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Investigating the Sustainability Potential of Artisanal Cheesemakers in Maine

Brady Davis
University of Maine

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INVESTIGATING THE SUSTAINABILITY POTENTIAL OF ARTISANAL
CHEESEMAKING IN MAINE

by

Brady Davis

A Thesis Submitted in Partial Fulfillment
of the Requirements for a Degree with Honors
(Business)

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Advisory Committee:

Dr. Stephanie Welcomer, Professor of Management, Maine Business School
Dr. Mark Haggerty, Rezendes Preceptor for Civic Engagement, Honors College
Dr. Jean MacRea, Associate Professor of Civil and Environmental Engineering
Dr. Beth Calder, Associate Professor of Food Science and Extension Food
Science Specialist
Mr. Eric Rector, Board of Directors, Maine Cheese Guild and Owner, Monroe
Cheese Studio

Abstract

Sustainability-as-flourishing has been introduced as a new paradigm to conceptualize sustainability, and is defined as an ideal future state where all life on earth has the potential to flourish indefinitely. This paper explores the potential for farmers and local producers to advance sustainability-as-flourishing through their operations. Existing literature lays the foundation for this case-based method and provides the basis for an investigation of how entrepreneurs express a set of requisites necessary to develop this concept. This investigation focuses on artisanal cheesemakers from Maine participating in the Maine Cheese Guild. Thirty of these artisan producers were interviewed, and their interview transcripts analyzed for how they practice and conceptualize sustainability. The analysis revealed the extent to which these entrepreneurs express the requisites of sustainability-as-flourishing on the ground and through their operations. The degree to which each of these requisites are expressed or neglected is discussed. Avenues of future research are also proposed and include how entrepreneurs view profit, seek to promote social justice and equity through their enterprises, and recognize and address the root causes of socioeconomic problems.

DEDICATION

This thesis is dedicated to my family.

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Introduction

The call for a new sustainability paradigm stems from the lack of progress past movements have made to address a wide array of social, environmental, and economic problems. The main target of critique for scholars promoting the concept of sustainability-as-flourishing is the notion of sustainable development introduced by the United Nations World Commission on Environment and Development in the Brundtland Report released in 1987. This commission first met in October of 1984 and was charged with establishing a “global agenda for change” that would include a roadmap to reach a sustainable trajectory by 2000 (Brundtland, 1987). In the 900 days between the commission’s first meeting and the publication of its report, a host of social and environmental disasters occurred that further reinforced the immense importance of their work: droughts in Africa impacted 36 million inhabitants and killed nearly a million; the catastrophic nuclear accident at Chernobyl occurred and sent nuclear fallout across the globe; and a host of diseases caused by unsafe drinking water and malnutrition killed nearly 60 million people globally, mostly children (Brundtland, 1987). The agenda presented in the Brundtland Report called on international cooperation and multilateral efforts to better manage natural resources and encourage economic growth that narrowed the gap between the most impoverished and the wealthiest of human populations (Brundtland, 1987).

The results of the sustainable development movement at the conclusion of the Twentieth Century indicate that very little progress has been made to address the issues identified by the Commission (United Nations, 2015). In fact, many researchers have found that numerous key indicators of sustainability have worsened over time

(Globescan, 2012). Given these results, the efficacy of the agenda presented in the Brundtland Report has been called into question and openly challenged. In search for an alternative model for sustainability, there has been growing interest in the literature on a new paradigm with the potential to bring about transformational change in social, environmental, and economic systems. This view of sustainability is known as sustainability-as-flourishing and presents a vision for the future where all life on earth can flourish indefinitely.

This concept deviates from past research and initiatives where sustainability solutions are often portrayed as business-as-usual or as business-as-almost-usual approaches augmented by incremental social and environmental programs (Schaefer, Corner, & Kearins, 2015; Ehrenfeld & Hoffman, 2013). Rather than simply reducing unsustainability, the notion of sustainability-as-flourishing calls for those seeking to practice it to reflect on individual ways of thinking and behaviors and encourages substantial change in collective value sets and practices in order to work towards the co-creation of an ideal future (Ehrenfeld & Hoffman, 2013). Scholars contend this will be achieved when all individuals, organizations, and societies are prospering and are rooted in a thriving natural environment (Laszlo et al., 2014; Ehrenfeld & Hoffman, 2013).

Existing research has explored the role that business might play in promoting sustainability-as-flourishing (Schaefer, Corner, & Kearins, 2015). These scholars recognize that business must be a part of the transformational change in cultural values and beliefs and cite past literature to demonstrate that entrepreneurship may be one process to bring about the necessary transformation (Schaefer, Corner, & Kearins, 2015). In order to test this potential, Schaefer, Corner, and Kearins (2015) devised a study to

determine what aspects of sustainability-as-flourishing were addressed in three streams of entrepreneurship literature. While their study revealed limitations, the researchers maintained that their work reinforced the potential for entrepreneurship to bring about transformational change.

While the work of Schaefer, Corner, and Kearins (2015) investigated the extent to which the literature on three types of entrepreneurship acknowledged sustainability-as-flourishing, little analyses has currently been done to investigate the extent to which this concept has been expressed in practice. Therefore, the overall broad purpose of this study is to further assess how entrepreneurs conceptualize and practice sustainability within their own operations. Specifically, this research seeks to explore whether farmers and local food producers are intentionally or unintentionally promoting the concept of sustainability-as-flourishing through their business activities. To accomplish this, a case study approach was utilized to conduct research on a group of entrepreneurs focusing on artisanal cheesemaking in Maine. This sector was identified because of the recent growth in the number of cheesemakers in the region, as well as the industry's increasing national and international reputation. Moreover, the nature of artisanal production and engagement in local food systems has a number of implications for the social, environmental, and economic dimensions of sustainability.

To lay the groundwork for this project, the literature review will detail the roots of the modern discourse on sustainability, and further define the sustainability-as-flourishing model. The theoretical framework of this study is then outlined, including an articulation for the research questions, which has been adapted from Schaefer, Corner, and Kearins (2015) sustainability-as-flourishing work. The methods of this study are then explained

along with the procedures for how the transcripts from the cheesemaker interviews were analyzed against the adopted research questions. The results of the analysis are then summarized and discussed. The final sections of this thesis acknowledge the limitations of this study and share the conclusions reached from this investigation in addition to potential areas of future research.

Literature Review

In order to effectively introduce the concept of sustainability-as-flourishing, it is important to consider the development of the sustainability movement over time. This section describes the origins for this movement and details how the results of modern sustainability initiatives have come up short, despite mounting evidence that serious action must be taken to address environmental and social issues. In response, sustainability-as-flourishing is presented as a new paradigm with the potential to transform economic and social systems. This review then concludes by drawing on past literature to point to the potential of entrepreneurship to drive this transformational change to better achieve sustainability-as-flourishing.

Understanding current sustainability models and debates involves considering the historical roots of sustainability, which can be argued to begin nearly 10,000 years ago with the development of human agricultural practices (Jemison & Beal, 2011). The shift away from hunting and gathering, to the domestication of certain plant and animal species, allowed early human groups to settle in specific regions and develop more permanent societies. Increases to agricultural production, through a more intense usage of

available resources and alterations to local environments, allowed populations to increase. Further population growth pressured agricultural systems to be even more productive, claiming larger and larger swaths of land for cultivation and requiring greater inputs of resources (Jemison & Beal, 2011), risking their depletion. Crops that were especially suited to grow in specific environments, and that provided a necessary mix of nutrients, became extremely important for satisfying the dietary needs of growing populations and fueling the rise of civilizations.

Development has been tied to sustainability, and is commonly defined as the result of a process of growth over time. The process of development has implications for economic, social, and environmental spheres. The concept of economic development focuses on changes that occur in the standard of living of human populations over time. Considering the span of human history, it has only been in the last 300 years that the pace of change has rapidly increased (Norton, Alwang, & Masters, 2015). The impacts of development on the social and economic dimensions are often evaluated by per capita incomes and by access to adequate food, water, and health care that are measures of absolute poverty, as well as by the level of equality in a society over the long term (Norton, Alwang, & Masters, 2015). Early human groups engaging in hunting and gathering were largely considered egalitarian communities because all benefited when food was in abundance and all suffered when it was absent (Jemison & Beal, 2011). The civilizations that rose later due to more sophisticated agricultural practices were characterized by class-based societies where land was seized under ownership and was worked by peasant farmers for shares of the food produced (Jemison & Beal, 2011). Over time, the process of growth has continued to be increasingly unequal in some regions,

specifically those in the Global North, accelerating in terms of improvements to quality of life compared to the Global South, which has lagged behind and experienced stagnated development.

Population increases have had a tremendous impact on the global environment. The cause and effect relationship of agricultural development and population growth described by Jemison and Beal (2011) has permeated human history. In approximately 1850, global population numbers reached one billion people; a milestone along a trajectory of unprecedented population growth that has continued into modern times (Soby, 2013). Amidst widening concerns about the exponential increase in human population and the ability of agricultural productivity to keep pace, agricultural research in the mid-twentieth century has focused on increasing yields with little concern for resource use and environmental degradation (Soby, 2013). The results of these research efforts gave rise to advances in plant breeding, chemical fertilizers, pesticides, disease control measures, irrigation technology, and the mechanization of agricultural labor (Soby, 2013). The post-World War II agricultural system of many developed countries, such as the United States, became highly industrialized and was marked by intensified cultivation, crop specialization, and standardization (Jemison & Beal, 2011). This period of agricultural development became known as the Green Revolution, and has further fueled the exponential growth in global human population that is now projected to reach 9.1 billion by 2050 (Soby, 2013).

In addition to concerns regarding the availability of natural resources to sustain further expansion, the social and environmental toll of development became more evident with increasing awareness of the connection between pollution, ecosystem destruction,

and large scale-disasters to human activity (Norton, Alwang, & Masters, 2015). One of the most influential voices in the call to assess the side effects of technological advancement during the Green Revolution was that of Rachel Carson who, in 1962, published *Silent Spring* informing the public of the widespread detrimental impacts of pesticide use. Modified from World War II chemical weapons technology, she deemed these substances as biocides and detailed how their wide application contaminated air, land, and water, while poisoning much more than the pests they were used to control. Her evidence and compelling writing brought attention to some of the consequences of development for human health, and ultimately total ecosystem health, to the world stage and is often credited with igniting the environmental movement.

In 1987, the World Commission on Environment and Development published the Brundtland Report in response to far-reaching failures in modern development and in the management of the human environment (Brundtland, 1987). At the time of the report, world populations had reached five billion people and concerns for the consequences of development had spread more widely worldwide. Top among environmental concerns were the desertification of previously productive lands and the deforestation of new lands, as well as the release and transportation of toxic chemicals throughout the atmosphere. In the social sphere, despite high levels of global food production, more individuals were classified as food insecure than ever before, absolute poverty persisted, and the gap between the rich and poor was widening. In response, the Commission was charged with determining strategies to achieve more sustainable development, which was defined as development that meets the needs of current generations, without sacrificing the ability of future generations to provide for their own needs (Brundtland, 1987).

Sustainable development, via the Brundtland Report, is built on a set of fundamental beliefs, which include that planetary limits exist, but are not absolute and are “imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities” (Brundtland, 1987). The authors claimed that improvements to technology and better managed social systems would usher in a new era of economic growth (Brundtland, 1987). The framers of the report also believed that poverty can be overcome, and claimed that a requirement of sustainable development is to provide for the basic needs of all and extend every individual the opportunity to aspire to a better life (Brundtland, 1987). In order for poverty to be eradicated and opportunities opened for others, the report called on the most affluent nations in the world to alter lifestyles in order to consume within ecological limits (Brundtland, 1987). Finally, at the root of the concept is the belief that the better management of the human environment and improved technologies will usher in a new era of economic growth (Brundtland, 1987). The Brundtland Report was one of the first international initiatives to not only recognize the unsustainability of current development practices, but to attempt to chart a path to a more sustainable world. Moreover, it was the first globally crafted and recognized codification of principles and policies building sustainability, but has been widely scrutinized and contested.

Evaluating The Outcomes of Sustainable Development

Since the publication of the Brundtland report, many additional surveys have been initiated to evaluate the extent to which the concept of sustainable development has led to

advancements across the social, environmental, and economic spheres. The United Nations acknowledges that progress is uneven and that major shortfalls persist in the fulfillment of the Millennium Development Goals established in 2000 (United Nations, 2015). Despite increased access to education and improved medical treatment in many nations, social sustainability is still hindered by widespread issues of gender inequality in education and job opportunity, as well as by an increasing gap between the wealthiest populations and the most impoverished (United Nations, 2015). Regarding environmental sustainability, global greenhouse gas emissions have risen by over fifty percent since 1990, key resources are still overexploited, and global biodiversity is decreasing at alarming rates (United Nations, 2015). Another report drawing on the responses of an international group of 1,603 experts in a variety of fields and disciplines, revealed their opinions on the progress towards sustainable development in the past two decades (Globescan, 2012). Across seventeen indicators, covering many dimensions of sustainable development, only three categories were said to have shown slightly better than “poor progress” (Globescan, 2012). Many indicators were rated to have significantly worsened over the same time period and included such categories as protecting biodiversity, establishing more equitable societies, improving resource efficiency, and increasing the sustainability of transportation for people and products (Globescan, 2012).

The charge of the World Commission on Environment and Development in 1987 was to address far-reaching failures in modern development and in the management of the human environment. While the Brundtland Report introduced the concept of sustainable development to the world, it is clear that progress has been slow and major shortfalls persist across all dimensions of sustainability. The majority of experts in the

international survey cited above agree that substantial change in the current economic system will need to occur before meaningful progress can be made along the path to a sustainable world (Globescan, 2012). This consensus aligns with a growing pocket of the sustainability literature that fundamentally challenges the tenets of sustainable development and claims that the disabling component of the concept is its foundation in the traditional economic paradigm of growth and consumption (Ehrenfeld, 2005; Ehrenfeld & Hoffman, 2013; Laszlo et al., 2014).

Business and Sustainability

The concept of sustainability employed in the business realm is rooted in the definition of sustainable development (Ehrenfeld, 2005). Practitioners of this concept seek to encourage efficient economic development, while reducing risks of impact on both people and the environment (Ehrenfeld & Hoffman, 2013; Laszlo et al., 2012). Much of the business world has attempted to ingrain this idea into the framework and core strategy of the enterprise through approaches such as Corporate Social Responsibility and various other corporate sustainability programs that are said to be *green* or *environmentally friendly* (Ehrenfeld & Hoffman, 2013).

To evaluate the positive impacts firms are having on their stated social and environmental missions, measures and metrics have been formulated to rank the performance of firms on dimensions beyond economic impact (Ehrenfeld & Hoffman, 2013). And yet, while many sustainability scores and indexes can be viewed for individual firms, products, and services in a number of industries (Ehrenfeld & Hoffman,

2013), the tangible results of these efforts have not been conclusively linked to sustainable outcomes. Furthermore, while the sustainability-oriented business models have been presented in the literature, in practice, despite some pioneering enterprises, the majority of firms continue to operate under the conventional model of one dimensional profit maximization (Stubbs & Cocklin, 2008). As a result, sustainable development has been portrayed as business-as-usual or as business-as-almost-usual augmented by incremental social and environmental initiatives (Schaefer, Corner, & Kearins, 2015; Ehrenfeld & Hoffman, 2013). Initiatives deemed *green* or *environmentally friendly* have, at best, made economic development slightly less unsustainable (Laszlo et al., 2014) and, at worst, hidden negative externalities behind advertising and marketing programs claiming to be sustainable (Ehrenfeld & Hoffman, 2013).

A New Paradigm in Sustainability

The sustainability results from the decades since 1987 indicate that, while the Brundtland Report acknowledged that planetary resources are limited, the threat of resource depletion and environmental degradation was not sufficient to bring about transformational change in human societies (Grant, 2012). Furthermore, despite further technological innovations and the notion of sustainability entering the global consciousness, these forces were not successful in increasing the planet's capacity to absorb the effects of human activity. On the contrary, the indicators of planetary wellbeing reveal that earth's resources have been further strained and that human activity has increased pollution and ecosystem destruction (United Nations, 2015; Globescan,

2012). In addition, modern economic development has failed to eradicate poverty worldwide, and while an increase to the standard of living for some populations has been achieved, the disparity between the rich and poor has only expanded in the era of sustainable development. These facts are worsened by the levels of consumption in countries such as the United States (Ehrenfeld & Hoffman, 2013), which indicate that the appeal made in the Brundtland Report for the most affluent of populations to adopt new lifestyles was insufficient to cause major change.

Another drawback to the Brundtland Report, is the concept of sustainable development does not offer a definition or ecological parameters for what an improved quality of life could look like. Incentives to change consumption habits and behaviors at the individual and societal levels were largely undermined by the principle that further economic growth may be possible with better management techniques, new technology, and improved efficiency. Overall, sustainable development as a concept has largely failed to provide solutions to serious global issues across the three spheres of development.

Scholars recognize the need for a concept that offers a compelling vision for a sustainable world (Ehrenfeld, 2005; Grant, 2012) and that creates paradigmatic change (Grant, 2012; Laszlo et al., 2012). To answer this call, a new paradigm in sustainability has been presented in the literature as “flourishing,” which is described as a possible ideal state where all life will thrive on earth forever (Ehrenfeld, 2005; Grant, 2012). This new sustainability-as-flourishing concept stands in contrast to the beliefs of the Brundtland Report and represents a different set of values, seeks a different set of outcomes, and utilizes a different system of thinking (Ehrenfeld & Hoffman, 2013). The elements of this definition are important to consider and begin with the notion of *flourishing*, which is

used to describe a dynamic state achieved through engaging in action that is motivated by a caring for oneself and other human beings, as well as the natural world (Ehrenfeld & Hoffman, 2013). Next, the notion of *possibility* is given special emphasis because it offers a vision for the future that may not be possible in the present and that may have never existed in the past (Ehrenfeld & Hoffman, 2013). While the Brundtland Report considered socioeconomic and intergenerational equity for humanity, flourishing explicitly shows concern for the well-being of *all life* on earth (Ehrenfeld & Hoffman, 2013). Finally, *forever* is included in the definition to represent the need to ensure that these conditions are lasting and that the future is cared for in a meaningful way (Ehrenfeld & Hoffman, 2013). Other scholars acknowledge that this new concept offers a clear vision of possibility (Cooperrider & Fry, 2012), individual, organizational, and systems-wide prosperity (Laszlo et al., 2012), and the potential for transformational change (Schaefer, Corner, & Kearins, 2015).

A key aspect of the sustainability-as-flourishing model is that it seeks to alter the cultural values and beliefs that are the fundamental causes of unsustainability (Grant, 2012; Ehrenfeld & Hoffman, 2013; Laszlo et al., 2014). In their work, Ehrenfeld and Hoffman (2013) describe that realizing the potential of sustainability-as-flourishing practices requires humanity to adopt a different system of thinking from what predominates our current cultural models. The authors contend that transformational change in our systems of thinking is possible by reconsidering what it means to be human and reexamining humanity's place in nature (Ehrenfeld & Hoffman, 2013). For individuals, organizations, and whole societies, this process of change involves confronting the contemporary economic worldview that identity and well-being are tied

to capital and material goods, that the sole purpose of business is to maximize profits to shareholders and establish a more commanding market presence, and that earth's resources exist primarily for human use (Laszlo et al., 2014; Grant, 2012; Ehrenfeld & Hoffman, 2013). Sustainability-as-flourishing posits that further progress can be made by engaging in the practices of critical reflection, whereby individuals, organizations, and institutions think deeply about who they are, why they exist, and how they are connected to others and the natural world (Laszlo et al., 2014; Laszlo et al., 2012). It is through this process of challenging and reflecting on current models that realizations for the interconnectedness and interdependence of humanity and nature are possible (Ehrenfeld, 2005; Ehrenfeld & Hoffman, 2013; Laszlo et al., 2014). These realizations are vital to inspire more authentic human thinkers and doers to comprehend the complexity of the natural world and design a more sustainable future for all. According to Ehrenfeld and Hoffman (2013), the authentic human consciousness can be recovered as notions of identity are shifted from a context of *Having*, to one of *Being*, and where behavior is not motivated by *Needing*, but by *Caring* (Ehrenfeld & Hoffman, 2013). It is only through this transformation that the potential of sustainability-as-flourishing can be realized.

The Potential of Entrepreneurship to Advance Sustainability-as-Flourishing

Business-as-usual, coupled with incremental initiatives to address social and environmental issues, is not adequate to meet the goals of sustainability-as-flourishing (Schaefer, Corner, & Kearins, 2015). In order to contribute to the realization of this ideal future state, businesses will need to challenge economic paradigms and create

transformational change (Schaefer, Corner, & Kearins, 2015), and one vehicle for this change is entrepreneurial activity. Specifically, entrepreneurship is identified as a process that has a real potential to drive transformational change (Driver & Porter, 2012) and advance humanity towards a sustainability-as-flourishing model (Schaefer, Corner, & Kearins, 2015). Despite some concerns for the extent to which entrepreneurship can realize this potential, scholars acknowledge that entrepreneurial activity can deliver value to stakeholders, shareholders, and nature (Shepherd, & Patzelt, 2011), as well as contribute to a more ecologically sustainable economy overall (Dean, & McMullen, 2007).

In particular, the literature identifies three types of entrepreneurship that have the potential to transform industries, institutions, and societies and ultimately contribute to sustainability-as-flourishing (Schaefer, Corner, & Kearins, 2015). These types are social, environmental, and sustainable entrepreneurship. Schaefer, Corner, & Kearins (2015) define social entrepreneurship as a type of entrepreneurship where the value generation logic of the firm elevates a concern for the creation of social value for people and communities above economic value. According to these authors, environmental entrepreneurship maintains the focus on economic value creation, but does so with a strong focus on preserving or regenerating the natural environment (Schaefer, Corner, & Kearins, 2015). Finally, sustainable entrepreneurship seeks to advance social and environmental missions simultaneously and in harmony with an economic value creation focus, which is regarded as necessary in order for the enterprise to be self-sustaining (Schaefer, Corner, & Kearins, 2015). Additional entrepreneurship literature supports the potential for these types of entrepreneurship to generate social and environmental value,

in addition to economic value, through their core business mechanisms (Schaltegger, Lüdeke-Freund, & Hansen, 2016; Shepherd, & Patzelt, 2011; Boons, Lüdeke-Freund, 2013).

Entrepreneurship as a Process to Advance Sustainability-as-Flourishing in the Literature

This section of the literature review focuses on the work of Schaefer, Corner, and Kearins (2015) to assess the extent to which research on social, environmental, and sustainable entrepreneurship reflect the potential to contribute to sustainability-as-flourishing. Their article critically reviewed research on social, environmental and sustainable entrepreneurship to better understand what aspects of sustainability-as-flourishing are explicitly addressed in the literature. In order to accomplish this review, the authors devised a set of requisites for sustainability-as-flourishing based on an in-depth review of what environmental and social scientific literature deemed necessary for the concept to be realized. Requisites identified in the literature were compiled and condensed until eight remained that were considered to be internally homogenous and externally heterogeneous (Schaefer, Corner, & Kearins, 2015). The remaining eight requisites were grouped into three categories: Beliefs and Values, Diagnosis, and Responsibility. The eight requisites identified by Schaefer, Corner, and Kearins (2015) are organized by category in Table 1 below.

Table 1. Requisites for Sustainability-as-Flourishing Identified and Defined by Schaefer, Corner, and Kearins (2015)

Beliefs and Values
1. Human behavior involves caring for others and for nature
2. Principles of social justice and equity are enacted

Diagnosis
3. Complex systems thinking and holistic approaches are adopted
4. Root causes of issues are addressed
5. Processes of enactment are underpinned by critical reflection

Responsibility
6. Profit is a means to an end, not an end itself
7. Planetary boundaries are respected and operated within
8. Participative and collaborative approaches are embraced

These requisites were then mapped to the existing research streams of each of the three types of entrepreneurship to assess the extent to which sustainability-as-flourishing is acknowledged in the literature. Their critical review revealed that the level at which the requisites were acknowledged within the research on each type varied. Overall, few of the requisites identified by Schaefer, Corner, and Kearins (2015) were fully acknowledged across all types. A greater number were partially acknowledged, however, critical reflection (Requisite 5), remained consistently unacknowledged in each stream of entrepreneurship research. These findings of their critical review indicate that limitations exist in the literature on all three types of entrepreneurship to fully reflect the potential of sustainability-as-flourishing model (Schaefer, Corner, & Kearins, 2015). Nevertheless, the authors maintain that the findings of their review point to the potential of entrepreneurship to create transformational change (Schaefer, Corner, & Kearins, 2015). Therefore, this study investigates how the requisites for sustainability-as-flourishing can be utilized on artisanal cheesemakers to assess their sustainability practices.

The Study: Artisanal Cheesemaking in Maine

The previous section pointed out the failures of sustainable development and introduced the concept of sustainability-as-flourishing as a new paradigm in the literature. Entrepreneurship was explained as one mechanism that may advance this concept, and the work done to test this potential was described. This section serves to establish a bridge between the past research and the present investigation to explore the potential that entrepreneurs in the artisan cheese making sector are promoting sustainability-as-flourishing through their businesses. The requisites for sustainability-as-flourishing identified and defined by Schaefer, Corner, and Kearins (2015) will be adapted as the main research questions for this study.

The Schaefer, Corner, and Kearins (2015) article sought to assess how the requisites of sustainability-as-flourishing are expressed in theoretical and empirical research. This study seeks to investigate the extent to which these eight requisites are acknowledged and being currently used by businesses by investigating how local farmers and food producers conceptualize and practice sustainability within their own operations. Existing literature acknowledges the potential for local farmers and food producers to be engaged in the process of entrepreneurship (Migliore et al., 2015). Specifically, Migliore et al. (2015) point to the potential of local farmers and producers to be social entrepreneurs oriented to delivering social and environmental value in addition to economic returns. The broad overall goal of this study is to extend the literature on the requisites for the sustainability-as-flourishing model by investigating how farmers and local producers express the requisites in their day-to-day operations. The specific purpose

of this study is to assess the extent to which artisanal cheesemakers in Maine are entrepreneurs approaching sustainability-as-flourishing in real life practice. To serve this purpose, the main research questions of this study were devised from eight requisites condensed from environmental and social scientific literature by Schaefer, Corner, and Kearins (2015). These research questions will follow the grouping scheme of Beliefs and Values, Diagnosis, and Responsibility and are as follows:

The first two research questions address the beliefs and values of the cheesemaker(s);

RQ 1: To what extent do cheesemakers express a caring view of others and nature?

The first requisite established by Schaefer, Corner, and Kearins (2015) that is necessary to bring about sustainability-as-flourishing is that a caring view of others and nature should be expressed by humanity. The authors devised this requisite from sustainability literature contending that the adoption of this view is not possible until human societies are transformed to foster love (Ehrenfeld & Hoffman, 2013). The realization of this requisite requires a change in certain assumptions about human nature (Khozein, Karlberg, & Freeman, 2013). Sustainability scholars assert that humanity must depart from the conception of “homo economicus” where human nature is based on competition, egoism and self-maximizing behavior (Khozein, Karlberg, & Freeman, 2013). Schaefer, Corner, and Kearins (2015) provide evidence from sustainability, psychology, and sociology literature that human nature does not have to be defined by selfishness and that

moral, social, and caring behaviors are commonly expressed. A loving view of human nature is characterized by individuals behaving with compassion and with a recognition of human interconnectedness (Ehrenfeld & Hoffman, 2013). In his article on *Transforming Sustainability*, Grant (2012) contends that the outcomes of these behaviors are vital to securing a flourishing future. Moreover, recent research points to the potential of caring behaviors to boost creativity and lead to the generation of new and useful ideas that serve others (A. M. Grant & Berry, 2011; Polman & Emich, 2011). The purpose of this research question is to investigate the extent to which a caring view of others and nature is expressed by cheesemakers.

RQ 2: To what extent do cheesemakers promote social justice and equity?

Schaefer, Corner, and Kearins (2015) promote the view that social equity and justice must be enacted in order to ensure individual and planetary flourishing (Raworth, 2013). As previously mentioned, despite increased access to education and improved medical treatment worldwide, gender inequality in education and job opportunity is widespread and the gap between the wealthiest populations and the most impoverished is increasing (United Nations, 2015). These facts indicate that humanity is still in the midst of a period of social distress (Raworth, 2013). According to Raworth (2013), two of the factors that are contributing substantially to these issues are the unequal distribution of resources and overconsumption of goods and services by the planet's wealthiest inhabitants. To move humanity towards sustainability-as-flourishing, Schaefer, Corner, and Kearins (2015) set as their second requisite the view that humanity must move to a fairer, more equal, and

balanced distribution of environmental and financial resources (Shrivastava, 2012). The purpose of this research question is to investigate the extent to which principles of social justice and equity are expressed by cheesemakers.

The second general requisite category contains three research questions grouped together by how the cheesemaker(s) diagnose socioeconomic and environmental challenges;

RQ 3: To what extent do cheesemakers engage in complex systems thinking and adopt holistic approaches?

Based on a growing body of literature highlighting the importance of complex systems thinking, Schaefer, Corner, and Kearins (2015) propose that this method of thinking is a necessary requisite to establish a flourishing future. The inclusion of holistic approaches in this requisite is a response to traditional business thinking which has been critiqued for being far too reductionist (Schaefer, Corner, & Kearins, 2015). This approach requires that all parts of a system be considered in reference to their relationship to the larger whole. Complex systems thinking embraces an understanding for the interconnectedness of political, social, and economic systems (Costanza et al., 2013), as well as human embeddedness in the ecosystem (Davidson-Hunt & Berkes, 2003). Scholars contend that the complex systems view of business acknowledges its connections to other spheres (Costanza et al., 2013), a long term horizon for decision making (Laszlo et al., 2012), the importance of knowledge through holistic experience (Shrivastava, 2012), and the importance of pragmatism (Ehrenfeld & Hoffman, 2013). This research question is aimed

at evaluating the extent to which cheesemakers engage in complex systems thinking and adopt holistic approaches in their operations.

RQ 4: To what extent do cheesemakers consider root causes rather than symptoms?

The fourth requisite established by Schaefer, Corner, and Kearins (2015) acknowledges the claim that the beliefs and values held by many of the world's populations that are the primary and root causes for unsustainability (Ehrenfeld, 2005; Rimanoczy, 2013).

Scholars contend that it is only by addressing these underlying causes that a flourishing future for people and planet can be established (Ehrenfeld & Hoffman, 2013; Zahra et al., 2009) by first identifying which beliefs and values contribute to unsustainability and then striving to transform them along with the social structures in which they are embedded (Pacheco et al., 2010, Zahra et al., 2009). The purpose of this research question is to assess the extent to which cheesemakers identify and seek to transform unsustainable beliefs and values through their businesses.

RQ 5: To what extent do cheesemakers engage in critical reflection?

The process of critical reflection involves contemplating one's connections to themselves, others, and nature (Laszlo et al., 2012). Engaging in this process is said to enhance an individual's self-awareness and increase the opportunity for self-correction in courses of action that are built on false assumptions and incomplete information (Argyris,

1991). Practicing critical reflection may lead to a deeper awareness for the interconnectedness of the self to others and nature (Laszlo et al., 2012), which is said to be a motivating factor for establishing businesses with a clear aim of contributing to the manifestation of sustainability-as-flourishing (Ehrenfeld & Hoffman, 2013; Jackson, 2011; Laszlo et al., 2012). Schaefer, Corner, and Kearins (2015) also support the claim by many researchers that this practice can augment one's ability to engage in complex systems thinking. The purpose of this research question is to assess the extent to which decisions and actions of cheesemakers are underpinned by critical reflection.

The third category, Responsibility, contains three research questions and express how the cheesemaker(s) adopt responsible behaviors in response to socioeconomic and environmental issues;

RQ 6: To what extent do cheesemakers view profit as a means and not an end?

According to Schaefer, Corner, and Kearins (2015), the views of profit for businesses focused on moving humanity towards the model of sustainability-as-flourishing vary from the conventional business thinking on one-dimensional profit maximization. In their study, Costanza et al. (2013) contend that profit does not have to be the sole purpose of the enterprise, but can be viewed as a means for a more meaningful goal to be achieved, which is described by the authors as the development of "human well-being and quality of life." The conception of sustainability defined in the Brundtland Report does not include this view of profit and is even critiqued in the sustainability literature for being

too tied to neoclassical economic paradigms encouraging unconstrained growth and profit (Ehrenfeld, 2005). Driver and Porter (2012) contend that the role of profit within the sustainability-as-flourishing concept should be closer to the notion of shared value where businesses set social and environmental value generation as their first priority and view economic profit as a means to further disperse this value. Based on their review of the literature, Schaefer, Corner, and Kearins (2015) claim that the business community must move beyond current economic worldviews in order to secure a flourishing future, and set as their sixth requisite the view that “profit is a means to an end, not an end itself.” The purpose of this research question is to assess the extent to which cheesemakers view profit as a means to a more meaningful end for their business.

RQ 7: To what extent do cheesemakers operate within planetary boundaries?

According to sustainability scholars, planetary boundaries are boundaries that: define the safe operating space for humanity with respect to the Earth system and are associated with the planet’s bio-physical subsystems or processes (Rockström et al., 2009). Schaefer, Corner, and Kearins (2015) contend that the sustainability-as-flourishing model is not possible without a recognition for planetary boundaries and an acknowledgement for the limited carrying capacity of the Earth to support life. Such an awareness is critical to securing a flourishing future for humanity and all life forms on Earth (Folke, 2013; Rockström et al., 2009; Ehrenfeld & Hoffman, 2013). However, recent research reveals that these boundaries are not being respected and that human activity is already exceeding crucial biophysical limits (Engelman, 2013). From nine planetary boundaries

established in the literature, researchers point to three thresholds that have already been crossed; climate change, rate of biodiversity loss, and nitrogen cycle interference (Folke, 2013; Rockström et al., 2009). Based on this research, Schaefer, Corner, and Kearins (2015) establish as their seventh requisite that planetary boundaries must be respected and operated within these boundaries in order to move towards sustainability-as-flourishing. The purpose of this research question is to determine the extent to which cheesemakers acknowledge and operate within planetary boundaries.

RQ 8: To what extent do cheesemakers engage in participatory collaboration?

Building on entrepreneurship and sustainability literature, Schaefer, Corner, and Kearins (2015) acknowledge the presence of competition in business, but contend that approaches encouraging participation and collaboration among entities are vital to the sustainability-as-flourishing concept. Researchers in entrepreneurship literature define collaboration as “cooperation among diverse individuals, groups, or organizations working together systematically to achieve a common goal” (Khozein, Karlberg, & Freeman, 2013). These approaches often extend across business, civil, and political spheres and encourage innovation (Hart & Sharma, 2004; Roome, 2012). Scholars further contend that collaborative approaches strengthen communities, deepen relationships, nurture ecosystems, and ultimately encourage the co-creation of an ideal future state (Ehrenfeld & Hoffman, 2013; Laszlo et al., 2012). The aim of this research question is to investigate the extent to which cheesemakers seek out participative and collaborative approaches in their operations.

Method

These eight research questions were mapped to the transcripts of the thirty artisanal cheesemakers who participated in this study in order to assess the extent to which the requisites for sustainability-as-flourishing are expressed in the operations of artisanal cheesemakers. This section first describes the setup for this investigation and how data was gathered. The coding procedure is then detailed in order to explain how requisite expression was determined.

This study focused on licensed artisan cheesemakers in Maine who are members of the Maine Cheese Guild. The use of a case study method allows for deep exploration of the phenomena of interest—sustainability-as-flourishing as practiced (Yin, 1984). Each of these small-scale local food producers were selected based on membership in the Maine Cheese Guild. At the time of this study, conducted during summer 2016, approximately thirty-nine of the over eighty officially licensed cheesemakers operating in the state were represented in the Maine Cheese Guild. This organization welcomes anyone to join and membership is not limited to only licensed cheesemakers, although not all commercial cheesemakers are members.

Data was gathered via structured interviews with open and closed questions. To solicit respondents, a sequenced contact approach was used. First, cheesemakers received a communication from the Cheese Guild leadership informing them of our study and encouraging participation. Next, emails were sent by the researchers to request in-person interviews to help understand the social, economic, and environmental challenges and opportunities of this sector of the local food system. Of the population, our sample

included thirty cheesemakers, representing a response rate of approximately 70%. The businesses varied based on a number of factors, including whether or not milk was sourced on-farm or externally, the number of years in operation, initial investment, and annual production.

Interview questions were structured to assess practices, challenges, and opportunities for each cheesemaking operation. Interviews were conducted with the primary owner(s), with only a few exceptions, almost exclusively occurred on-site at farms or production facilities. Each interview followed the same set of questions, which can be found in the Appendix, and lasted between forty-five minutes to two hours. Two questions were aimed directly at assessing how cheesemakers conceptualize and practice sustainability:

- What key parts of your processes allow you to be a sustainable business?
- What do you view as the biggest challenges to the economic, social and environmental sustainability of your business?

Beyond these direct sustainability-related questions, other questions in the set indirectly keyed into the wider views of cheesemakers and were analyzed to determine the extent to which they expressed the sustainability-as-flourishing requisites.

To prepare for the analysis of the qualitative data gathered in this study, the recorded interview audio files were first transcribed into MS Word files, which resulted in transcripts for each of the thirty interviews. Before each transcript was reviewed, and following the method recommended by Miles and Huberman (1994), a preset list of

codes was generated for use in the analysis. Each of these codes tied to the research questions of this study, and were rooted in the conceptual sustainability-as-flourishing framework. The definitions of these codes were predetermined by the requisites for flourishing identified by Schaefer, Corner, and Kearins (2015) and followed the order outlined in the first eight research questions of this study. Establishing clear operational definitions for codes enabled researchers to have a common language to work with and contributed to greater clarity in how particular segments of data potentially fit into each requisite category (Miles and Huberman, 1994). Table 2 below displays these codes.

Table 2. Preset List of Codes From Research Questions on Requisites for Sustainability-as-Flourishing

Research Questions	Name of Code	Code Definition
RQ1: Requisite 1	CN!	Caring for others and nature
RQ2: Requisite 2	SJ@	Principles of social justice and equity
RQ3: Requisite 3	ST#	Complex systems thinking and holistic approaches
RQ4: Requisite 4	RC\$	Root causes of issues addressed
RQ5: Requisite 5	CR%	Processes of enactment underpinned by critical reflection
RQ6: Requisite 6	PE^	Profit is a means to an end, not an end itself
RQ7: Requisite 7	PB&	Planetary boundaries are respected and operated within
RQ8 Requisite 8	PC*	Participative and collaborative approaches are encouraged

A physical copy of this list was set aside and referenced frequently as each transcript was reviewed. The names of codes were determined based on their closeness to the concept that each represented, which in this case was the definition for each of the eight requisites of flourishing. Within the word processing file of each transcript, codes were assigned to segments of the responses that were related to a particular code definition. This was conducted through a manual, “by-hand,” coding process. Utilizing

short code labels streamlined this process and allowed for segments expressing the requisites to be easily retrieved later on in the analysis process through the search function of the word processing file.

Each of the thirty cheesemaker transcripts received three rounds of coding. In each iteration, the transcripts were analyzed in reference to the predefined system of codes. It was determined that the proper unit of analysis would be at the sentence level in order to accurately capture the meaning expressed by each cheesemaker in their responses and to be consistent across transcripts. Following the case study analysis approach outlined by Eisenhardt (1989), the first two iterations of coding involved coding each transcript as a stand-alone entity in order to become familiar with how the eight requisites for sustainability-as-flourishing were expressed uniquely in each case. The third iteration of coding involved searching for general patterns for requisite expression across cases to determine within group similarities and intergroup differences (Eisenhardt, 1989).

The objective of the first pass was to explore how the code definitions, and theoretical framework behind each requisite, matched the sentiments and practices expressed by cheesemakers through their responses to each interview question. The following paragraphs outline the coding procedure and include a discussion for what key words and phrases were flagged as being representative of requisite expression.

CN! – *Caring for Others and Nature*. Coding for Requisite 1 centered on how each cheesemaker discussed their relationships to others and nature. In order to receive a code, sentences describing relationships had to express caring, love, or a recognition for

interconnectedness. Sentences with key words such as *connected* and *relationships* were scrutinized for the extent to which they expressed a caring view of others and nature. For example, the following sentence, taken from a response to the question of how social sustainability is conceptualized, demonstrates a recognition for interconnectedness:

... what I think about when I think of social sustainability is how we're connected with one another, not just staying in our little camps here and there and ... you know, somehow inspiring other people ...

Having met the criteria of acknowledging a connection to others, the above sentence was then analyzed on the basis of how the cheesemaker articulated views towards “others”. The sentence was deemed to express a caring view in the way that the cheesemaker described a desire to inspire “other people”. As a result, this sentence was coded as satisfying the definition of Requisite 1.

Key words used to describe the “others” mentioned by cheesemakers were often *family, friends, neighbors, customers*, and the *community*. For example, in the following sentence, a caring view is expressed towards the neighbors of one cheesemaker:

Couldn't do it without the neighbors, you know, they keep their eye on us and we keep our eyes on them ...

This sentence was part of a longer response to the question of who helps the cheesemaker in their business and what type of help is provided. The cheesemaker provided more detail in how exactly the members of the neighborhood provide assistance to one another, but this sentence was coded because it demonstrated that the cheesemaker was a part of mutual caring relationships within their neighborhood.

A caring view towards nature was articulated mostly in how the cheesemakers described the quality of their relationships to their livestock and how those relationships impacted their decision on becoming a cheesemaker. For example, the following two sentences represent an aspect of the rationale behind one artisan's desire to become a cheesemaker:

... I like it because you don't always have to be killing your product. You can actually have a long term relationship with some of your herd...

The first sentence received a code for how it represented a compassionate view for the life of an animal. The second sentence was coded for how it described the cheesemaker's view that a connection existed between farmer and livestock, and that a meaningful relationship between human and animal could form over time.

The benefit of relationships articulated by cheesemakers was also an area of close study to determine what utility they derived from such connections. Sentences describing the quality of relationships with words such as *love* and *support* were also flagged as being representative of Requisite 1. For example, the following two sentences capture a portion of a cheesemaker's response to the question of challenges to economic, environmental, and social sustainability and key into the benefits of being part of a strong community:

I would say we have like an amazing community around here that is very supportive of what we are doing. I think that the stores that we work with love us, and the restaurants that we work with love us, so I feel like social sustainability, I feel like we're in a really good place ...

These two sentences were coded because each expressed an acknowledgement for the connection the cheesemaker has with others, as well as a recognition for the benefits, namely support, of engaging in caring relationships with others.

SJ@ – Principles of Social Justice and Equity. Coding for Requisite 2 centered on each cheesemaker's awareness for social problems and to what level they expressed a desire to reach a fairer, more equal, and balanced distribution of resources. In particular, responses that contained key words such as *social issues*, *low income*, and *afford* were scrutinized for the extent to which they expressed principles of social justice and equity. For example, the following sentence that was taken from a response to the question of what the cheesemaker perceives to be key challenges to economic, environmental, and social sustainability, was coded as expressive of Requisite 2:

There are people that can't afford our products and there's very valid reasons why they can't and ... I feel like I want to work with those people in any way I can and I'm certainly glad that there are SNAP programs at farmer's markets now because people should have access to healthy food and it is hard to afford healthy food sometimes ...

This sentence received a code because it represented the cheesemaker's awareness for the inequalities pertaining to healthy food access and affordability. Additionally, the cheesemaker states a desire to participate in programs to make the distribution of healthy foods more accessible. Other cheesemakers shared similar sentiments, such as the artisan who expressed a desire to widen access to their product, which they know is a luxury good, to people of varying socioeconomic status:

We get a lot of low income people who have never had goat cheese and goat cheese tends to be a gourmet product you know? And they're like, oh I've never had goat cheese. They have the SNAP cards ... And we love introducing people ...

Each of the sentences in the quote above was coded for Requisite 2 because the cheesemakers identified a social problem related to the distribution of their product and expressed how their operation was participating in programs to address those issues.

ST# – Complex Systems Thinking and Holistic Approaches. Coding for Requisite 3 centered on how each cheesemaker demonstrated a recognition for the interconnectedness of political, social, and economic systems. Sentences that acknowledged the interrelationship between these systems received a code. In particular, sentences that contained key words such as *regulations*, *economy*, and *trends* were scrutinized to the extent in which artisans explained how their thinking spanned across systems. For example, the following sentence demonstrates how influences from other systems are considered:

... this is really important, this is how regulations affect an industry, so now people can work with as many gallons as they want and they don't have to pasteurize milk with instrumentation, but they can't get it out of the state.

This sentence, taken from a longer explanation for how the changing regulatory environment has impacted artisanal cheesemaking in Maine, received a code because the cheesemaker recognized the interrelationship of spheres and specifically explained how the political sphere had created a unique market situation in the state. Complex systems thinking was also coded in response to interview questions where cheesemakers explained opportunities and challenges stemming from the economic sphere. The quote

below is one example of a sentence that captures how a cheesemaker considers the economic system in making decisions about product pricing:

But to me, I want to sell it a little bit cheaper, I want to be able to sell to my local farmer's market and the economic situation we're in, I don't ... and it's tough for wholesale because they need to mark it up 30 percent so I have to factor that in.

Additionally, codes for Requisite 3 were assigned to sentences that explained how cheesemakers considered consumer trends and preferences in the social sphere. An example of a sentence coded in this fashion is found below:

So one is the sustainability of being able to convince people to keep buying cheese, so that is keeping on top of trends, changing impressions of what cheese is ...

This sentence, taken from a longer response to the question of what aspects of their business allow the cheesemaker to be sustainable, was coded because the cheesemaker described that thinking across the social sphere was key to the sustainability of their business. Further codes were assigned to responses that considered market or regulatory systems in other regions, states, or countries. Often times, these sentences addressed challenges to cheesemaking in Maine in comparison to other states with larger markets or in areas with friendlier regulatory or institutional environments. For example, Vermont was often mentioned by cheesemakers as a state with tremendous support through institutions like the Vermont Institute of Artisan Cheesemaking (VIAC). Additionally, a number of cheesemakers identified opportunities in accessing markets in other states such as Massachusetts.

RC\$ – Root Causes of Issues Addressed. Coding for Requisite 4 focused on the ways in which cheesemakers discussed, in their responses to interview questions, the beliefs and values that they perceived to contribute to unsustainability. For example, the following sentence was coded as expressing Requisite 4:

I think people have to value [local foods] and I guess that's what it is, it's valuing that when you go to a farmer's market that this has been produced I guess purely ...

This sentence was part of a longer response to the questions of what challenges exist for economic sustainability for this cheesemaker's business. The cheesemaker identified that the values held by the public are crucial to the future support and growth of the local food system in Maine. Further examples include the ways in which cheesemaker's addressed false beliefs or misinformation about such things as the pricing of artisanal cheese. In response to the question of the key challenges for economic, environmental, and social sustainability, one cheesemaker had this to say:

... a lot of people out there who have other jobs and are buying food and may be suspicious of the price, if they knew how many hours a week that we work for way less than minimum wage then, maybe, they would be more sympathetic cause we're just trying to cover the cost the grain and the jars and the labels and the ingredients and the employee labor and we're not ...

This cheesemaker was attempting to key into the reasons consumers have a hard time wrapping their head around the increased prices for artisanal cheese and instead buy traditional products found on the shelves of a grocery store. This sentence was coded for Requisite 4 because the cheesemaker was identifying underlying beliefs that were perceived to be challenges to sustainability. Furthermore, this cheesemaker notes that if a

consumer had the opportunity to be properly informed of the expenses associated with artisanal production, their beliefs and opinions might be shifted.

Additional sentences that outlined the opportunities that cheesemakers believed would transform identified beliefs and values were analyzed for their expression of the characteristics of this requisite. The following cheesemaker quote exemplifies one of these sentences:

A more educated consumer base right now who's willing to take that into consideration and pay a higher price for it so I think that's a huge opportunity.

This sentence was coded among a longer response to the question of what opportunities exist for the cheesemaker's business and for all cheesemakers in Maine. This artisan not only identified a root cause for a challenge facing this sector of the economy in a general unwillingness to pay a higher price for food, but suggested consumer education as a possible solution to the issue. Therefore, this sentence was coded as expressing Requisite 4.

Another example of a sentence coded for how it addressed transforming beliefs and values is found below:

... I figure my challenge is that I need to continue what I'm doing in terms of education ... continue the educational piece and continue to be that mentor for people.

This quote comes from a response to the question of what challenges exist for social sustainability and was coded because the cheesemaker demonstrates that education

has been identified as a method to address certain issues they face in operating their business.

CR% – Processes of Enactment Underpinned by Critical Reflection. Coding for Requisite 5 focused on the extent to which cheesemakers engaged in critical reflection. Initially, any indication that a cheesemaker had engaged in reflection was deemed sufficient for that response to be coded for this requisite. Early on in the analysis, preliminary coding flagged any sentence that illuminated some aspect of the cheesemaker's decision making process. These sentences were thought to satisfy the criteria for Requisite 5 and indicate that some sort of reflection had taken place before an action was taken. As a result of this approach, two problems quickly arose. First, due to the fact that the interview questions asked cheesemakers to explain various parts of their operations or decision making, nearly every sentence in a transcript appeared to indicate the existence of critical reflection. Second, the number of instances that critical reflection was flagged in each of the transcripts threatened to dilute the results for this aspect of the research. In response to this, it was determined that a stricter definition for this requisite needed to be devised and that previous transcripts required recoding.

The definition used for coding Requisite 5 was tightened around how cheesemakers reflected on their decision making processes around three critical areas in the evolution of their businesses. First, sentences were coded based on how artisans explained the reasons for becoming cheesemakers. For example, in response to the questions of what drew them into making cheese, one cheesemaker replied:

You know, there wasn't a lot to do, so I thought, well, I didn't mind ... it was probably sort of accidental, I didn't mind ... you know, I'm a self-starter, I didn't mind being by myself or working for myself or ... I like the physical stuff, didn't mind the physical work.

This sentence was coded as expressing Requisite 5 because the artisan reflected on the personal qualities that suited them for the work involved in making cheese. In particular, this response demonstrates how the cheesemaker is able draw out and articulate specific opinions and thoughts that were part of the original rationale for their decision to start cheesemaking.

The second area of focus for the coding of this requisite centered on sentences that described the factors that were considered as artisans determined their approach to making cheese. An example of one sentence coded in this way is below:

Everything had to be consolidated so that 2, maybe 3 people could run the dairy and not ... if you have to hire ... we'd run ... this is my third business now, and there's a couple things, one is we didn't want a lot of employees because we've been down that road and we didn't want to do that again.

This sentence, pulled from a longer response to the question of what key aspects of the business allow it to be sustainable, was coded as expressing Requisite 5 because the cheesemaker reveals the thinking behind the current set up of the operation. This response illuminates the decision making process and indicates a high level of consideration for the desired outcomes of the current approach to making cheese.

And, third, sentences were coded that captured a cheesemaker's thinking on the next steps for their businesses, whether it be growing, maintaining, or downsizing the operation. For example, the sentence below was from a response based on the question of

what the key challenges are to being a cheesemaker, explains the factors being weighed by one artisan in order to reach new markets:

I went back and forth and back and forth between doing an apprentice and hiring someone and I decided to hire someone because I just don't like having to train someone new every 6 months so ... I mean, the climate of Maine, not the environmental climate but just the seasonal climate ... I just want to get into Boston you know?

This sentence was coded as Requisite 5 because it reveals some of the thinking the cheesemaker has engaged in to assess and respond to challenges facing the business. Moreover, this sentence sheds light on the potential opportunities this cheesemaker has been considering to grow the business and solve some of the challenges associated with seasonality.

PE^ – Profit is a Means to an End, Not an End Itself. Coding for Requisite 6 centered on how each cheesemaker discussed their opinions on profit in the context of their business. Sentences, like the one below, received codes for presenting alternative views on how profitability is defined:

We get rewarded from this in many other ways than just economic and I think that's part of the answer to your question.

The above sentence captured one cheesemaker's view that profit does not have to be the sole purpose of the enterprise, nor does it have to be the only source of value. In addition, responses that discussed how professionally making cheese allowed artisans to maintain a desired lifestyle were scrutinized for the extent to which cheesemakers

expressed profit as a means to a more meaningful end. The following sentence is one example of a response coded in this way:

I think we're a very profitable farm in the respect that we're getting to do what we love to do.

Predictably, key words that were recurring in some of the other responses coded for this requisite included *profit, money, and lifestyle*.

PB& – Planetary Boundaries are Respected and Operated Within. Coding for Requisite 7 centered on the extent to which cheesemakers acknowledged and worked within planetary boundaries in their operations. Within the context of the interviews, responses that were coded for this requisite discussed topics, such as land and waste management. For example, the following sentence, which was part of a longer response to the question of what challenges exist to economic, environmental, and social sustainability, was coded as being expressive of Requisite 7:

I think environmentally we're improving our farm by improving the fields, adding all the manure and stuff that we have into it, having the goats grazing across it.

This sentence received a code because the cheesemaker's response keyed into how their land is managed in ways that cycle nutrients through the farm system. Furthermore, as the artisan considers this approach to be linked to environmental sustainability, this response was deemed to represent a respect for planetary boundaries.

Sentences with key words such as *waste, whey, manure, compost, and greywater* were scrutinized for the extent to which they expressed this requisite. The following

sentence, in response to the question of what wastes are generated as part of the cheesemaking process, details how one cheesemaker manages one of those wastes:

... well whey is one huge big waste and that, actually, my milker takes it away for his pigs.

This sentence was coded for how the cheesemaker acknowledges the major wastes generated in making cheese and has established relationships to manage those wastes. Another area of coding for this requisite attempted to capture the wider opinions of cheesemakers on how they viewed their use of the land and their relationship to it. The following sentence was coded in this way:

I'd say most people we're talking about are operating under a sort of similar umbrella of caring for the Earth and trying to get off this crazy, destructive trajectory we're on and try to leave things a little better for our children or help them steer it back a little bit.

This sentence was found to be expressive of Requisite 7 in the way in which the cheesemaker demonstrates an awareness for the negative impact of human activity on the planet and a desire to lessen those impacts. These sentiments displayed both an acknowledgement and respect for planetary boundaries.

PC – Participative and Collaborative Approaches are Encouraged.* Coding for Requisite 8 centered on three primary areas. First, sentences that described current collaborations cheesemakers had established with other businesses, organizations, and institutions were analyzed for the extent to which they expressed this requisite. An example of a sentence coded in this manner is below:

... I have custom batches that I make in arrangement with breweries, wineries, and distilleries.

This sentence received a code because the cheesemaker described a current collaboration that has been established with businesses operating in other industries. Additional entities mentioned in the responses of other cheesemakers that were coded for participatory collaboration included the Maine Cheese Guild, Maine Organic Farmers and Growers Association (MOFGA), the University of Maine, and VIAC. Many artisans also described collaborating with their cheesemaking peers in a variety of ways in their interview transcripts.

The second main area of coding for Requisite 8 focused on how cheesemakers described further opportunities for collaboration. The response below is one example of a response coded in this way:

So, Maine cheesemakers ... I think they're probably other opportunities for people to be sharing spaces, you know, because Maine is so friendly for the raw milk side of things, I think that if there was a standard for food safety, for the cleaning processes that people were going to have in their space, there could probably be more people making use of, you know, gaining space.

This sentence was coded for participatory collaboration because the cheesemaker is encouraging collaboration and recognizing the potential for cheesemakers to cooperate for mutual benefit. An awareness for the advantages of collaboration was the third area of focus for coding for Requisite 8. The following quote shares another cheesemaker's view on the benefits that result from close cooperation among cheesemakers:

... the Guild meetings and going to Guild meetings and seeing those physical plants at every meeting gives you a broader view on different ways of doing the same thing and when you find the thing that really matches the thing you want to

do, I will ask for their plumber's name or who designed this or where's the design from and they'll give me the info.

This sentence received a code because the cheesemaker described how collaborative approaches can strengthen communities, specifically the community of artisanal producers who are part of the Maine Cheese Guild, through knowledge and experience sharing.

Sentences describing a cheesemaker's participation in a variety of workshops on topics such as making cheese and food safety were coded for this requisite as well. Often times these workshops were described in a context that fit the definition of this requisite and were therefore coded as representing participatory collaboration.

Additionally, due to the fact that the unit of analysis was at the sentence level and given the reality that many sentences were lengthy or involved complex answers, some sentences were assigned multiple codes. For example, the following sentence was coded as expressing a caring view of others and nature (Requisite 1), addressing root causes (Requisite 4), critical reflection (Requisite 5), and profits as a means to an end (Requisite 6).

I'm in it to show, okay, can we be good to the environment, can we be good to our workers, can we be good to our animals, and still run a business cause if we can't, I have no interest in doing it.

There were multiple instances across transcripts where single sentences received more than one code. This method of coding helped to overcome the challenge of assigning a single code to a sentence that shared sentiments or practices that could go be argued to be expressive of one code or another depending on how the sentence was interpreted.

The first two iterations of coding focused on how each of the requisites for sustainability-as-flourishing were expressed by the sample of thirty cheesemakers in their responses to the interview questions of this study. The third iteration of coding was conducted to identify sub-themes in the ways in which requisites were expressed across transcripts. This process involved selecting one of the eight code categories and performing a focused pass through all thirty transcripts to analyze the sentences that were flagged with that code. This process was repeated for each code category to determine if any patterns for expression existed across transcripts. The following paragraphs will describe the sub-themes that were identified as a result of this iteration.

Analyzing the sentences coded for Requisite 1 (Caring for Others and Nature) indicated that the majority of respondents expressed a level of compassion for those in close proximity to them. That is to say, numerous sentences across cases described caring relationships to individuals within a cheesemaker's community, as well as with the livestock involved with their operation. In this way, the two sub-themes identified for how this requisite was expressed were categorized as Caring for Animals and Caring for Community.

Expression for Requisite 2 (Principles of Social Justice and Equity) across transcripts was centered on social issues at the personal, local, and community level. While the interview questions relating to challenges associated with the economic, environmental, and social spheres of sustainability could be answered by keying into global issues, the majority of codes were assigned to sentences where artisans expressed a desire to work towards a more balanced distribution of resources within their own

operations and in their immediate communities. The analysis of codes from all thirty transcripts indicated that sub-themes existed for how cheesemakers discussed Financial Inequality, Treatment of Labor, and Accessibility to Local and Healthy Foods.

Regarding Requisite 3 (Complex Systems Thinking and Holistic Approaches), the third iteration of coding indicated that responses centered around the sub-themes of Food Systems, Political Systems, Social Systems, and Economic Systems. The analysis of codes across all thirty transcripts also revealed an absence of codes demonstrating how cheesemakers engaged in holistic approaches, established long term horizons for decision making, and practiced pragmatism. Responses did not key into these areas to the extent that an awareness for the interconnectedness of economic, social, and political systems was expressed across the majority of transcripts. As demonstrated by the sub-themes identified for this requisite, the majority of codes were assigned to sentences that demonstrated cheesemaker's thinking across systems.

The analysis for the expression of Requisite 4 (Root Causes of Issues Addressed) revealed that cheesemakers predominantly identified and sought to transform beliefs and values associated with local food systems. Many of the beliefs and values that were identified and targeted for transformation were related to issues related to the sustainability of cheesemaking, such as educating consumers to value local foods. Reviewing the sentences coded for this requisite across all thirty transcripts indicated the existence of three sub-themes: Source of Food, Education & Awareness, and Culture & Values.

The coding for Requisite 5 (Processes of Enactment Underpinned by Critical Reflection) focused on the story behind the artisan's journey to cheesemaking, how the

approach to making cheese professionally was determined, and how that approach has been maintained or altered over time. Sentences that were coded across all thirty transcripts revealed aspects of the cheesemaker's decision making process, as well as how they think about their set up and operations. The third iteration of coding for this requisite indicated the existence of two sub-themes: Evolution of Business & Mission and Process & Resource Management.

Analyzing the sentences coded for Requisite 6 (Profit as a Means to an End, not an End Itself) revealed the majority of responses were centered on the varying views of profitability held by cheesemakers, as well as their recognition that profit allowed them to pursue more meaningful goals. The analysis of codes from all thirty transcripts indicated that sub-themes existed for how profit was described as a means for cheesemakers to be engaged in the process of making a high quality product with their own hands, as well as maintain a desired quality of life. As a result, the sub-themes identified are titled: Art & Craft and Quality of Life.

Regarding Requisite 7 (Planetary Boundaries are Respected and Operated Within), the third iteration of coding indicated that responses were patterned around respecting the personal and local environments in which cheesemakers were situated. Wider planetary environments and boundaries were not found to be the exact focus of the sentences coded for this requisite. Codes were assigned to responses that dealt with how waste was handled in each cheese making operation and to the views and practices concerning land management. The analysis of codes across all thirty transcripts indicated that the following sub-themes existed: Opinions on Waste & Waste Management and the Treatment of Land.

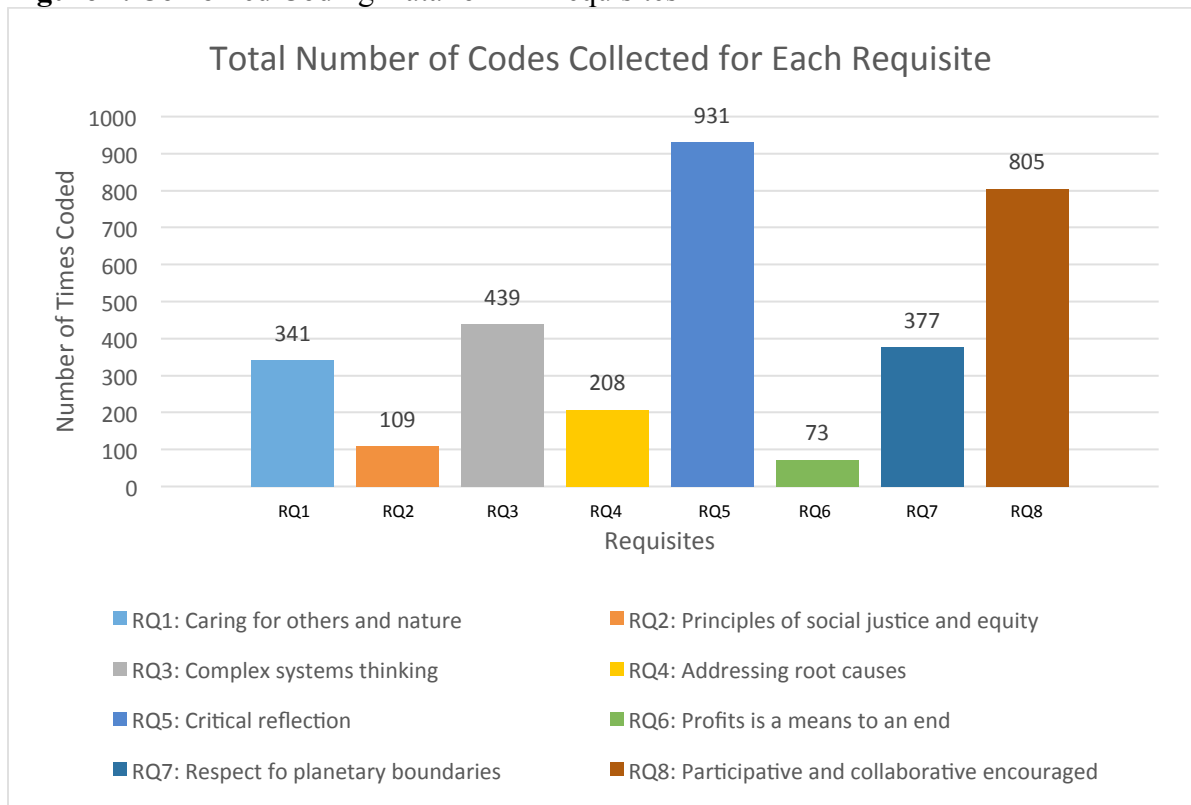
The expression of Requisite 8 (Participative and Collaborative Approaches are Encouraged) across transcripts was centered on how cheesemakers engaged in and sought to establish collaborative relationships with other entities. Sentences coded in this way also captured the views and opinions of cheesemakers on how opportunities to collaborate would benefit their operations, as well as the artisanal cheesemaking sector at large. The third iteration of coding indicated the following sub-themes: Maine Cheese Guild, Community Relationships, and Cross-Industry Collaboration.

Results

This section reports the findings from the analyses of the thirty cheesemaker interviews with respect to the eight requisites for sustainability-as-flourishing identified by Schaefer, Corner, and Kearins (2015). First, this section reports the total number of codes collected from the entire analysis process across all eight requisites. Moving beyond the aggregate coding data, the next portion of this section presents the findings from the analysis on the frequency of expression for each individual research question.

Figure 1, below, displays the number of codes each requisite received through the analysis of all thirty transcripts.

Figure 1. Combined Coding Data for All Requisites



The two highest frequency codes were found to be critical reflection (Requisite 5) and participative collaboration (Requisite 8). The requisites of complex systems thinking (Requisite 3), a respect for planetary boundaries (Requisite 7), and a caring view of others and nature (Requisite 1) were expressed at a moderate frequency throughout the interview transcripts. Finally, the following requisites were infrequently coded throughout all thirty transcripts: addressing root causes (Requisite 4), principles of social justice and equity (Requisite 2), and profit as a means to an end (Requisite 6).

The frequency at which each requisite was expressed was determined by the number of instances that requisite was coded in each interview transcript. This measure was selected to evaluate the degree to which each requisite was expressed by each individual cheesemaker, as well as collectively among the other transcripts. The

frequency level was evaluated based on intervals of fifteen. The scale for code frequency was set at Zero (no codes), Low (less than fifteen), Moderate (greater or equal to fifteen, but less than thirty), and High (equal to or greater than thirty)

Requisite Category 1: Beliefs and Values

RQ 1: To what extent do cheesemakers express a caring view of others and nature?

Regarding the belief that a caring view of others and nature should be maintained, this study revealed that only two cheesemakers expressed this requisite at a high frequency level in their responses to the interview questions. The level of frequency can be seen for each research question in Figure 2. Chart A showed that four cheesemakers expressed a moderate frequency level for this view, while the largest portion of the sample size at twenty-three cheesemakers, were found to have a low frequency level. Finally, one cheesemaker did not express this requisite throughout their interview and received a frequency score of zero.

RQ 2: To what extent do cheesemakers promote social justice and equity?

The results showed only one cheesemaker expressed a high frequency of his/her views on social justice and equity, as shown by Chart B in Figure 2. Additionally, one cheesemaker received a moderate frequency score for this requisite. The vast majority of

the cheesemakers expressed either a low level of frequency or none at all in regards to social justice and equity. The number of low frequency cheesemakers was fifteen, while thirteen did not express this view at all through their transcripts.

Requisite Category 2: Diagnosis

RQ 3: To what extent do cheesemakers engage in complex systems thinking and adopt holistic approaches?

The results revealed that three cheesemakers expressed their engagement in complex systems thinking at a high level frequency. As shown in Chart C in Figure 2, there were ten cheesemakers indicated a moderate frequency level for this requisite. The majority of the sample, at fifteen cheesemakers, were deemed to have a low level of frequency for their expression of this requisite in their responses. Finally, two cheesemakers did not express systems thinking as part of their diagnosis of socioeconomic and environmental challenges in their responses to various questions regarding the characteristics of their enterprises.

RQ 4: To what extent do cheesemakers consider root causes rather than symptoms?

Chart D in Figure 2, displayed the finding that none of the thirty cheesemakers expressed this requisite at a high frequency. Five cheesemakers were found to diagnose root causes at a moderate frequency level, while the majority of the group, at eighteen

cheesemakers, scored in the low frequency zone. Finally, seven cheesemakers were deemed to have a frequency score of zero for this requisite because it was not expressed in their responses to the interview questions.

RQ 5: To what extent do cheesemakers engage in critical reflection?

The findings revealed that thirteen cheesemakers expressed this requisite at a high frequency, as shown in Chart E. Another fifteen cheesemakers were found to have a moderate frequency level for the number of instances they engaged in critical reflection throughout their interviews. The remaining two cheesemakers received a low frequency score for their expression of this requisite. All thirty cheesemakers expressed this requisite to varying degrees, therefore, no cheesemaker received a score of zero.