diseases [98,99]. There are more than eleven thousand herbs which were recorded in different Traditional Chinese medicine (TCM) pharmacopoeia [100]—for instance, Chinese Pharmacopoeia (ChP) and European Pharmacopoeia (EP) [101]. The abilities to link food, herbs, innovations, services and incorporate them into green entrepreneurships, which are then translated into standardized best practices and services that roll out to the public in general, are utmost crucial to successful businesses. It all boils down to the creativities of the managers to manage and coordinate the abilities of TCM practitioners in forming the formula for patients and educating them in using TCM health concepts, a herbalist to handle herbs and food in safe and conducive environments and the roles of other stakeholders in the ecosystem. The ecosystem can be different in different countries.

Traditional Chinese Medicine (TCM) is also known as traditional medicine or complementary medicine [102,103]. The regulatory system of TCM can vary in different countries. Some countries might define TCM as drugs which require them to be subjected under assessment of stringent requirements [104]; whereas some might consider the unique qualities of TCM and categorize them as non-medicine [105]. In Singapore, TCM practitioners are under the regulations and supervisions of Traditional Chinese Medicine Practitioners Board (TCMPB) [45]. The use of herbal materials in TCM which include herbs and proprietary medicines are under the regulations of Health Science Authority Singapore [106].

Being green is one step closer to sustainability. The green efforts and practices to steer businesses towards sustainability [107], the sharing of knowledge, and the research outcome are expected to bring innovative ideas of how businesses can adapt and adopt green initiatives to achieve sustainability.

1.5. Green Practices, TCM and Innovations

Although there are different studies on green over time, the study subjects and their environments also evolve through years [108–112]. Research can continue in different fields from various perspectives, while everyone works towards creating a green working environment and living conditions for a sustainable future. Businesses in different industries have different practices and innovations to be green when selecting strategies, dynamic mechanisms and implementation plans to achieve green outcomes. The consistency in deciphering the definition of green practices in the TCM industry is a challenge as searches from databases yield green practices in different industries, under different contexts and settings [113]. Moreover, TCM organizational stakeholders foster multilateral interactions, which are not confined to interactions within the organization, but also interact with other stakeholders in the TCM industry and other industries. Hence, the definitions of green practices in this study can be understood from: (i) upstream green practices which involve interactions between businesses and their suppliers; (ii) green practices within the firms such as operations and administrations which are not visible to outsiders (intangible green practices); and (iii) downstream green practices when delivering services or products, and activities which involve an information exchange between businesses with their downstream partners [109].

Illnesses and health are being understood and treated conceptually using TCM, which is something that differs from modern western medicine. TCM, being one of the oldest form of traditional and complementary medicine [114], uses Yin-Yang “Wu Xing” theory that depicts the relationship of five Organ “Zang” with their physiological function, interactions (“XiangShengXiangKe” and “XiangWuXiangCheng”) with various parts of human body, and the association of each body part with the surrounding environment [115,116]. The holistic approach places emphasis on the integrations of humans and their environments [117], boosting the body’s functions against pathogenic factors [55]. The Medicine and Food homology (MFH) concept [118–120] is thought to be green [121–125]. Food can be medicine and vice versa, depending on the dosage, methods of preparations and usage [126,127]. The health-promoting effect from MFH is encouraging as right choice of food and intake amount are essential to life. Food is an important component of social lives, supplies energy, and improves health [128–130]. “We are what we eat”—the food that humans eat presents identities, culture and ideas about our lives [128,131–136]. The concepts of what kind of food makes up healthy food changes throughout the years, depending on the ideas about life and which components people understand as “healthy”, based on their needs and knowledge about food [137]. The current trends of advocating for green ideas and eating the right food is essential for sustainable health [130]. Human impact and reliance on the environment drive green practices that lead to innovation and consequences on humans’ lives. With increasing adoption of TCM worldwide [138], more studies on TCM treatments and herbal medicine which include Chinese Materia Medica and proprietary Chinese medicine from composite formulae to address concerns on the safety and efficacy of herbal medicine [139,140]. Scant attention was placed to understand how green can be connected to TCM in these studies.

Understanding TCM is imperative to preserve the environment. Innovations affect practices that protect the environment and businesses’ performance [51,141]. Developing green practices in various aspects of firms via innovations requires optimizing existing resources and knowledge, which might not be maximized at the time of firms’ green practices development [114]. Innovation is required for incorporating green practices and enlarging existing green practices in management, services and products. Innovations provide a competitive advantage to firms [114,117]. Go green are measures that firms approach to reduce their environmental footprint and make businesses more sustainable by engaging in green practices, and by sourcing for new resources, products and services which are more ecofriendly [142,143]. To facilitate the adoption of green practices, these rely on the creativity and innovation of the executors [144]. Previous studies have shown that green initiatives can be tackled from purchases and interactions with suppliers, management practices and operations [145,146], power usage, products and services innovation [147–149], designs [135,136,150,151], technology [152–154], building [155–158], green living and others. Obtaining the exclusive views of TCM stakeholders on green practices and innovations are compelled for firms to survive in highly competitive markets.

Despite various studies which featured green initiatives, any innovations in the Traditional Chinese Medicine industry were minimally visible. Green is a critical attribute to sustainability. With avid call to return to natural living, urges from World Health Organizations and countries to push for sustainability practices and efforts to be green in organizations and daily lives are inevitable in the foreseeable future. The recent Climate Change Conference by United Nations, and calls from leaders of different countries to reduce carbon emissions, are wake-up calls for the industry to structure the roles of businesses, organizations, and recalibrate the administrative and operational features to drive towards a greener and more sustainable industry. Looking at previous studies on green initiatives, knowledge sharing, innovation and standardization in TCM industry, these ideas were pieces here and there. Hence, they cannot be considered as complete and only include a small portion of different industries around the world.

2. Methods

The study took a phenomenological approach in interviewing five organizational stakeholders who are herbalists and TCM physicians, that work or have worked at TCM clinics in Singapore, to explore stakeholders’ perceptions of climate and environmental issues and understand how they perceive and practice green. Purposeful sampling was employed. Criterion (Table 1) and convenience sampling strategies were used for collecting samples for qualitative research. It involved the processes of sending invitations to potential participants with a known background and experience in TCM, selecting target samples which are willing and have information that are needed to study the phenomenon of a social condition [159]. A purposeful sampling method was employed due to limited resources, time, availability and willingness of study participants to participate in the study [159,160]. In order to understand green practices in different TCM business settings (TCM clinics), TCM organizational stakeholders such as herbalists and TCM physicians had been recruited to share their lived-experiences on green practices from their contexts. Figure 5 showed the overview of the study.

Table 1. Inclusion and Exclusion Criteria for Study Participants.

Inclusion Criteria	Exclusion Criteria
(a) TCM stakeholders in Singapore	Those who have no experiences in TCM, neither study nor have worked in the TCM industry in Singapore
(b) Trained in TCM, either study or work in TCM industry for years to have appreciated, experienced and sufficient understanding of TCM in Singapore	
(c) Assumes roles as herbalist, TCM physicians or other related roles in TCM clinics such as clinic managers or therapists, full time or part time, at TCM organizations in Singapore	Customers and patients are TCM stakeholders who will not be included in the study as they do not work in the TCM industry in Singapore to apprehend the operations and administrative parts of TCM
(d) Able to converse smoothly and consent to join online interviews	Are not able to converse ideas through online interview and not willing to join the study

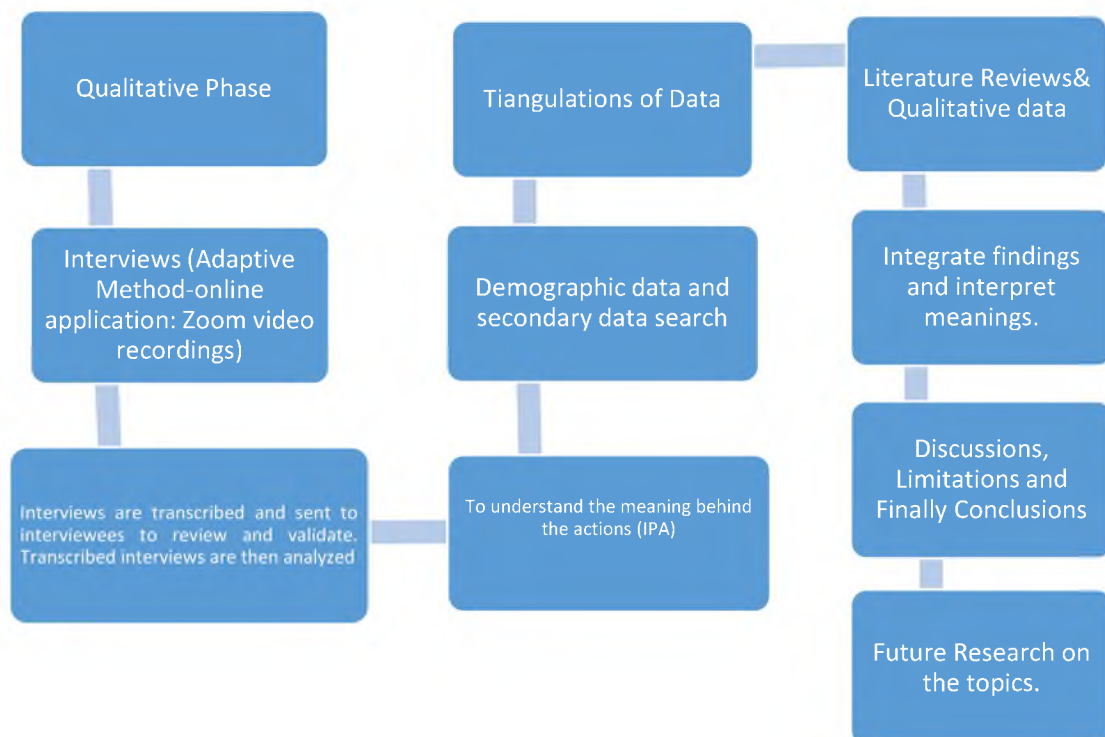


Figure 5. Research Overview.

Sampling might mean that certain populations will be missed during the sampling processes. Hence, such sample might not represent the whole population (Figure 6) [161,162]. In fact, the study does not mean to generalize a population. It aims to understand the phenomenon of green practices in a homogeneous sample (TCM stakeholders) in Singapore.

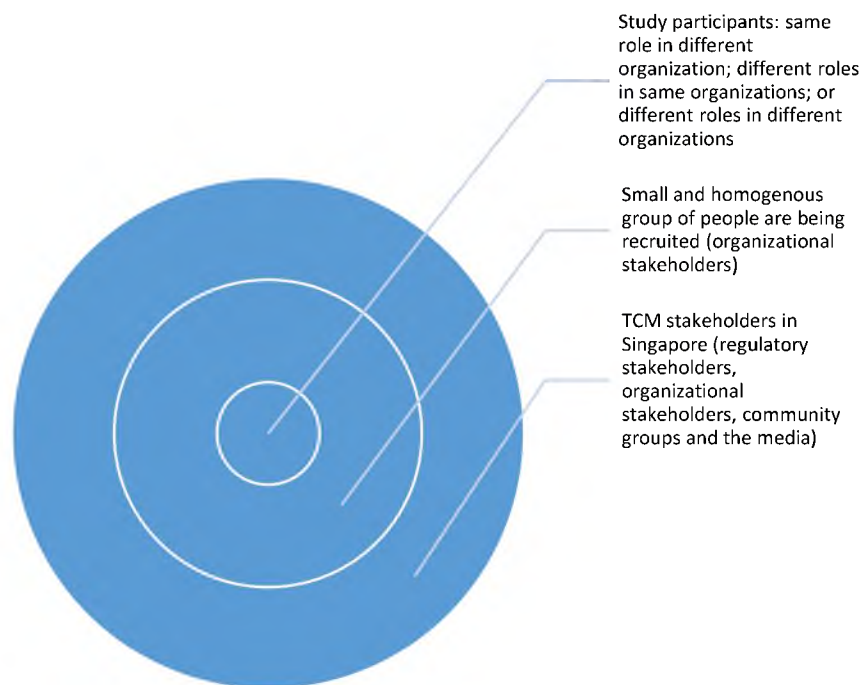


Figure 6. Sample for the study.

Interviewees were contacted via mobile applications and emails, using an informed “opt-in” approach. The adaptive interview as proposed by many researchers [163] using communication software was selected, due to the outbreak of COVID-19. The study adapted online interviews as a research method for needs to maintain social distancing and take care of everyone’s safety. Software for communications and interviews were installed and checked before the interviews. Study information, interviewees’ rights, and recordings of interview sessions for the purposes of research were informed before commencement of the interviews. After the interviews, the interviews were transcribed and sent to study participants for review and validation (Figure 7). Study participants were allowed to provide additional information. The study protocols were refined every time after the interview, so that the interview questions and processes could be streamlined. All interviews lasted between 40 min and 60 min, with an average length of 50 min, followed by an interview protocol. The interview questions have a semi-structured form, in which the interviewer probed for more clarifications during the interview such as “why do you think so?”. The interviews which were conducted in the month of June and July 2021 were analyzed in this study. The focus of the questions revolved around:

- (a) Green practices in the TCM industry;
- (b) Challenges to be green in Singapore’s TCM;
- (c) Innovations to practise green by TCM stakeholders in Singapore.

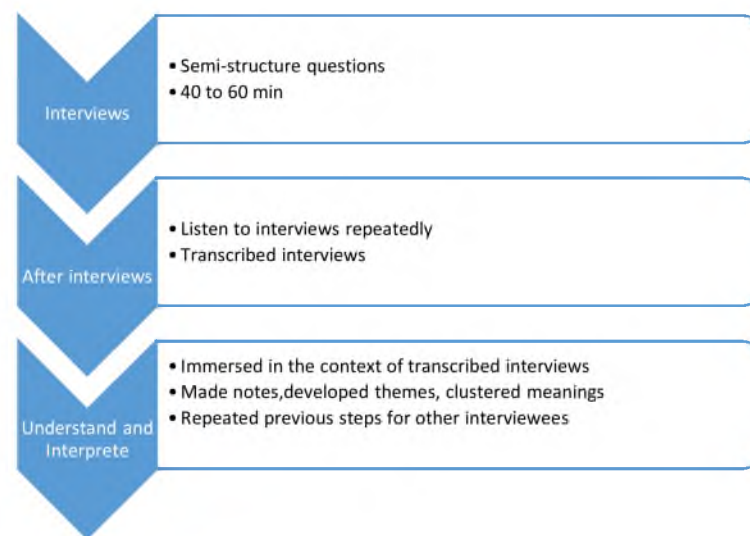


Figure 7. Study Methods.

Interpretative phenomenological analysis (IPA) was used to analyze the transcribed interviews. Using IPA, the study seeks to understand the experiences from the perspectives of the study participants. Under IPA, there are two important components which are:

1. Study participants understand the experiences in their contexts;
2. Investigators try to put themselves in the shoes of the study participants and appreciate study participants' experiences.

IPA can be employed to understand and examine psychological concerns or needs of the subjects being experimented [164]. Understanding others' lived experiences with responses such as "regretting, remembering, disappointing and others" through IPA, researchers are able to expand their existing knowledge base, taking a participants-oriented approach to appreciate the meanings of their lived experiences. Lived experiences of study participants refer to the perspectives and relations of interviewees with their surroundings and the world. As everyone has his/her place in the world, descriptions of incidents through lived experiences from individual's perspectives provide insights into how things were perceived in the individualized context [165]. Analysis is put into context to apprehend the complexity of human sense-making processes to get the subjective views, reasons and meaning that drive their actions and thoughts [37].

2.1. Data Analysis

2.1.1. Reading and Making Notes

After each interview, interviews were being listened to repeatedly before being transcribed. Transcribed interviews were then read and re-read to apprehend the interviews from the contexts of study participants. The purpose of these listen-transcribe-read and re-read processes was to familiarize and immerse in the context of the interviews. The initial thoughts that came across when going through the interviews, were written in the comment sections of the transcribed files, using open annotation [166–168]. There is no rules or guidelines of what can be written [169]. The interviews transcribed were not only read and understood from the surface of the words, but the meaning behind each quote of interest was considered and carefully deliberated to appreciate what the study participants were trying to bring up through their speeches.

2.1.2. Emerging Themes

After the processes of reading and reviewing, with notes produced from reading, links were searched to connect themes with all relevant quotes. Notes from comment sections were read and looked through to generate superordinate themes for the study. As themes were developed for the first study, and extended into the next study, the same steps of reading—making notes—developing themes—searching links were continued, to gather themes and group quotes under similar themes. Subordinate themes were developed in the process.

2.1.3. Searching for Connections and Connecting Themes

After the development of the themes, from one case to another, themes under the same umbrella that appeared interconnected were gathered. Some appeared as subordinate themes which are closely related with other themes in the similar groups whereas some had entirely different concepts or ideas. The processes of understanding interviews and associated data were followed by searches for quotes, theme developments, connections seeking and linking until these patterns for themes were identified, refined and finalized [168].

The analysis of lived experiences of study participants proceeded from a single study, which can be analyzed in the form of a case study, then progressed to an analysis of subsequent study participants from multiple levels of perspectives, expanding the scope of analysis and at the same time, gaining different understandings in the form of case studies from different interviewees. When more study participants are recruited, narratives were developed to connect lived experiences with other factors, identifying similarities and individual characteristics which brought out the participants-oriented data and information [165] (Figure 8).

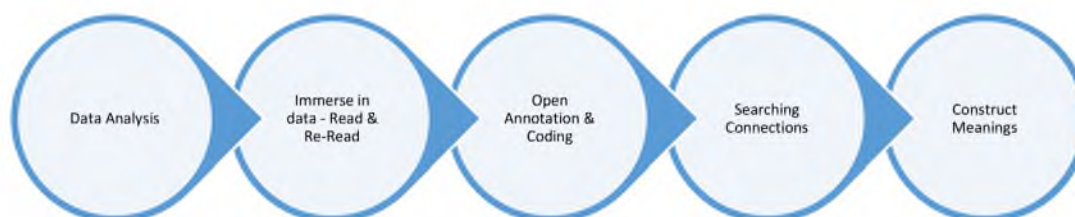


Figure 8. Repetitive Processes: Analysis Qualitative Data from Interview.

2.2. Trustworthiness and Credibility of Data

There were concerns that the researcher will be inclined to drill their researches towards the direction of achieving the standards of trustworthiness by looking at their ultimate results, instead of their step-by-step efforts in achieving the results. Post-evaluation of research might be too late to be rectified until it is too late when the studies are completed. Qualitative researches need to be constantly checked and validated; investigators need to propose and conduct their researches, review and evaluate their interviews with different participants, ensure clarity of questions and consistency in questioning and data collecting methods, use of appropriate tools and ways of acquiring information which are necessary for data analysis [160,170,171]. The actions of reviewing and continuing to self-reflect on data collection methods enables the researchers to proceed, stop, modify and re-proceed with modified steps, with research notes taken for these purposes [172]. There is no fixed number of samples which is required for IPA, which depends on the richness of data collected and the commitment of study participants into the study [173–175]. This study employed steps which were shown in Table 2 to establish trustworthiness of data.

Table 2. Steps in Establishing Trustworthiness of data for IPA.

Phases of Analysis	Means of Establishing Trustworthiness
Phase 1: Familiarizing with the data	Prolong Engagement with Data Triangulated different data collection methods Documented reflective thoughts Documented about potential themes Stored data well
Phase 2: Identifying statements, making initial notes and Generating Initial themes	Kept record of all notes and data, and reflections Documented all notes and reflections throughout the study Identify statements and generate themes Triangulations of data
Phase 3: Bracketing, interpret and clustering meanings for themes	Made senses of themes which were generated and searched for connections Kept detailed notes of the processes of development of themes (Comments in the transcribed interviews)
Phase 4: Repeat steps in identifying statements, generate themes and clustering meanings in next cases.	Repeated the process of refining and connecting themes Made documentations of any changes and reflections, with justifications
Phase 5: Defining and Identifying Patterns and Themes across different cases	Refined and finalized the themes from different study participants Made documentations of any changes and reflections, with justifications
Phase 6: Producing Report	Described the process of analysis of data to search for final themes Combined with other methods: literature review, data from other sources and combined with data from study conducted

3. Results

3.1. Characteristics of Study Participants

Characteristics of study participants were shown in Table 3 and findings are presented in the themed Table 3. Study participants were immersed in the experience of green practices and discussed possible innovations in TCM industry. All but one have at least tertiary education and were professionally registered as TCM Physicians. Participants tried to identify green practices and innovations through their work in the TCM industry. They recognized the need to have green practices, understood green practices from their perspectives and acted according to what they thought are green practices in their position creatively.

Table 3. Characteristics of Study Participants.

Interviewee	Years in Industry	Occupation	Descriptions
1 (I1) (Interviewee 1 (I1)) (20 years of experiences)	20	Herbalist	Almost at the age of retirement. Passionate about TCM, I1 specializes in herbs and TCM dispensary. I1 was very outspoken and willing to share. I1 is a herbalist and is going to retire soon.
2 (I2) (Interviewee 2 (I2)) (11 years of Experiences)	11	TCM Physician	I2 was helpful and willing to share all that I2 knows. I2 has a double degree in Biomedical Sciences and Chinese Medicine, and Master's degree in TCM. With I2's knowledge and experiences as TCM Physician at private clinic, I2 passionately shared her views.
3 (I3) (Interviewee 3 (I3)) (9 years of experiences)	9	TCM Physician	Graduated with double degree programme in Biomedical Sciences and Chinese Medicine, I3 is furthering her master studies. A full time TCM Physician, who is also in charge of educational programme. I3 managed students' related affairs and arranged students for internships.
4 (I4) (Interviewee 4 (I4)) (11 years of experiences)	11	TCM Physician	A part time TCM physician, who used to practise full time. I4 graduated with a double degree in Biomedical Sciences and Chinese Medicine, and with a PHD in TCM. I4 enthusiastically shared her opinions on the topics
5 (I5) (7 years of experiences)	7	TCM physician/Graduate Student	Being a PHD student now, I5 is very keen to share her views on the matter. A graduate of the double degree programme in Biomedical Sciences and Chinese Medicine, I5 also has experiences in clinic administrative matters when practicing in TCM industry.

Possible Themes were shown in Table 4.

Table 4. Themed Table.

Superordinate Themes	Subordinate Themes	Quotes						
1. TCM is Green	<ul style="list-style-type: none"> • Theories <ol style="list-style-type: none"> 1. 2. 3. 4. • Treatments • diagnosis and work-related processes <ol style="list-style-type: none"> 5. 6. 7. 8. • Others 	<ul style="list-style-type: none"> • "... Tian-Ren-He-Yi like how human ... how we are supposed to be in sync with the environment to better optimize all the processes ..." (I3) <ol style="list-style-type: none"> 9. 10. • "... external treatments are like acupuncture, massage, tuina, these treatments also include words therapy, therapy for heart—"word therapy". Like this is quite green, do not need to use too much things ..." (I1) <ol style="list-style-type: none"> 11. 12. 13. • "... treat minimally ... there are instances where by you don't think they need a certain treatment then don't need to do ... for example for pain management patients right, so some of them come in with the idea that eh they should be doing for example acupuncture. But in actual fact ... Maybe cupping would do the trick. ..." (I2) • "... ... due to global warming the natural environment of our herbs plants and animals may be destroyed so these are the parts we can work on better, to cultivate them in a more sustainable manner." (I4) 						
		2. Lack of awareness	<ul style="list-style-type: none"> • Attitudes towards Green Practices <ol style="list-style-type: none"> 14. 15. • How to be "Green"? <ol style="list-style-type: none"> 16. 	<ul style="list-style-type: none"> • "... I also not very certain about the definition of green but in my own interpretations, green involves things which can be reused like being renewable and sustainable and in treatment wise ..." (I3) • "... the identifications of green practices itself is quite a challenge already because we do not know what constitutes to the green practice so there lacks of awareness so if we know then we can practice more and be better at it." (I3) <ol style="list-style-type: none"> 17. 				
				3. Innovations, research and Development to be green	<ul style="list-style-type: none"> • Industry—Changes in TCM <ul style="list-style-type: none"> • Herb powder • Recycle Wastes 	<ul style="list-style-type: none"> • "I used the TCM scale steelyard "dengzi" to weigh the medicine, but now I use the electronic weighing scale."; "At that time, decoction from decoction service in TCM was put in a kettle, and the patient had to get the medicine (from clinic) every day." (I1) • "I would think that Generations of physicians are getting younger. And then we are also seeing more patients from wider age range as well. For example, young parents bring their little children for TCM consultation and maintenances of wellness." (I3) <ol style="list-style-type: none"> 18. • "... I feel that medicinal herb powder is used more commonly in local nowadays ..." (I1) • "... Very convenient to the patient they just need to add hot water, no need to cook so no risk of getting your herbs burn and wasted ..." (I2) <ul style="list-style-type: none"> • "... Modern people do not have this time. Pill or powder is easier." (I1) • "... things are going online then more students are using their own gadgets to view the materials I think less paper being wasted ... there is another kind of energy being waste like the electricity and battery and chemical it is just a shift of utilization of materials." (I3) • "... herbs residues can be reused, may be used as fertilizer, or can be used ... because in Singapore, someone is using kitchen waste to generate power, if I'm not wrong, kitchen waste for power generation ..." (I1) <ol style="list-style-type: none"> 19. 		
						4. TCM and healthy lifestyle 20.	<ul style="list-style-type: none"> • Herb as food and food to treat <ol style="list-style-type: none"> 21. 	<ul style="list-style-type: none"> • "... TCM is about lifestyle ... is a holistic thing so the whole notion about the environment person as one. so, we are essentially affecting our environment and our environment will affect us la ... so with this in mind, we should be more mindful of our practices."— (I2) • "... in TCM we celebrate moderation. so, everything doesn't use in excess. so, lifestyle or diet or that ... just enough is good enough right ... you dun have to go beyond that ..." — (I2) • "... we can encourage patients to do more of the TCM exercises like taichi and qigong ... that can help to improve or benefits the health instead of relying on medicine and herbs. So there are a lot of changes in daily lifestyle that can be implemented alongside with TCM treatments I think even meditations ... breathing exercises ..." (I3) • "... Fengchi acupoint when we are not feeling so well, we can also use hair dryers to blow it there to give it warm and help to prevent cold. These are little kind of innovations we use in daily life."

Table 4. Cont.

Superordinate Themes	Subordinate Themes	Quotes
5. Acculturating Green	<ul style="list-style-type: none"> Innovative Knowledge Sharing 22. Incentives and Punishment System 	<ul style="list-style-type: none"> "... it is about letting them to see the why we need to practice green in the business setting How you can improve the work flow and it actually generate more green" (I4) 23. 24. 25. "Sometimes there are needs for fines to be imposed. Punishment. Sometimes you have to make him feel . . . "Think before you do it, do you want to pay that price?" (I1) "... . . . the consequences of not being green has to be made aware so that we know that little action we do actually count to certain outcome . . . " (I3) 26. 27.

3.2. Theme 1: "TCM Is Green"

All interviewees agreed that green is ingrained in TCM. The theories are thought to be green as it involves humans and their bodies' interactions with the environments. The holistic concepts in TCM emphasized that healthy states of bodies can be achieved when balances within the body and with its external environment are attained.

3.2.1. Treatments

Interviewees thought that TCM is green, in its treatment and practices, as compared to western medicine. The use of herbs and animals which can be obtained from natural sources are green (I3 and I4), instead of using inorganic chemical compounds to produce medicines. The maximized effects from optimized treatment methods—with minimal use of materials and waste productions—are achievable in TCM treatments.

I2 resonated the thought, in which TCM physicians "don't treat excessively" or choose method which "produce least of waste or the methods that require the least amount of materials use". Example: Paediatric massage which uses hand manipulations, requires no tools or materials and produce good therapeutic results for children (I2).

Use of advanced tools such as smokeless moxa sticks (I2) and treatment methods such as *tuina* which involve humans' efforts, are considered green (I3). The practices to refine treatments' proposals by TCM physicians involves experiences and continuous efforts in upgrading their knowledge to craft out the best treatment plans, with optimized usage of tools, counteracting the imbalances which affect patients' health.

3.2.2. Diagnosis

Bilateral interactions during consultation in TCM patient care as diagnostic methods are green, according to I1. These are applied by I2, I3 and I4 in their daily consultations. All these TCM practices are daily activities in TCM clinics and settings that are being repeatedly done by TCM practitioners, in which the green in these practices have not really been unearthed and clarified. Awareness about green, knowledge requirements and innovativeness of TCM physicians are keys to successful green patient care, through constant monitoring of patients' health. The participant believes in minimal treatment, but functionally and strongly reducing patients' pain was more effective in the process of rejuvenation and healing. For instance, not all pains are resolved through acupuncture when cupping alone can be a single therapy for specific patients.

3.2.3. In Daily Work Processes

I2 shared views on reducing waste from efforts to be precise when weighing dried herbs by herbalists. The packaging of herbs was also considered green by I2—the same sentiment shared by I1.

"... packaging wise TCM quite green with the usual like paper package . . . " (I2)

"... we say use paper to pack, paper to wrap herbs . . . " (I1)

3.2.4. Others

I4 and I5 defined sustainability as green in TCM. The link between green and sustainability is undeniably affecting the longevity of businesses [176], especially businesses which depend on the usage of natural resources to keep their business running. Natural resources will deplete without control on their usages. Conserving the natural environment through green practices and inclusivity of green elements into the TCM industry can ensure the legacy of TCM to last for another few centuries or even longer.

3.3. Theme 2: Lack of Awareness

Interviewees mentioned that lack of green awareness is a challenge to implement and innovate green practices in TCM. I2 added that resistance to change is another problem to greening of the TCM industry. People do not behave green because they are green-minded, but they act green unintentionally. They can adapt and adopt green practices, but these are being carried out habitually, without knowing that these practices are actually green (I1 and I2). Nonetheless, being habitually green at the workplace in a professional context could indicate the long existence of green integration in TCM, to minimize negative impacts on the environment [177].

Interviewees raised issues about lacking in green implementations, as I4 thought that the holistic concept is not being fully understood and practiced in operations.

“ ... I think we do achieve the holistic principles so the theory is there but how to implement in the operations is not yet there.” (I4)

Lack of initiatives and purposes to be green, as suggested by I4 when discussing about recycling of acupuncture needles: *“ ... it is not like we are running out of metal or needle kind of things”*, that people do not have the motives to be green, as they think that resources are abundant and green actions are not required to salvage the environment. Green consciousness and sustainability knowingsness [178] do not necessarily convert into green behaviours by decision makers and executors in the TCM industry.

3.3.1. Attitudes towards Green Practices

Benefits from green in businesses are important and cannot be ignored. However, businesses are hesitant to be green, as being able to prosper when implementing green practices will be a decisive factor for continuing the green practices in organization and the industry in the future (I1). As resonated by I4, the economic value of practicing green has become a concern. Industry producers viewed that negative return could emerge when adopting green policies and practices. As such, green needs to be cautiously promoted because having the capacity to be green can be a double-edge sword.

“ ... I think it is about carrot and stick. If you have carrot to lure people to be more green I think it will help but the stick right is not very obvious because everyone is just really more concerned about their daily work, how they improve their own operations and their business, no one is thinking about ten to twenty years' time.” (I4)

Implementations of green in various organizations extended into different degrees. The success and effectiveness of green practices and programmes in preserving green depend not only on the systems and operational processes but also rely on the acceptance and behavioural changes of humans to embrace the benefits from green practices. Commitments from businesses to carefully craft out plans and persistently carry out green practices are vital to undying motivations to be green [179,180]. Negative impacts from un-green activities will undoubtedly lead to catastrophic environmental events. Industries' moral obligations to the environment translate social responsibilities into opportunities and benefits from behaving green, and transforming green practices from political pressures into becoming economics tools [181]. People need reasons to be green, as stated by I4, and the motivations need to be sustained in the long run for green behaviours to persist. The realizations and desires of the public to contribute for the greater good and to build

a sustainable Earth for future generations fuels public appeal to behave green, gradually developing social green behaviours and norms [182].

Individually, green efforts are done on executors' initiatives. It is set as *"a personal preference"*, self-driven and based on proactive actions, as mentioned by interviewees. Appreciation of green drives its adoptions and adaptations as they relate to the idea *"to conserve the environments"* [183–185].

Whether green is considered as something luxury, I1 refuted the statement but stated that *"It is an ideal goal"*. I1 applauded green ideas for the sustainable future, but considered it as something out of reach for practicality purposes and requires *"the power of others"*. The cooperation among industries, universities, research and people in the public demands coordination and gives power to their voices, to bring out consolidated efforts to safeguard the environment [186]. Multi-agent cooperation can be an uphill task which can be affected by external factors such as market demands, advancements of technology and internal factors such as green capabilities to attain green goals [187–189]. Green economic and development can be secured from innovations [190,191], technology [192] and growth from competitions and influences of industry peers [193–195]. On the bright sides, green infrastructures network peers and experts within industries, create job opportunities and generate possible economic returns, where money grow on *"green"* [196–198].

Professionally, green practices are not the priority in patient care. The wellness and welfare of the patients comes before green, unless green is an incorporated part of the treatment, which requires no interventions and additional costs. I2 and I3 emphasized that the priority of the TCM physician is the patients. Most of the time, green is not prioritized.

"... I think they want to get well first before they start thinking of the secondary benefits to them so their personal level of improvement, they should be prioritizing that one first before they see other benefits. But of course, with the change in mind set in the future they can also see the benefits of green." (I3)

Different roles assumed by the TCM stakeholders affect their perspectives on how green in clinical works should be emphasized. The TCM herbalist placed more focus on the upstream of TCM, which involves herb farming and productions; whereas the TCM physician talked about patients and healthcare services for their patients. Given the long service experiences in TCM, I1 was capable to share views which cover a wide range of the TCM value chain. I1 was able to relate TCM businesses with upstream where planting and growing of herbs was involved, and how all these can affect the operations and other stakeholders which includes consumers in the TCM industry.

3.3.2. How to Be "Green"?

Interviewees appreciated green efforts in TCM, but they felt green practices were limited and more can be done to boost green.

"I can say that green, is of course good and can protect our environment, but the question is where do you start?" (I1)

"... green is one of it that we should look into. So I do hope there is some kind of... there is an institute of... someone at least to be looking into green part" (I4)

I3 stated that green was not being prioritized in the workplace. Though there are efforts to promote green and sustainability at the workplace, such thoughts and ideas have not been emphasized in TCM. Although there are green consciousness and sustainability knowingness, these are not necessarily being put into action by different stakeholders in the TCM industry.

Integrations and engagements of green into routine work practices are considered more beneficial and relevant to motivate green practices at the workplaces of various industries [128].

“ . . . If the organization think that green practice is good, they actually encourage . . . they include this as a component in the performance appraisal, probably it will help to push the efforts even more . . . ”

Things might be different if rewards were given for being green or green was counted as part of performance appraisal system, as pondered by I5. Uncertainty about the definition of green in the TCM industry was mentioned by interviewees during interviews, which were thought to be one of the main causes that leads to unawareness of green.

“I also not very certain about the definition of green but in my own interpretations, green involves things which can be reused like being renewable and sustainable and in treatment wise I think the use of techniques like cupping it is quite green because the materials are reusable and then also manipulations techniques such as tuina padiatric massage etc. they only involve human efforts but it doesn't take up a lot of resources.”

Clarifications of what makes up green practices in TCM can ease its implementations. I3 elaborated that green can be more impactful when green is being implemented on a large scale, with appreciation towards the issues. Green consciousness, sustainability knowings and attitudes towards green can lead to change in behaviors [199].

3.4. Theme 3: Innovations, Research and Development to Be Green

The customer's involvement drives firms' innovation. Firms' resource acquisition capabilities affect the absorption, internalization and transformation of information from customers into a competitive advantage for companies [200,201]. Internal and external sources of knowledge and information influence a firm's configuration on their choices to innovate, via research, companies' tacit knowledge and interactions with other stakeholders in the ecosystem [202]. Innovation on products and processes encourages the protection of nature while providing opportunities for businesses to prosper. The use of technology to produce different herb forms and waste management of herbs was discussed by interviewees during the interviews.

Interviewees linked green practices with energy generation from herb residues, proposed research in that aspect and adoptions of such practices by waste management companies. Innovations on herbs provide conveniences for patients and customers. They are keener to understand TCM when innovative products ease their use of TCM products and services.

3.4.1. Changes in TCM-Globalization and “Scientification”

Interviewees are graduates with degrees in Biomedical Sciences and Chinese medicine. The fusion of modern science with Chinese medicine allows TCM physicians to receive structured education and become trained in modern science to practice as new breeds of TCM physicians. Innovations in the form of education bring TCM professionals to another level of clarity, in terms of knowledge and applications of knowledge to treat patients and create awareness through combinations of science and TCM. As mentioned by interviewees, knowledge from biomedical sciences is helpful to them.

Interviewees discussed changes that revolved around TCM throughout the years since they got in touch with the industry, which include the digitization of patients' record system (I1, I5), packaging of herb medicines (I1) and tools for measurement of herbs. I3 saw changes in the control and regulations of TCM physicians in Singapore, through education and training programmes.

“ . . . continual Professional education in Singapore for TCM physician became compulsory we need to acquire 50 point which is equivalent to 50 h of CPE lessons or workshops in order to renew our TCM license.”

I3 considered such management a big move to improve the quality of TCM healthcare professionals in Singapore. All these indicate the importance of knowledge in building capabilities, driving growth, and performance [203].

Clinical practice is one part of the value chain in the TCM industry. Besides clinical practices, the fusion of sciences and TCM also involves the upstream of the TCM industry. The incorporations of herb farming with scientific methods, use of suitable lands to plant and grow herbs with high efficacy and efficiency, are able to produce high quality herbs while generating economic value for the industry. Scientific ways to farm herbs are considered innovative and they bring green concepts into herb farming.

“... recently I got to know this group from Cambodia ... What they actually aim to do right ... is to lead the Cambodian farmer out of poverty ... one of the recent projects is to do organic herb farming so they farm the TCM herbs ... Then they found the herbs they tested, did the testing whether or not it grows well there and then they harvest the sunlight and it dries up the herb faster than then usual original methods that they typically use ... then the whole herb production is organic and green and they intend to market it as organic and green herbs ... ” (I2)

Interest in TCM has continued to grow over the past few decades as the industry expands into the international market [204]. I3 noticed that TCM is accepted by younger generations, as times goes by.

3.4.2. Herb Powder

I1 stated that dried herb is the best way to consume TCM prescriptions. Dried herbs are boiled into decoction and consumed by patients, in which the liquid from brewing of the dried herb can be absorbed easily. However, herb powder is more commonly used, as compared to dried herbs. All interviewees agreed that patients prefer to consume herb powder. The use of dried herbs can be a hassle to people with hectic schedules. Time and energy are needed for brewing of dried herbs. Hence, herb powder, capsules and others are popular among patients, especially herb powder.

The centre of the innovations' development evolves around consumers, in which intervention from innovation improves the adoption of certain practices [205–208]. Innovation which emphasizes convenience, speed and easy-to-use TCM services becomes the choice of customers or patients. Herbs in the form of powder and pills are innovations on the methods of preparation and consumption of herbal medicine, which are deemed to be green.

“... We use powder and pills so in that sense they are processed already. They poised of like green technology but I never really find out what kind of green technology they use ... ” (I2)

Besides that, the use of better and easy tools to brew herbal medicines also help save time and energy too. An example which was given by I1 was the use of a pressure cooker which shortens the time to brew dried herbs into decoction.

3.4.3. Recycle Wastes—“I tried to ... but ... ”

The green concepts are portrayed through waste reductions, plastic-use minimizations, plastic containers recycling, and energy generation from wastes, which were pointed out in the interviews. I3, who is also in charge of students' educational programme, mentioned that the reduction in use of paper led to an increased use of electronic devices and electricity—a shift in waste forms.

Research is necessary on green materials, processes and recycling, which are crucial for potential segments in the circular, bio- and green economy. I1 mentioned research on herb residues. I3 talked about research on packaging materials.

“So probably they can look into the selection of materials like to select renewable packaging materials. Of course, it shouldn't compromise the quality of herbs and storage.”; “... research would be able to help in optimizing the materials ... ” (I3)

I4 wondered if needles can be recycled too, as I4 contemplated the importance of R&D in enhancing the equipment for TCM treatments.

It is worth noting that interviewees also mentioned the need to have research and development in the management of recycling businesses, to handle and manage wastes from TCM more professionally. Though they have the will to do it, their hands are tight. Approaching recycling professionally and using experts can enhance innovations on processing medical wastes and can educate firms about new ideas. The availability of knowledge and ability to handle such wastes became a question.

“ . . . you have to see if you have researched these things (use of recycled medicine residues) locally. Those who really want to do it will wonder whether it is profitable, whether it is profitable in addition to environmental protection, or how they can survive . . . ” (I1)

3.5. Theme 4: TCM Innovations on Healthy Lifestyle

Application of TCM knowledge into the daily context creates a healthy lifestyle. TCM concepts and theories revolve around humans and their surroundings—how the nature of food affects humans’ bodies, daily exercises and ways to live healthily. Taking care of the environment will impact humans’ health. Being moderate is an important component in TCM. With moderation, excessive usage and wastage can be avoided. Food and herbs homology is consistent with the modern nutrition concept in which people eat according to what they need, without unnecessary intake of extra food [209]. The healthy lifestyle seems like a cliché; however, TCM elements exist in daily lives and provide natural healthcare options to stay healthy. For instance, massage of acupuncture points to relieve certain symptoms as suggested by I4.

I1 pointed out that lifestyle differences between now and then make it difficult to have a healthy lifestyle. People need to change to live healthily.

“ . . . people in the past were very simple. When the sun comes out, they would get up and go to work. There was no place for entertainment at night, so they would just sleep and rest It’s different now, it’s like daytime during midnight. The light is on, it is not environmentally friendly at all . . . ”

Changes in lifestyles and habits, through learning and practicing behaviours which aim to achieve healthy living, improve awareness and knowledge on how to live harmoniously with their environments and can be observed in TCM through its theories and concepts [210].

Herbs as Food and Food to Treat

Theories of food and herb homology evolve through time and are being conferred new meanings through advancement in technology and knowledge on food and medical fields. Food and medicine homology theory coincides with the idea of preventive medicine in TCM which emphasizes the roles of food and lifestyle changes before resorting to medicine prescriptions if food therapy fails [209]. Foods have different natures, and so do human bodies which require assessment and diagnosis based on the symptoms of patients. As stated by I1, TCM concepts and ideas are not fully understood by everyone. *“ . . . If you are not familiar with them, some things may not be good to eat all the time . . . ”*

It is important to have knowledge on TCM and human bodies to be effective in applying the food and herbs homology concept as suggested by I1. The application of TCM knowledge on food, herbs and the self, requires guidance from TCM physicians *“ . . . because after all, everyone’s body is different . . . ”* (I1)

The knowledge on how to stay healthy with TCM benefits people who are interested in acquiring the knowledge, applying it into their daily lives and sharing it with others. In TCM, humans are to eat and act according to the weather, as the environment will affect bodies’ conditions.

“ . . . so maybe in Singapore the weather is damper and hotter we are more inclined to have some heat dampness in the body. I usually will advise patients to stay away from cold drinks, cooling food and sweet food which will encourage this dampness in the body and cause some heat dampness kind of symptoms and syndrome . . . ” (I3)

Food therapy and daily exercises are natural ways to green healthy lifestyle [211,212]. I2 suggested the use of herbal tea for mild symptoms whereas I3 proposed exercises and changes in daily lifestyle to achieve healthy body states.

Doubts can be cleared by information from validated sources such as internet searches or by consulting TCM physicians. The importance of having TCM knowledge, understanding herbs, nature of food, and also the body's conditions cannot be ignored. I1 talked about crab, which is cold in nature, matched with ginger, which is warm in nature, to produce food of a neutral nature, information which I1 described as *"very easy to check on the Internet"* (I1).

3.6. Theme 5: Acculturating Awareness for Green

Creating awareness about green is crucial for green to be understood and adopted. Study participants felt that green was not very prominent when being asked about green awareness at their workplaces and of others around them. Raising awareness about green and sustainability involves enlightenments and participations of people from all walks of life. Education has important roles in increasing green awareness. Green ideas, such as use of paper instead of plastics, produce minimal waste and recycling of wastes, showing that green exists but can be further amplified.

"... I think the concept of green is not so common in Singapore, in fact, education, awareness and publicity are also very important ..." (I1)

"I think on national level there needs to be Creation of awareness first. And then company and institutions will start to heed these suggestions and advices and then slowly people will be more aware so that's one way to start it." (I3)

3.6.1. Innovative Knowledge Sharing

Green is not aligned to interviewees. They acquired knowledge and information from their environments and executed activities that promote green unconsciously, such as what was mentioned by I5,

"In terms of like recycle used stuffs I don't come up with my own ideas I probably get these ideas from news, from articles or actually from everyday kind of observation and also probably from education as well that help to form these kinds of green habits in me ..."

Knowledge sharing is important in making people, businesses and patients aware of green in TCM, allowing them to understand and appreciate the benefits of having green at the realm of their settings. The environmental awareness prompts people to adopt green practices [213].

"... awareness is one thing and another thing would be influencing. So instead of just preaching and preaching ... they see the good, there is good come out of it then they will follow." (I2)

From creating awareness towards instilling, implementing and formation of standards for best practices, involve knowledge sharing at the organizational level, as suggested by I4. I4 believed that people would be willing to use these green practices if it were proven to be beneficial to their settings.

"... standard operating processes for clinics to use we have to come up with the best practices, guideline and then if it helps them, I'm sure they would be happy to use it." (I4)

In terms of TCM professionals, patients' interactions, having knowledge on the congruence of the latest popular exercises with TCM theory-based exercises, are crucial for TCM physicians to make recommendations, for patients to stay fit and healthy, with things they are familiar with.

“... the usual exercise that I advise them to do like brisk walking and yoga. Technically I should advise them on like 八段经 (baduanjing) all that but I think for most of the younger patients they are “not hip enough”. So, I usually suggest things like yoga.” (I2)

Education in the form of formal education and health talks by TCM practitioners are thought to be crucial in educating others about green, its innovations and its adaptations into daily lives.

“... if you need knowledge, you need education. Chinese medicine practitioners hold more lectures, symposiums and so on. In fact, many aunties like to listen to this type of talks. They will ask you, “oops, what do I eat, what can I buy?” (I1)

3.6.2. Incentives and Punishment System

Incentive and punishment systems are thought to be a significant push to adoptions of the programme for collective benefits [205,214]. Benefits in the workplace can encourage green practices in employees. I1 mentioned about a free ride of driverless battery-run buses within the work area for employees. I2 also talked about the perks to encourage green at her workplace, *“... my company got give us like recycled bag before. I mean reusable shopping bag made of recycled materials, if that helps ... so in that sense it will encourage us to use reusable bag ... ”*

Other incentives which drive personal benefits for being green, can eventually lead to collective benefits in green.

“... I guess in the long run it is cost saving cos you reuse paper you don't buy paper and then you use the water saver things you don't pay so much for the water kind of thing ... ” (I2)

Punishment can be viewed as an effective tool to instil obligatory behaviours among adopters [205,215,216]. I1 and I3 talked about the importance of punishment to drive green. Punishment is said to be more effective in causing behavioral change when compared to an incentive system [205,217,218]. The bounce-back effects from punishment are less threatening [205]. Based on I1's experience, people tend to mumble and complain when being forced to execute activities such as green practices. I5 mentioned roles of management to enforce green in organizations and the importance of rules and regulations to control the quality of herbs, reduce lead contents and reduce the use of pesticides in herb farming.

History has shown the successful stories of coercive leaderships in making change [219]. I1 echoed the use of coercive power or authoritarian figures to empower others to practice green.

“... Unless you're older. In the company you are more powerful, people will listen to you ... ”; “... If the government says you're going to do this, they have no choice but to follow ... ”

4. Discussions and Conclusions

4.1. Implications

4.1.1. Lived-Experiences as Tools to Understand Green in TCM

The study captured perspective and lived experiences; the study generated an understanding of TCM organizational stakeholders in terms of green practices and the incorporations of green practices into work and daily lives through innovations. Green can be found in TCM knowledge, innovations on products and work processes, and fusion of TCM with lifestyles. Without knowledge and understanding of the industry, the interpretation of the meaning behind the lines of interviewees could be tricky and complicated. As proposed in many studies, lived experiences are participants' interpretations of the world. These interpretations were relived through interpretations by researchers which aimed to engage, understand, and immerse in information on how these experiences affect green being practiced and practices being innovated. The qualitative approach, however, is not a popular choice as scholars were skeptical of the reliability and validity of interpretation [220–222].

Emphasis must be placed on the values of researchers' perceptions and interpretations, which can have value-added sentiments to practitioners who shared the same situations to manage, transform and coach development—experiences matter [223,224]. In practice, there can be many facades in the management of businesses such as behaviours, interactions and experiences which are more flexible elements that cannot be quantified [225–227]. There can be many unforeseen situations as humans act in unpredictable manners that involve complex interpersonal activities and relationships; however, there are lists of rational and logical activities, in general, in which most people react based on expected situations [220,228,229].

Considering factors which affect organizational work implementation from the stakeholders' perspectives can improve the chances of project implementation [230]. Interactions between stakeholders, within organizations and with external parties, affect the sustainability development of an organization [231]. This phenomenological study gained a preliminary understanding of the thoughts and ideas of study participants who are the stakeholders of the TCM industry. These can be useful for subsequent development of entrepreneurial educations [232,233], studies of green entrepreneurial behaviours, consumers' attitudes [234–236] and roles of stakeholders [237,238] to achieve sustainability.

4.1.2. Green Practices and Innovations

Participants were very keen to share that “green is necessary but not the priority in the current scenario”. TCM aims at making patients feel well before pushing for green practices. Entrepreneurs and managers need to redefine green and rethink the strategic approaches to sustainability via green practices. Current progress in green innovations aims to make things simpler and easier, while optimizing resources and generating economic development, which is greener in the sense that resources are not wasted [239]. From the use of dried herbs to different herb forms, these are innovations on TCM herbs, using green technology which can be further explored. As stated by interviewees, the brewing of herbs, from using of hotpots to the use of electrical and pressure cookers, to speed up brewing, provide conveniences to consumers—these are innovations at the heart of patients. There are also advancements in terms of waste management of herbs which can be found in some of the recent papers published, for instance, reused of herb residues as supercapacitors for energy storage and power generation [10,240,241].

4.1.3. Practical Implications and Considerations

The study highlighted the role of education in the form of information sharing, through talks by different TCM professionals, to allow the public to gain knowledge and practical ideas to improve health and become greener in the process, as eating a sufficient amount without excessiveness is considered green—reducing wastages on food. The view can be extended into use of technology and digital platforms for the spreading of information (Figure 9).

Findings from the study also can be reflected in the work to incorporate green into TCM through the formation of green standards, which can provide business opportunities and drive lifestyle innovations to make TCM and humans' lives more sustainable. Though there were only five study participants who were recruited for the study, this research explored their insights on assimilated green practices which are also part of the TCM industry. Insights from interviews showed that the roles of research are critical to the development of green practices and innovations in the industry.

With creations of values from green in TCM, businesses opportunities such as green bonds [242,243] and investment [244,245] can be discovered in the process of achieving more green healthy living through TCM. One-stop platforms, development of apps and technology, together with other enrichment classes with launches of green products to support the growth of the community, supplemented by research of relevant materials, processes and products to minimize the gap between dreams to have a sustainable future and actions in reality.

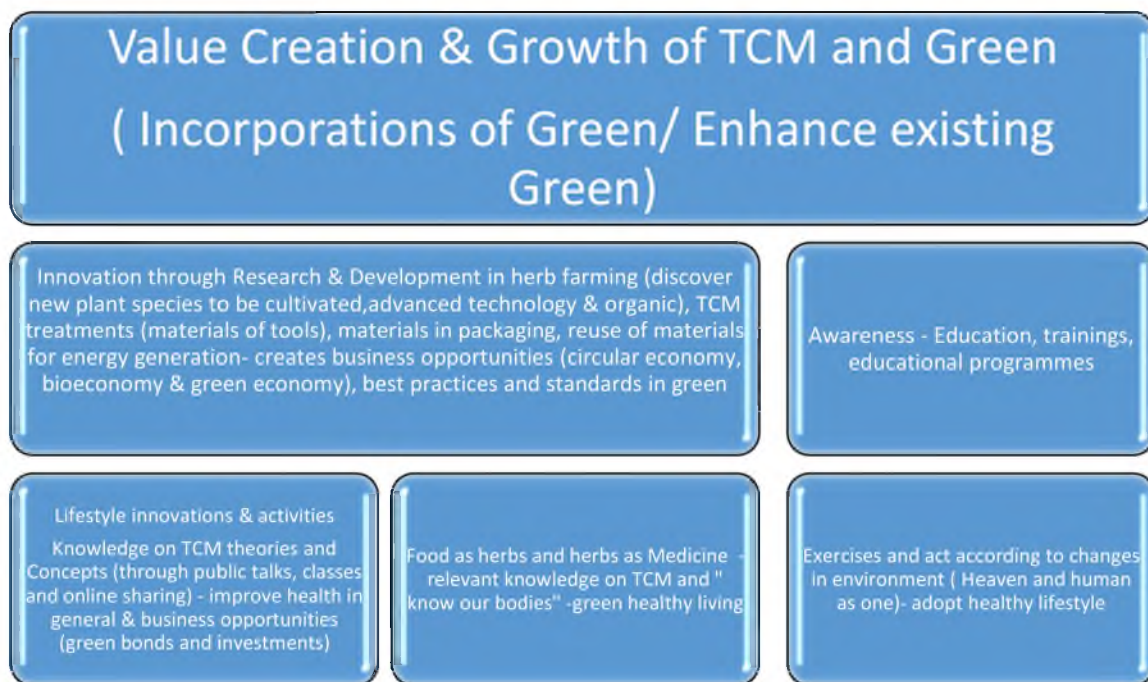


Figure 9. Activities for development of green and TCM, the growth of both through incorporations and enhancement of existing green in TCM, based on insights from interviews.

Future explorations can be done on the discoveries and cultivations of plant species for treatment purposes, employment of green equipment, and the methods for operation and management of TCM clinics and treatments. Finally, attitudes towards green can be decisive in the adoptions and innovations of green in TCM. The awareness comes from knowledge and understanding about TCM. Acculturating green and innovating TCM requires a bold vision and passion for TCM, with the motivations to drive green and making changes to humans' health, through innovation which leads to sustainability. The lived experiences of TCM practitioners in Singapore who have long been involved in TCM described changes in the industry and were able to provide firsthand insight into the green phenomenon in Singapore TCM enterprises. The study was expected to build insights into green practices in TCM, sparks interest to create sustainable systems, culture, business strategies and policies which incorporate green initiatives, and generate value for the TCM industry in the near future.

With the advancement of upstream in TCM, in terms of knowledge, technologies and visions to drive green practices and innovations, standardizations and replications of good practices become possible and are able to be adopted by many. R&D is salient for innovation. The widespread adoptions and adaptations of TCM into daily lives make it crucial to form techniques and skills which lead to formations of technologies and standards to ensure the safety and reliability of services and products of the industry. Formations of rules, regulations and policies to boost the adoption of green and adaptations to incorporate green into existing operations are equally important [246]. Green efforts might look personal and insignificant, but a little bit of green and innovations go a long way. Innovations and green help to build a more sustainable system and standard for the TCM industry and shed light on grey areas so that the industry is able to survive and sustain to allow more people to understand them. Innovations also can be incorporated into education and training, so that TCM practitioners are able to maximize their knowledge, skills and abilities to enhance green initiatives. The education and training which involve the fusion of modern sciences and TCM allow the scientific understanding and practices in TCM to bring clarity about TCM knowledge with more scientific tools and methods [143,247]. The sharing of knowledge and ideas to incorporate TCM and green can be done through setting up platforms such as "TCM and Green—Love Ourselves, Love Our Environment",

public health talks or work with environmental associations to create awareness about green [248,249]. Education, undeniably, is the important factor in promoting green and improving green knowledge [250]. Training programmes and systems within the company need to be checked and updated from time to time to ensure its relevance with current needs. The climate within an organization which encourages green satisfactions and voluntary green behaviours can help to boost green practices and efforts [149]. The goals of the study are to understand the existing conditions. Future research interests include creations and innovations of better knowledge and ideas through research and other developments, and the formation of a knowledge system and platform to reach out to the wider crowd. Good practices can become the green standard of the industry and for others as well, which can be further developed into norms for communities and countries.

Another point to ponder is that one's green might not be the green in the eyes of another person. The circulation of waste into the economy systems of another's and generating values in the circular economy or green economy are questions to many, as to how they can perfect the cycles, in conjunction with the circular, bio- and green economy [251–255]. The generations of a green innovation model in the TCM industry to enhance the values of practitioners and other stakeholders in terms of growth, money, and reputation, can also make TCM fast, easy, and convenient to consumers. All these serve as the basic for the expansion and wider acceptance of TCM by people of different cultures and backgrounds. The knowledge and information acquired from the study is just a portion of the many industries, which have the potential to practice green. This knowledge and these green practices can be replicated and applied into other industries, with a similar or different nature. The creation of new knowledge on green initiatives is crucial for firms to gain a competitive advantage, to strengthen its standing in the existing market while attracting new customers with a passion for green [114,117] The study provides an understanding of green in the traditional Chinese medicine industry and innovation at work and on lifestyles in green ways. Hence, we can pave ways for future research on the translations and applications of eco-friendly knowledge and techniques into practices, policies and other technologies such as online platforms or systems.

4.2. Limitations and Future Studies

The study recruited a sample of five study participants. A study with a larger number sample can be conducted to capture the opinions and views from a larger number of participants. The study led to an understanding of a partial TCM values chain in which green practices in other segments can be scrutinized. The study took a peep at the TCM industry's greenness and innovativeness in professional and daily settings from the eyes of TCM herbalists and physicians. This sparked the thought to retrieve more insights from other stakeholders in the TCM industry, in order to get a bigger picture of the TCM industry and to allow the correct flow of knowledge on green in TCM to be shared with others. Green in TCM is just the tip of the iceberg and the study does not generalize green in the TCM industry. Future research to further explore the roles and activities of different stakeholders to uphold the values of green practices in generating the economic value towards their businesses, environment and selves can be conducted.

In terms of formation of standards and policies, all the best practices and standards which will be created are for the purpose of increasing competitiveness and minimizing damages to the environment. Green practices and efforts which bring win-win situations to the firms and environment can be standardized. Compilations of company-based standards require continuous discussions and refinement works in order to build the organizational-based standards, and subsequently the industry-based standards in the national context. Firms of different sizes can have the same sets of green skills and practices required to excel in their green efforts, ensuring that there are green standards for all across the same sectors. All of these will lead to a better quality of green management regardless of the firm sizes to allow the businesses to grow and expand in green ways. Subsequently, green techniques and practices in single firms can be expanded and translated into industry and national

standards, to be applied in a more globalized market through growth and sustainability in a competitive market [256–259]. Future studies can also be carried out in different fields to check the feasibility of the best green practices and standards in different industries.

4.3. Conclusions

The study explored perspectives of TCM practitioners on green practices, in an industry which is thought to be green and organic. Based on the study, it is fair to say TCM is green, in terms of knowledge, practices, treatments, and lifestyle innovations. However, it is not perfectly green, and more enhancement and refinement are needed to be greener. Rome is not built in a day. The drive for profitability and economic values are crucial for business survival. Although businesses are driven by profitability, the sustainability of businesses allow for the continuous development of capabilities and practices that make them distinctive in the marketplace [260]. As the weather is hotter, the temperature is higher, and natural disasters such as drought, flood, and others are affecting the world—it has become a shared responsibility to take care of our nature. Innovations to incorporate green into the TCM industry and the application of TCM into daily lives have made a statement that TCM is more than an alternative treatment to diseases and illness; its theories and concepts can become basic philosophies to other green practices in lives. To adopt, adapt or build a new knowledge system for such translation and transformation of TCM techniques and knowledge requires innovation and wisdom. Such knowledge can develop into strategies in a sustainable culture which is built within the TCM industry. The study highlighted the awareness regarding green practices in TCM, green elements in TCM, and innovations to incorporate green in our professional and daily lives. Much can be garnered from the lived experiences of TCM stakeholders to provide quality patient care to patients through TCM theories and concepts, which talk about achieving balance between humans and their surroundings. This study plays a role to spark and arouse interest in green practices, TCM, and actions to make changes. This paper will be of interest to those who were tasked to develop policies on industrial green practices and contains several key pointers that will be useful to stimulate discussion and challenge the status quo, particularly in the context of management, which can be expanded into different industries and countries.

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