

UC Berkeley

UC Berkeley Electronic Theses and Dissertations

Title

Open Innovation Ecosystem: Chez Panisse Case Study

Permalink

<https://escholarship.org/uc/item/3jq7x9s2>

Author

Kim, So Hyeong

Publication Date

2013

Peer reviewed|Thesis/dissertation

Open Innovation Ecosystem:
Chez Panisse Case Study

by
So Hyeong Kim

A dissertation submitted in partial satisfaction of the
Requirements for the degree of
Doctor of Philosophy

in the

in Science and Mathematics Education
Graduate Division
of the
University of California, Berkeley

Committee in charge:
Alice M. Agogino, Chair
Sara L. Beckman
Paul K. Wright
Henry W. Chesbrough

Fall 2013

Open Innovation Ecosystem:
Chez Panisse Case Study

©2013

by So Hyeong Kim

The dissertation of So Hyeong Kim, titled Open Innovation Ecosystem:
Chez Panisse Case Study, is approved:

Chair	_____	Date	_____
	_____	Date	_____
	_____	Date	_____
	_____	Date	_____

ABSTRACT

Open Innovation Ecosystem: Chez Panisse Case Study

by

So Hyeong Kim

Doctor of Philosophy in Science and Mathematics Education

University of California, Berkeley

Professor Alice M. Agogino, Chair

The concept of open innovation has been highly popularized both in academia and industry for the last decade. Various types of firms have been studied from high tech to service. Yet, there has been limited academic review of open innovation as a collective business ecosystem. In particular, little research exists on how a business ecosystem is generated, how it adopts concepts associated with open innovation in its business practice, and what sustains an ecosystem over time.

My dissertation demonstrates how one business entity – Chez Panisse – started its business journey and how it practiced what is popularly called open innovation within its community for over 42 years. In order to do so, I closely observed and participated in understanding the California Cuisine ecosystem to collect data. I employed a single-case study method by incorporating in-depth interviews, participatory observation, as well as a thorough collection of publically available data. The research findings indicate that (1) knowledge spillover was a conduit to expand and grow the Chez Panisse ecosystem, (2) co-creation of products and services with ecosystem participants contributed to collective ecosystem innovation, and (3) social innovation and learning were key factors in strengthening the bond among stakeholders and enabled the ecosystem's expansion to the national, and global level.

I introduce the concept of an *Open Innovation Ecosystem* as a business ecosystem that co-creates innovations with its stakeholders and captures co-created values collectively within the ecosystem. The Chez Panisse case illustrates how what is popularly referred to as open innovation can be practiced at the level of a business ecosystem and become an important factor in its growth and expansion. The research outcomes suggest that business practitioners should consider employing the approaches identified in this thesis if they are interested in designing, creating and growing or maintaining a business ecosystem. These results additionally indicate that participants of the Chez Panisse open innovation ecosystem stayed engaged because of the educational and social innovation aspects; therefore businesses may want to consider the role that education and social innovation can play in sustaining a healthy business ecosystem.

DEDICATION

This dissertation is dedicated to my lovely parents, Hanjoo Kim and Kyungae Oh.

TABLE OF CONTENTS

1.	Introduction.....	1
1.1.	Background.....	1
1.2.	Problem Statement.....	1
1.3.	Introduction of the Chez Panisse Case Study	2
1.4.	Research Questions.....	2
1.5.	Thesis Outline	3
2.	Literature Review.....	5
2.1.	Open Innovation.....	5
2.2.	Business Ecosystems	8
2.3.	Network Ties: Wide vs. Deep, Formal vs. Informal.....	9
2.4.	Knowledge Spillover	10
3.	Research Methods.....	13
3.1.	Research Questions.....	13
3.2.	Research Design.....	13
3.3.	Research Methods.....	13
3.4.	Data Collection	14
3.4.1.	In-depth Interview.....	14
3.4.2.	Participatory Observation	18
3.4.3.	Public Data.....	18
3.5.	Data Analysis.....	19
3.6.	Chapter Summary	19
4.	Open Innovation Ecosystems: Closing a Gap in the Open Innovation Literature	21
4.1.	Introduction of Innovation Ecosystems	21
4.2.	Local Clusters and Communities	22
4.3.	Social Innovation and Learning Communities	23
4.4.	Characterization of Open Innovation Ecosystem by Social Impact Factors.....	25
4.5.	Chapter Summary	26
5.	Open Innovations in Culinary Ecosystems: Introduction of the Chez Panisse Case	27
5.1.	Innovations in Culinary Sectors.....	27
5.2.	Culinary Innovations as a New Product Development Process.....	29
5.3.	Case Study: Chez Panisse	32

5.4.	Chapter Summary	34
6.	Evolution of an Open Innovation Ecosystem: Chez Panisse Case	35
6.1.	Chapter Introduction	35
6.2.	Evolution of Chez Panisse Ecosystem.....	35
6.2.1.	Stage 1: Birth (1971-1984)	35
6.2.1.1.	Seed Innovation	36
6.2.1.2.	Vision and Strategy	37
6.2.1.3.	Stakeholders	38
6.2.2.	Stage 2: Local Expansion through Leadership and Open Innovation (1985-1996) 40	
6.2.2.1.	Co-Evolution with Suppliers and Farmers	40
6.2.2.2.	Reflective Menu	41
6.2.2.3.	Changing Strategy and Business Model.....	43
6.2.2.4.	Other Stakeholders	43
6.2.3.	Stage 3: Global Expansion through Social Innovation and Education (1996- Present)46	
6.2.3.1.	Establishing the Chez Panisse Foundation.....	46
6.2.3.2.	Move to a Global Strategy.....	48
6.2.3.3.	Stakeholders	48
6.3.	Trajectories of Chez Panisse Alumni.....	50
6.3.1.	The Number of Employees	51
6.3.2.	Post-career After Chez Panisse	51
6.3.3.	The ranking of value and knowledge.....	52
6.3.4.	Learning in the Chez Panisse Open Innovation Ecosystem.....	53
6.3.5.	Tracking of Start-ups	56
6.4.	Development of an interactive platform for visualizing the Chez Panisse Ecosystem 57	
6.5.	Chapter Summary	61
7.	Co-creation of Culinary Innovation in the Chez Panisse Ecosystem	63
7.1.	Chapter Introduction	63
7.2.	Culinary Innovation as New Product Development and Design	63
7.3.	Co-creation as a Part of the Chez Panisse Open Innovation Ecosystem	65
7.3.1.	Step 1: Idea Generation.....	65

7.3.2.	Step 2: Concept Screening	69
7.3.3.	Step 3: Prototyping	69
7.3.4.	Step 4: Concept Development	70
7.3.5.	Step 5: Concept Testing	71
7.3.6.	Step 6: Customer Feedback	71
7.4.	Chapter Summary	72
8.	Conclusions	74
8.1.	Significance of the Study	74
8.2.	Directions for Future Research	77
9.	References	79

ACKNOWLEDGEMENTS

Foremost I wish to acknowledge my parents Hanjoo Kim and Kyungae Oh. I could not have accomplished this work without you. Your love and encouragement and encouragement are the reasons I could work so diligently in accomplishing my academic pursuits. Thank you for always being supportive of me. I also deeply thank my dissertation committee for giving guidance and constructive feedback. .

First of all, I would like to thank my advisor Alice Agogino for encouraging me to undertake such a substantive research. Alice has shown an unfailing trust and belief in me throughout my PhD program. Alice, thanks for your research advice and patience. I also want to express my appreciation to my co-advisor, Henry Chesbrough, for introducing me to the field of open innovation and leading me to a successful research in the same. He greatly encouraged me to write this dissertation by sharing ideas and providing a direction whenever I was stuck. Both of them are truly my role models of a research advisor and mentor.

Particular thanks to Sara Beckman for sharpening my thoughts. She was the very first professor I met at UC Berkeley when I was transitioning from Stanford. I can't forget her generous support for intellectual stretch as well as personal minor crisis. She probably wouldn't remember all these, but she has shown me what a great teacher and mentor is. Larry Leifer at Stanford has demonstrated a constant encouragement and advising whenever I needed his help. Professor Raymond Miles at Haas and Michael Pollan at School of Journalism at UC Berkeley scholarly contributed to my work.

I'd like to thank all the members past and present of my two labs, CDR at Stanford and BEST at Berkeley. Particular thanks to Malte Jung, Becky Currano, David Sirkin, Martin Steinert, Neeraj Sonalkar, Christopher Han, Chandrayee Basu, Euiyoung Kim, Ryan Shelby, Omoju Miller, Jessica Vechakul and all other members. Huge thanks to Arianne Agogino Gieringer to read and edit every line of my dissertation.

I also express special thanks to the URAPs (Undergraduate Research Apprentice Students) who assisted me in this research: Youngmin, Rebecca, Courtney, Ilana, Tay, Anne, Sanaa, Joann, Iskander, James and Arkady.

I have a special thanks to all the interviewees who participated in this study of Chez Panisse ecosystem including Alice Waters and Chez Alums. Especially, Chistopher Lee, served a research mentor, reviewing all my field data and teaching me about culinary history and innovation.

1. Introduction

1.1. Background

For the last decade, there has been a trend in industry to move research and development (R&D) from “closed” to “open” systems. The underlying impetus behind this phenomenon is that companies realize that harnessing external ideas can be less expensive and more agile than relying on their in-house R&D under rapidly-changing business situations. This transformation has been popularly explained by the concept of *open innovation* by Henry Chesbrough.

In his model of open innovation, companies make their R&D boundaries porous, so that they can accept external ideas into their innovation processes. Open innovation can also work in the opposite direction when unrealized ideas within a firm are made more openly available to others to allow spin-offs, licensing, partnerships, collaborations with academic institutions, and so on. Chesbrough (2006) argues that this phenomenon has spread because we now live in the age of distributed knowledge and innovation, a mobile workforce, as well as pervasive information and communication technologies. This dissertation will explore the academic underpinnings of this notion of open innovation, and will explore their presence in the evolution of Chez Panisse.

1.2. Problem Statement

The concept of open innovation has received a great deal of attention in the last several years from academics and practitioners alike. Recently, growing interest on the part of small and medium enterprises (SMEs) in improving innovation has led them to be interested in concepts associated with open innovation as well. Practitioners, however, struggle to fully understand the implications of open innovation for their businesses, and in finding an appropriate balance between being open and keeping some intellectual property for themselves. These practitioners seek examples of the application of open innovation concepts in other business cases from which they can learn, and upon which they can model their own efforts.

The open innovation framework has been heavily studied in the context of large, high-tech and manufacturing companies using a firm-centric perspective. Although small and medium-sized firms (SMEs) are becoming important in increasing a region's innovation capacity (Szarka, 1990) little is known about the role that open innovation plays in this capacity building. Of particular interest is the role that entities outside of the boundaries of SME firms play as they create, shape, and disseminate technological and social innovations (West and Lakhani, 2008).

Therefore, the aim and objectives of my research are to address the research gap of how small firms practice open innovation by creating a business ecosystem around

them. In order to study this question, I start with constructing the definition of a business ecosystem in the open innovation context with the intent of adding clarity to the definition of key terms that are used loosely in the literature, e.g., ecosystems, communities, value networks and so on. For example, Ten Brink (2001) documents that there are more than 100 definitions of communities used in the literature. Among those, I limit my study to business ecosystems that grow based on the intersection of open innovation (porous boundaries and knowledge spillovers), the co-creation of products and services, and the sustainability of the ecosystem.

1.3. Introduction of the Chez Panisse Case Study

My research focuses on the restaurant Chez Panisse, located in Berkeley, California. Chez Panisse is lauded as the birthplace of California Cuisine, and more broadly as a significant player in the evolution of American cuisine. It has been studied for its culinary philosophy and social impact, but less so for its business model and means of innovation. My close observation demonstrates that Chez Panisse has a highly open innovation structure that has generated a wide-ranging ecosystem – from sister restaurants to a large supply network – thus significantly influencing the creation of the California Cuisine movement. Many alumni of Chez Panisse’s ecosystem have been successful in their own right, making it a great example of entrepreneurial spin-offs. Generally, when chefs leave a restaurant and open another one, they become competitors. Those who leave Chez Panisse, however, tend to sustain and expand its eco-system by creating a community of entrepreneurs who continue to collaborate and share with one another. This feedback effect is an important contribution to Chez Panisse’s ability to continue to innovate. Thus, the Chez Panisse eco-system represents an extreme case of a business ecosystem that has grown through significant sharing of knowledge across organizational boundaries, creating success from all involved, and thus one from which we have much to learn.

I have collected 42 years of historical data on the Chez Panisse restaurant’s entrepreneurial and innovative evolution from its birth to its world-leading status today. Although the average life span of new restaurants is 2.5 years, I found that this culinary community has been highly sustainable because of its unique business and social relationships. Open engagement and co-creation of products and services enabled the group to create tight value networks among restaurants, suppliers, and the alumni chefs, substantially expanding the ecosystem over the last 42 years. Based on this data, I developed a framework that illustrates the role of key player companies, suppliers, partners, competitors, spin-offs, and spin-ins and describe how these stakeholders contributed to the innovations of the Chez Panisse ecosystem over four decades.

From this study, I attempt to answer how small firms can benefit from the creation of an ecosystem around them. I will illustrate the behaviors and motives as well as management challenges of these firms as research findings.

1.4. Research Questions

My research questions revolve around defining an open innovation ecosystem and

characterizing how they are generated, grown and sustained. In the case study, I describe how the business model of Chez Panisse has evolved over the last forty years, when and how it became a model for open innovation. In particular, I identify the characteristics of the Chez Panisse eco-system that has allowed it to cultivate the entrepreneurial behaviors that generated an eco-system of alumni chefs, farmers, suppliers, artists, journalists and customers. I also analyze how Chez Panisse manages to encourage and propagate collaborative and innovative behaviors throughout its eco-system.

1.5. Thesis Outline

Chapter 1 provides a summary of the motivation behind this study. It introduces the phenomenological and theoretical context of the research and highlights the relevance and importance of the problem.

Chapter 2 sharpens the context of the research by reviewing several important areas in the literature concerning opening up Research and Development (R&D) in a firm's innovation processes. This draws attention to some of the oversights implicit in critical foundational theories and justifies the need for further research into how service-oriented firms can create an ecosystem to successfully grow and sustain innovation over time. This chapter provides a literature review of four research areas of critical importance in understanding open innovation ecosystems: open innovation in the firm, business ecosystems, network ties and knowledge spillover.

Chapter 3 introduces the research questions and describes the methods chosen for the empirical data collection and analysis. This thesis uses an in-depth single-case study design, and the epistemological reasoning is delineated in this chapter. Further, information about data collection, research design, data analysis, and reporting procedures are also described.

Chapter 4 introduces and characterizes the concept of an open innovation ecosystem, with a focus on the geographical and societal aspects that support such ecosystems.

Chapter 5 provides the historical perspective of how the Chez Panisse ecosystem was initiated, evolved, and sustained over the last 40 years. It describe how Alice Waters and the Chez Panisse stakeholders started adopting the principles of open innovation in their business models.

Chapter 6 analyzes the Chez Panisse case based on the theoretical foundations reviewed in Chapters 2-4. The concepts of open innovation, business ecosystems and social value are used to structure the data collection and analysis of the case. The sustainability of the Chez Panisse ecosystem is discussed on the theoretical basis of communities of practices. The evolutionary growth of this open innovation ecosystem is explained based on the knowledge spillover theory of entrepreneurship.

Chapter 7 describes how culinary innovation is co-created within the Chez Panisse ecosystem. I frame the Chez Panisse culinary co-creation process using the six

steps of the new product development process summarized in Chapter 5 where I introduced the Chez Panisse case study as an example of open innovation in a culinary ecosystem.

Chapter 8 presents the conclusions and implications of the dissertation, followed by a summary of recommendations for future research.

2. Literature Review

This chapter provides a literature review of four research areas of critical importance in understanding open innovation ecosystems: open innovation in the firm, business ecosystems, network ties and knowledge spillover.

2.1. Open Innovation

In order to understand the notion of open innovation, I explore the concept of innovation first. Originating from the Latin, *innovare*, 16th century definition of innovation is “to renew or change” according to the Merriam-Webster dictionary. Joseph Schumpeter, in his book of *Business Cycles* (1939), defined innovation as new changes in a firm that break from the traditional business cycle and replace it by another that brings higher increments of product throughout. Later, he introduced the concept of *creative destruction* in the book of *Capitalism, Socialism, and Democracy* (1942). Derived from Marxism, he explained that it is an industrial mutation that continuously revolutionizes the economic structure from within by destroying the old one and creating a new one. Creative Destruction applies for creating new products, new processes, new markets, new sources of supply and new organizations. In modern use, the concept of innovation has been widely applied to products, services, processes, business models, and for different contexts including enterprises, societies, and governments, etc.

Where does innovation come from? Innovation could come from literally everywhere and everyone. However, for a long time, it was believed that breakthrough radical innovations come from R&D at large and established firms (Chandler, 1962). As a business historian, Chandler studied the large corporations that drove the industrial revolution in the United States from the last half of the 19th and the first half of the 20th centuries (Lazonick, 1991). He stressed the importance of internal R&D as it drives company growth and differentiation in his book, *The Visible Hand*. His theory differentiates innovating firms from non-innovating competitors as those that generate higher quality products with lower costs in a way that propels them to become main players in their industry (Lazonick, 2010).

Chandler’s theory stresses that the innovating enterprises are value-creators in economic development; these firms commit to invest revenues to R&D and learning capabilities. It demonstrates that strategic control, organizational integration, and financial commitment are the key factors to becoming an innovative enterprise (Lazonick and O’Sullivan, 2000).

However, Chandlerian theory did not take into account the business dynamics associated with the introduction and growth of the internet in the late twentieth century. Chandlerian corporations benefitted from long-term employment within a single firm. But with the emergence the internet and supporting information and communication technologies, knowledge became easily distributed and shared, and promoted the mobility of labor. Research shows that knowledge that flows through career movements has benefitted small firms more than larger firms (Almeida and Kogut, 1999; Song et al., 2003). The rise of venture capital firms also enabled new competitive start-ups (Gompers

and Lerner, 2000). Venture capitalists acted as ‘connective agents’ in a regional economy (Owen-Smith and Powell, 2004). These new firms, with relaxed strategic controls and vertical integration, were labeled “Post-Chandlerian firms” by Langlois (2003).

Chesbrough (2003) coined the concept of open innovation by observing these Post-Chandlerian firms. He defines open innovation as “a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology.” In other words, within this new framework “the boundary between a firm and its surrounding environment is more porous, facilitating innovation to move easily between the two” (Chesbrough, 2006).

He demonstrates that the rising cost of innovation and shorter product life cycles push incumbent firms to pursue open innovation. In order to do so, the role of the business model was emphasized. A business model is a cognitive device to illustrate how a firm creates and captures value in order to deliver to its customers (Chesbrough and Rosenbloom, 2002; Osterwalder, 2004). It is far more than a financial model; it is a conceptual model that addresses “the architecture of revenue, cost, and profits associated with the company delivering the value” (Teece, 2010). Chesbrough stresses that companies can benefit by opening their business models (Chesbrough, 2007) and add value by utilizing other firms’ resources and assets, harnessing a variety of internal and external ideas, and leveraging them into more innovations.

The adaptation and transformation of a business model is not an easy task. It is crucial to have a unique value proposition during the firm’s birth, but it is more important to keep the model sustainable over time by adapting to the fast-changing business environment (Teece, 2010). It is beneficial to create an environment that has the capability to experiment with different business models and modes of operation. An initial good model could work very well at the beginning, but may not guarantee continuous success because of imitation by followers and changes of market positions. Companies may “quickly recognize ideas that fit the pattern that has proven successful in the past, but they will struggle with concepts that require an unfamiliar configuration of assets, resources and positions.” (Chesbrough, 2007; Henderson, 2006). Thus, it is important to create an organizational culture that allows the open experimentation and design of business models by providing financial support and allowing failures as a part of design process.

The literature describes three modes of open innovations. The first is the *inside-out mode*, sometimes called *knowledge exploitation*. Corporate spin-offs or spin-outs are examples of the inside-out mode. The parent company provides funding, technology, intellectual property, legal services, etc. The second mode of open innovation is the *outside-in mode* or *knowledge exploration*. This process helps a company seek out new ideas and technologies beyond its boundary. The co-creation of products and services is one example of the outside-in mode. This mode requires the engagement of partners, suppliers, and customers. Harnessing ideas and collaborating with customers, in particular, are becoming increasingly important in open innovation. Von Hippel (2005) claims that users are becoming not just passive adopters of innovations, but they bring innovations to companies as *lead users* in the design of novel features and additions to current products (von Hippel, 1986). Listening to the voice of the lead user can

significantly save the development time and cost of new products. These two modes can be strategically coupled; Gassmann and Enkel (2004) address the benefits of linking outside-in and inside-out modes by working in alliance with critical partners..

The third mode of open innovation is *inside-to-inside innovation*. Informal social ties of employees with employees of other organizations can be critical in gaining new ideas and knowledge (Chesbrough et al., 2006). In this manner, employees and their social networks can be a great source of innovation by sharing their ideas regardless of whether they are part of a formal innovation team. Hargadon and Bechky's study (2006) shows how multiple efforts become creative collectives in complex problem solving in the innovation process. The authors frame this collective problem solving with four activities: help seeking, help giving, reflective reframing, and reinforcing. The organizational culture is needed to practice this collective problem solving, and this sort of collective action can be done through formal processes. Internal idea boxes or innovation jams are sample formats to source this inside knowledge.

Chesbrough (2006) added the notion of *innovation actors* to thinking about open innovations. He categorized several types of innovation actors. First, *innovation investors and benefactors* are entities that fund innovations. The corporate R&D, Venture Capital (VC) firms, angel investors, corporate VCs, incubator firms, private equity investors and the Small Business Investment Companies (SBICs) are innovation investors. They support and nurture ideas to reach the market. *Innovation benefactors* are those who provide funding for early research discoveries. NSF, DARPA, and several philanthropy foundations are examples. He defines four types of innovation generators. *Innovation explorers* are those that conduct the discovery research which previously took place primarily within corporate R&D laboratories. *Innovation merchants* are also those that explore the discovery research, but they have a strong, and relatively short-term focus on commercialization of knowledge they codified. *Innovation architects* provide architectures and platforms that other entities use to realize their innovations. Their role is to ensure that the full system works. *Innovation missionaries* are groups that seek a social cause, not necessarily motivated by profit. They donate innovations generated by groups or communities. He defines another two kinds of actors in innovation commercialization. *Innovation marketers* bring available innovations into the marketplace and repackage them to sell to customers. *Innovation one-stop centers* are similar to innovation marketers, but they provide a place to sell the best product mix to customers.

In prior work, the unit of analysis with open innovation has been at the firm level. The business models focus on the value creation and capturing activities of a single firm (Amit & Zott, 2001; Chesbrough et al., 2006: p. 214). Chesbrough et al. (2006) do suggest that the research scope of open innovation should be expanded to the inter-organizational level where the focal firms jointly create values with their collaborators. In the next sections I introduce the concept of open innovation ecosystems by first reviewing relevant theories on business ecosystems.

2.2. Business Ecosystems

The idea of a business ecosystem is rooted in studies of natural ecosystems (Bateson, 1979). James Moore (1993) describes how firms create a new business ecosystem based on four evolutionary stages from birth, expansion, leadership, and self-renewal. He claims that firms in a business ecosystem evolve capabilities around a new innovation. Participating companies cooperate and compete to fulfill customer needs to deliver new products and services. Von Hippel (2007) looks at a firm's broader ecology for gaining useful knowledge for new product development and innovation that includes: (1) suppliers and customers, (2) university, government, and private laboratories; (3) competitors, (4) other nations. When firms cannot or don't want to develop sufficient absorptive capability themselves, they may utilize strategic alliances in order to gain such knowledge or complementary resources (Gomes-Casseres, 1996). This network is more common in the tech-intensive industries such as biotechnology (Powell et al., 1996; Mowery et al., 1996; Bekkers et al., 2002; Harrigan, 1985).

Business ecologies are not limited to product developers. Shedroff (2009) describes a service ecology as a system of interactions and actors that, together, create a sustainable and successful service. Service ecologies often include several companies or organizations that specialize in delivering one part of the total service. These may or may not be distinct to the user of the service. Successful ecologies must realistically allow each company or organization to create and realize value for their part in the service in order for the ecology to be both successful (from a user perspective) and sustainable (from a system perspective).

A firm's external networks have been suggested as contributing to a firm's larger organizational ecology (Richardson, 1972). Powell (1990) frames the network form of organizations and illustrates that the networks are formed based on the reciprocity of complementary resources. He claims that this network organization is particularly appropriate to situations where there is a need for efficient and reliable information, such as know-how, technological capacity, manufacturing methods, and a spirit of innovation. As people are more likely to value information from someone that they know well, network organizations consider it is important to build trustful reciprocal connections.

Gulati (1999) explains how firms are networking using the notion of "embeddedness." The underlying embeddedness (Granovetter, 1973) refers to the fact that an organization typically has a history of how group members exchange information, resulting in social linkages between members. Underlying embeddedness is "the quest for information to reduce uncertainty, a quest that has been identified as one of the main drivers of organizational action." These networks are based on the collaborative efforts of specialist companies each providing complementary intermediate goods and services (Chesbrough et al., 2006).

In order to explain the networking behavior of business ecologies, I use the theory of value networks by Normann and Ramirez (1993). They call these networks *value constellations*, defined as inter-organizational networks linking firms with different assets and competencies together in response to or in anticipation of new market opportunities. A central firm sets up a value constellation through acquisitions, licensing agreements,

non-equity alliances, joint ventures, contracting, and other types of relationships that go beyond arm's-length relations. Inter-organizational networks have many links with the practice of open innovation. One motivation for the development of value constellations is the complexity of products and services today, coupled with complex supply chains and market pressures. These networks are established to absorb externally developed knowledge to accelerate the speed of innovation. Another motivation for networking is to enable an innovating company to exploit new business opportunities stemming from currently available products and services. For example, new product and services may need radically different business models that would benefit from new value networks. These value constellations challenge us to think about innovation; innovation is not coming from one single firm but from outcome of collaborative interplay of the network partners.

Business networks have been found to have beneficial returns on innovation, resulting in increased patenting rates, improvements on existing products, and new product creation, faster time to market, and access of new markets (Powell et al., 1996; Gemünden et al., 1996, Almeida and Kogut, 1999; Baum et al., 2000). By providing access to complementary skills, scale benefits, and a broader knowledge base, network ties positively influence firm innovation (Shan et al. 1994; Ahuja, 2000).

Vossen's study (1998) demonstrates that innovation in small firms is also hampered by a lack of financial resources and scant opportunity to recruit experts, but they can overcome these difficulties by creating a business ecosystem to collaborate on innovation projects. This networking behavior makes them spread risk related to innovation from small capacity, and to share resources together to build products and services. As value is co-produced in these networks, the total value created depends directly on how well partners' objectives are aligned to each other's and on the commitment of the partners to invest in complementary assets (Teece, 1986). Network attributes have important effects on firm performance (Beckman and Haunschild, 2002).

2.3. Network Ties: Wide vs. Deep, Formal vs. Informal

Chesbrough, Vanhaverbeke and West (2006) introduced various network ties that enable open innovation. They argued that *deep ties* enable a firm to utilize their current knowledge and resources and these ties are developed by the geographical proximity to partners and high trust between participants. On the contrary, wide ties help a firm to explore external existing technologies. March (1991) argued that companies balance their deep and wide ties, or explorative and exploitative ties. These authors also claim that there are formal and informal ties. Formal ties are based on formal contracts. Formal ties bring people from different firms together who in turn establish informal networks. Similarly, existing informal networks lead to more formal arrangements to cooperate.

Formal ties have been studied extensively, but the role of informal interorganizational ties is less well understood. However, informal networks might also be too 'closed' to generate the desired information from other organizations. Porter et al. (2005) remark that in biotechnology informal social networks are too tightly centered on

star scientists that act as a bottleneck for information sharing. Hence, both formal and informal ties have their advantages and disadvantages and an innovating firm has to balance the mix to optimize the return on open innovation.

Networks of innovation are often based on repeated interactions between firms, and thus their tie strength depends on trust – particularly in regional clusters where firms and people develop a local reputation based on past interactions. Network forms rely on trust as a coordination mechanism (Powell, 1990; Uzzi, 1997). Empirical evidence suggests that inter-organizational trust, which is more institutionalized, is longer lasting than the interpersonal trust inherent in informal networks. Trust is crucial in reducing the risks associated with interfirm tie formation (Nooteboom et al., 1997).

Organizations must consider a balance of strong and weak ties for their open innovation strategy. Strong ties benefit from more institutionalized trust and are likely to be more quickly and easily activated, yet weak, and bridging ties provide access to new information which is paramount to innovation. There is an inherent trade-off between trust and novelty, safety and flexibility (Gargiulo & Benassi, 2000).

Overembeddedness happens when firms rely too much on repeated interactions with the same partners; when these partners are themselves linked through strong ties, the network becomes closed to external information and starts having access to only redundant information, leading to the stifling of innovation (Uzzi, 1997).

Granovetter (1985) emphasizes the ‘strength of weak ties’ to widen the scope of ties. Based on occasional, rather than frequent interactions, these ties offer more pathways to new information, because they provide access to different networks and thus different sources of information. Informal professional affiliations, such as common organizational affiliations, are examples of weak ties that can be acted on in an open innovation model. Chesbrough et al. (2006) recommend maintaining diverse types of ties to a diverse set of institutions for a successful open innovation strategy. There is a delicate balance between exploration and exploitation ties (March 1991). Exploration in organizational learning involves searching for new opportunities and developing new products or technological developments through alliances (Rothaermel & Deeds, 2004), whereas exploitation involves capitalizing on existing knowledge and resources.

2.4. Knowledge Spillover

As the flow of knowledge is at the heart of innovation, I next summarize the literature on knowledge spillover as an important component of innovation ecologies. Schumpeter (Schumpeter, 1934) argued that technological innovation is at the root of endogenous economic growth, development and dissemination. Although focused on the internal drivers of innovation, endogenous growth theory recognizes the importance of externalities, such as knowledge spillovers, for sustaining economic growth. Research and development (R&D) has elements of a public good in that the outcomes of R&D often spread to external entities, such as other industries, universities, communities, supply chains, and other countries through patents, research papers, products and services. Therefore, the evaluation of the social returns of R&D requires looking beyond the business entity that conducted the R&D itself to include these peripherals.

R&D spillovers are categorized into two groups: rent spillover and knowledge spillover, although the distinctions between the two are often confused (Grilliches, 1979; Grilliches and Mairesse, 1991). Rent or embodied spillovers are related to exchange of equipment, goods, licenses and services. Knowledge spillover concerns how knowledge flows within and across organizations. Marshall's notion of knowledge spillovers in *Principles of Economics* (1920) was further developed by other economists: Arrow (1962) introduced the concept of "sticky knowledge", and Romer (1986) claimed that the localization of industry within a geographical region fosters knowledge spillover between firms. These significant findings were grouped as the Marshall-Arrow-Romer (MAR) model (Glaeser et al., 1991). In the MAR perspective, knowledge spillover is assumed to happen within the same industry, and the proximity of firms within an industry spurs knowledge spillovers. Therefore, when companies are located closer, more knowledge spillover is generated.

Porter (1990) extended the MAR model by studying highly specialized and competitive industries. He demonstrated that the proximity of industry localization promotes knowledge spillover, and added that the competition between firms brings more innovation. Jacobs (1969) studied different industries and indicated that knowledge spillover across industries promotes innovation and economic growth. Her study on the growth of the automotive industry in Detroit area showed that an interaction of complementary knowledge facilitated innovation.

The literature of business ecosystems includes local communities in analyzing knowledge spillovers. For example, industrial parks and innovation networks are considered beneficial for developing firms' innovation capacities (Saxenian, 1994). Such broader ecosystems are enabled by the mobility of labor and informal ties within local clusters (Agrawal and Henderson, 2002; Almeida and Kogut, 1999).

The entrepreneurship theory of knowledge spillover was introduced by David Audretsch in 1995. He claimed that entrepreneurs start new firms because they are not able to commercialize their ideas and knowledge within an incumbent firm or organization as spin-offs. Entrepreneurship, therefore, serves as an avenue to channel an endogenous need to purposeful efforts in knowledge creation by incumbent firms. Acs and Plummer (2005) show that entrepreneurship plays a critical mediating role in the relationship between the spillover of new knowledge and benefits that accrue in specific locales within the region. It emphasizes that start-ups are created not only because entrepreneurs realize a new market opportunity, but also because they are able to exploit the knowledge of incumbent firms. This theory suggests start-ups can be enabled by the knowledge and ideas that are not fully commercialized by the organization investing in the R&D.

Traditionally, knowledge spillover was considered as a cost of R&D that was unmanageable in its outcome and treated as a social good. In the open innovation framework, however, knowledge spillover is now considered a conduit of inflows and outflows of ideas, which can ultimately be managed. Firms generate a process to inhale inflow ideas and to exhale outflow ones to purposely utilize knowledge spillovers in the surrounding environment (Chesbrough and Bogers, forthcoming manuscript, 2013).

This chapter reviewed the literature in four research areas of critical importance in understanding open innovation within the firm by considering the geographical and network ecosystem around the firm and the role of knowledge spillover to and from the firm. This literature forms the basis for developing the concept of an open innovation ecosystem in Chapter 4 and the Chez Panisse case described in Chapters 5, 6 and 7. The next chapter leads up to the case by introducing the research questions, methods and data sources used in the Chez Panisse case.

3. Research Methods

This chapter outlines the research goals, questions and design that were used for the study. It justifies the research methods selected and the procedures to perform the data collection. It also details the iterative process of data analysis that informed the study's findings. This chapter ends with a discussion of the limitations of the methods.

3.1. Research Questions

In previous chapters, I defined an *Open Innovation Ecosystem* as a business ecosystem comprised of communities of suppliers, customers, and other stakeholders that co-creates values and co-capture them while it co-evolves together based on the shared vision. With a strong local presence, such ecosystems sustain themselves with new product/service innovations as well as social innovations. The aim of the remainder of this dissertation is to use an in-depth case study to demonstrate how innovation can be expanded to the intra-organizational level and identify the characteristics of a successful innovation ecosystem.

The Chez Panisse case study is used to examine how one highly successful innovation ecosystem was created and sustained. The following research questions were addressed through a case study research method.

1. How has the Chez Panisse innovation ecosystem evolved over the last forty years? What characteristics led to its success?
2. Who are the participants in this ecosystem? What characteristics of the Chez Panisse eco-system have allowed them to cultivate their innovative behaviors?
3. What activities/approaches have enabled Chez Panisse to encourage, propagate and sustain collaborative and innovative behaviors throughout its ecosystem?

3.2. Research Design

In this section the research methods, observations, interviews and data sources are described.

3.3. Research Methods

I conducted this research based on a single-case design (Yin, 2009: p.46-53). The power of the case study method for my purpose is that it highlights the history and trajectory of the growth of this ecosystem and the role of stakeholders in a very thorough and deep analytic way. The Chez Panisse restaurant has played an exemplarily successful role in the history of American cuisine, thus this unique case has great value to contribute to understanding how innovation has thrived within a target community.

However, this single case method could be limited as it examines the best practices and might not be generalizable. In order to claim more general arguments, the research needs to include examples from other cases, particularly failure stories. Also,

consideration must be given to construct validity, internal validity, external validity, and reliability (Yin, 2009). As Yin suggested using various sources of evidence is one way to ensure construct validity. Therefore, the researcher attempted to collect diverse sources of data, which will be explained in the next section.

3.4. Data Collection

The data sources included both primary research (participant observations and interviews) as well as third-party data.

3.4.1. In-depth Interview

The richest data source used in this research was in-person interviews. The participants and context is described following.

Interview Participants. I individually interviewed 29 people to explore the participants of the Chez Panisse ecosystem and their innovation activities within the ecosystem. The initial recruitment efforts included outreach to the current chefs and service personnel at the Chez Panisse restaurant. The sample size was increased over time based on snowball sampling, the practice of asking interviewees to recommend other interviewees (Weiss, 2008). This approach was very useful, as I did not have a social contact at the very beginning of data collection. Once I gained knowledge about the formation of the Chez Panisse ecosystem, the outreach to significant potential interviewees in the ecosystem was much easier.

Figure 3.1 displays the stakeholders of the Chez Panisse ecosystem in its current stage of growth. I tried to cover various kinds of stakeholders in order to understand the nature and growth trajectories of the ecosystem. Although the final number of interviewees reached 29, I decided to only include 21 in the analysis. The rationale to filter data was twofold. First, in terms of clarity of interview procedures, several interviews were conducted at the restaurant kitchen and at food events where it was very difficult to conduct structured interviews following the protocols. Second, the first three interviews were used to generate and iterate the research questions, so therefore I decided to consider these interviews as early pilots. As Weiss (2008) suggested, the pilot interview suggests “where a guide is overweighted or redundant and where it is skimpy, but three or four pilot interviews might be the minimum for safety.” The selected interviewee list is displayed in Table 3.1.

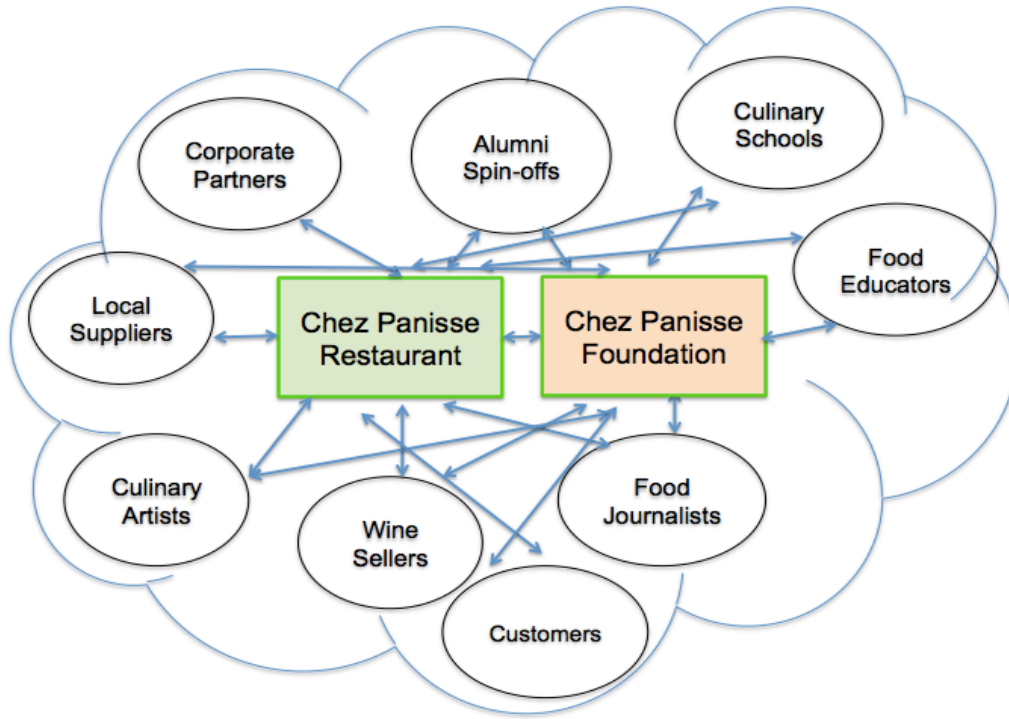


Figure 3.1: Open Innovation Ecosystem of Chez Panisse.

Table 3.1: Interviews of Stakeholders in the Chez Panisse Ecosystem.

NAME	POSITION	COMPANY	INTERVIEW DATE
Cathy Bailey	Owner, Craft Designer	Heath Ceramics, Sausalito, CA	11/21/2011
Andrew Browne	Sommelier, Server	Gary Danko, San Francisco, CA	02/10/2012
Mary Canales	Owner, Head Pastry Chef	ICI Ice Cream, Berkeley, CA	04/20/2011
Ross Cannard	Farmer	Green String Farm, Petaluma, CA	12/01/2009
Gilbert Chambers	Customer	Retired	02/23/2012
Curt Clingman	Owner, Executive Chef	Jojo Restaurant, Oakland, CA (closed)	06/23/2011

Patricia Curtan	Menu Designer	Patricia Curtan Studio, Napa Valley & Oakland, CA	10/27/2011
John Finger	Owner	Hog Island Oyster Company, Marshall, CA	12/01/2011
Dhondup Karpo	Driver	Chez Panisse Restaurant, Berkeley, CA	12/05/2011
Christopher Lee	Food Consultant	Berkeley, CA	11/28/2011
Kermit Lynch	Owner, Wine Importer	Kermit Lynch Wine Merchant, Berkeley, CA	08/22/2011
Jim Maser	Owner, Executive Chef	Picante Restaurant, Berkeley, CA	02/10/2012
Tom McNamee	Journalist	San Francisco	03/23/2012
Russell Moore	Owner, Executive Chef	Camino, Oakland, CA	03/10/2012
Michael Pollan	Professor, Food Journalist	School of Journalism, UC Berkeley	04/25/2012
Judy Rogers	Owner, Executive Chef	Zuni Café, San Francisco, CA	04/15/2010
Nick Rupiper	Farmer	Nix Chix	02/11/2011
Jennifer Sherman	General Manager	Chez Panisse Restaurant, Berkeley, CA	07/16/2009
Steven Sullivan	Owner, Baker	ACME Bread Company, Berkeley, CA	03/01/2012
Jerome Waag	Head Chef	Chez Panisse Restaurant, Berkeley, CA	05/09/2011
Alice Waters	Owner, Executive Chef	Chez Panisse Restaurant, Berkeley, CA	10/15/2011

Interview Procedures. Interviewees participated in 60-180 minute semi-structured interview at a convenient time and location, and they were conducted in person. Interviewees were contacted in an advance and informed of the purpose of the interview. The iterative process of data collection, analysis, construct development, and reflection was used to decide when to stop conducting in-depth interviews. As Small (2009) argues, the objective of the case study methods using in-depth interviews is *saturation*, not *representativeness*. Thus, the researcher ceased the data collection when no new or surprising phenomena were observed. Each case yielded a set of new information and findings for the research questions, thus the research questions have slightly evolved over time although the guiding themes have not changed.

Participants were informed that they may decline to answer any questions that they were not comfortable with, and that the outcome of the research would appear in public publications, including this dissertation, by means of analysis coding or direct quotation. No payment was provided to the participants. The interviews were audio recorded, with permission from the interviewee. The audio recorder was visible during the recording, so the interviewees were fully aware that the conversation was recorded. All the recordings were transcribed into the texts and stored in a secured disk. All procedures for this study were thoroughly followed by the UC Berkeley's Institutional Research Board (Approved in April 07, 2001, IRB Protocol #2011-03-3048).

Interview Protocol. The semi-structured interview guide was generated and refined several times by adjusting new information received from each interview. In order to make sure to get responses to all research questions, I asked the same set of questions to each interviewee following the standardized interview guide approach (Patton, 2002). This method helped me to focus the interview and control its flow. On the other hand, I was flexible in listening to specific answers and stories in order to capture and expand on unanticipated topics. All of the interviewees were very well known figures in the culinary area, so it was important to understand their background and personal stories to fully comprehend the context. This use of semi-structured interviews with the flexibility for evolving questions offered me the ability to direct the flow of the interview and maneuver the direction of the conversation in new areas, when needed.

Before the interviews, I conducted extensive background research on the interviewees in order to frame the specific questions about their collaboration and co-creation activities. For instance, the research questions about co-creation of menus were custom-framed using familiar terms. From the first pilot interviews, I learned that none of the interviewees understood the academic language of open innovation and co-creation, so I had to create a new way of explaining the constructs to the interviewees in the culinary field. As another example, interviewees were not versed in the terms "business ecosystem" and "business model", so I had to explain the concepts to them briefly before I asked questions. I also noticed that they often called former chefs as "Chez Alumni", or "Alice's diaspora", so I incorporated their terms into the conversation. As illustrated in quotes in later chapters, the concept of the ecosystem was often referred as the "Chez Family". This effort helped me to develop rapport with the interview

participants. When needed, I used clarification probes and revisited ambiguous responses to elaborate on them (Patton, 2002).

3.4.2. Participatory Observation

I used participatory observation through two activities. First, I worked as a volunteer to fully understand the research site by situating myself within it. Chez Panisse Foundation runs the Edible Schoolyard program at the Martin Luther King Jr. School in Berkeley; I worked as a volunteer by weeding and cleaning up the Edible garden for students. In addition, I volunteered in various activities for the 40th anniversary Chez Panisse event by cleaning, decorating the restaurant, taking pictures, sorting out menus, etc. Through volunteer opportunities, I was able to meet the chefs, educators, artists, and restaurant patrons who are highly engaged in community efforts through food education. These participatory activities allowed me to better understand how the ecosystem is comprised and what activities are held within the ecosystem. They provided an exceptional advantage in characterizing the innovation ecosystem of Chez Panisse. In fact, this volunteer opportunity truly opened the door to get social contacts to the key people in the network. At the beginning of the study, it was extremely difficult to get in contact with chefs and suppliers. However being a volunteer helped me meet people in the context, and they introduced me to other people whom I was able to approach. Second, I was able to observe the entire menu creation process at the kitchen. With the permission of several chefs, I was able to observe the dialogues between suppliers and chefs, and sit in the car while the restaurant driver shopped and collected produce and supplies. The Chez Panisse driver had worked at the restaurant for the last 22 years, foraging produce from the same farmers and suppliers, so I was able to observe a great deal about the sorts of activities that took place. A few of the chefs offered their time to show me where and how they shop for ingredients at the farmers' market. All this learning was captured in my field notes, and it greatly helped me to frame the research.

3.4.3. Public Data

I was highly interested in the historical trajectory of this ecosystem. One way of investigating the growth over time was to analyze the employment data about who worked for what period of the year, and what they have done. For instance, the spin-off of a chef would explain the expansion of the ecosystem based on the knowledge spillover theory I reviewed in Chapter 2. Unfortunately, however, the restaurant has not kept complete employment data. Therefore, I had to find a way to access the information from the chefs and suppliers. I also reviewed the published biographies of chefs, food magazines, journal articles, newspapers' food section as well as a website of chefs database (www.chefdb.com). With the integration of multiple sources, I was able to build the database of both alumni and current chefs and service personnel from 1971 to 2012. This database displays their initial positions and the last positions at Chez Panisse restaurant, and shows their spin-off data. The spin-off data includes when they started their startups with the detailed information such as locations and types of business. Data were also collected for those who did multiple startups. As my data for spin-offs were sparse during the 2011-12 period, I did not use these years in plots of trends for trajectories of Chez Panisse alumni.

3.5. Data Analysis

As I had multiple sources of data, I had to carefully see which data responded to specific research questions. For the interview data, I applied open coding (Strauss and Corbin, 1998) to freely code to see what conceptual themes consistently appeared in the case studies using the pilot interview data. Based on several iterations, I was able to develop the primary codes and sub-codes under the main codes. The following table displays the thematic codes developed from interview cases.

Table 3.2: Thematic Codes Developed from Interviews.

- **Ecosystem (Actors)**
 - Farmers
 - Artists (menu, clothing, etc.)
 - Wine Seller
 - Suppliers (Blue Bottle, ACME, etc.)
 - Alumni Chefs who are currently a chef
 - Customer
- **New Product/Service Development (only Chez)**
 - Source of Idea/Innovations
 - Screening
 - Prototyping
 - Concept development
 - Final Testing
 - Customer Feedback/Engagement
- **Social Innovation (Process): VERB**
 - Social Value (e.g. Philosophy, culture, motivation)
 - Foundation Activities
 - Community Engagement
- **Business Models**
- **Leadership of Alice Waters**
- **Open Innovation Activities**
 - Inside-out innovation
 - Outside-in innovation
 - Interactions between actors: Relationships, Interactions, Co-creation

I iteratively developed the coding system and then taught it to two other UC Berkeley students as it became stabilized. Three researchers independently coded three cases and compared the coding to see if they had a consensus. With a discussion and modification, the coding scheme was finalized and applied to all of the interviews and other data.

3.6. Chapter Summary

This chapter describes the research questions and the methods that were used to answer them. The single-case study method was selected to reveal the deep insight and

knowledge behind an extremely successful ecosystem. To explain the open innovation ecology case, various sources of data were used, including in-depth interviews, public data and field notes from participatory observations. Although a case method is powerful in demonstrating a phenomenon in a rich real-life context, the external validity is invariably weak. This leads to problems in generalizing the findings, which is addressed in the future research section of Chapter 8. Chapter 4 uses the literature foundation in Chapter 2 to introduce the concept of an open innovation ecosystem and applies the concept to the Chez Panisse case in Chapters 5, 6 and 7.

4. Open Innovation Ecosystems: Closing a Gap in the Open Innovation Literature

In Chapter 2, I reviewed the literature of open innovation, business ecologies, network ties and knowledge spillover. In Chapter 3, I introduced the design research and methodology for analyzing the Chez Panisse case study. In this chapter, I introduce and characterize the concept of an open innovation ecosystem, with a focus on the geographical and societal aspects that support such an ecosystem. Chapter 5 will then analyze the Chez Panisse ecology as an example.

4.1. Introduction of Innovation Ecosystems

West and Lakhani (2008) addressed the role of communities in innovation. They developed the construct of innovation communities based on the community definition of Gläser (2001), which is a voluntary association of actors who have a shared goal of innovation. One characteristic of an innovation community is the dependency between the value creation and capture processes, a relatively unexplored area of research (Chesbrough et al., 2006). Following Saxenian's (1994) lead, I emphasize the role of the firm's external institutional and geographic context in shaping the flows of knowledge that the firm can act on in pursuing an open innovation strategy.

Open Innovation can be considered a value-creation strategy that is an alternative to vertical integration. In open innovation, some firms need to identify external knowledge and incorporate it into the firm; others seek external markets for their existing innovations. The pathways of network ties create opportunities for both types of innovation. Accessing a network allows a firm to fill in a specific knowledge need rapidly, without having to spend enormous amounts of time and money to develop that knowledge internally or acquire it through vertical integration. Networks can facilitate efforts to commercialize internal technologies, such as through creation of a spin-off, corporate venture investment in a start-up, or establishment of a joint venture (Chesbrough et al., 2006).

The Open Innovation phenomenon has been most often identified in technology-intensive industries (Chesbrough 2003), although using networks to tap into external knowledge is potentially relevant for companies in all industries. Innovation-related knowledge is not just limited to technical knowledge, but may also include the knowledge necessary to commercialize an innovation, such as the knowledge of customers, market segments and product applications. Such knowledge may come from customers or other partners in the value chain (von Hippel 2007; Chesbrough and Rosenbloom 2002).

Chesbrough's initial work (2003) on open innovation is analyzed at the level of the innovating firms and network management is not treated explicitly. Consistent with

Arnoldo Hax's early work in business strategies (1996), this does not mean that network management is not present in the existing literature about innovation. On the contrary, Chesbrough and Rosenbloom (2002) consider the value network as a function of the business model. The latter describes "the position of the firm within the value network linking suppliers and customers, including the identification of potential complementors and competitors" (p. 534) "The value network created around a given business shapes the role that suppliers, customers and third parties play in influencing the value captured from commercialization of an innovation. The value network increases the supply of complementary goods on the supply side, and can increase the network effects among customers on the demand side" (pp. 534-5). Innovation ecosystems are important to an organization as they create environments where knowledge travels between entities in the environment enabled by formal and/or informal network ties. Geographical proximity has served an important factor to generate an ecosystem around it (Chesbrough et al., 2006; Saxenian, 1994) and will be discussed in the next section.

Pulling together the concepts of open innovation and business ecologies, I define an *open innovation ecosystem* as: a business ecosystem comprised of communities of suppliers, customers, and other stakeholders that practice open innovation within a network. With a strong local presence, this ecosystem self-sustains based on new product/service innovations as well as social innovations.

4.2. Local Clusters and Communities

Innovation ecosystem benefits may be more readily achieved in regional clusters, since the effect of networks on innovation is magnified by geographic proximity; such clusters are defined as 'geographic concentrations of interconnected companies and institutions in a particular field' (Porter, 1998, p. 225). Marshall (1920) first noted that regions that are rich in ideas (and thus knowledge) attract economic activity. Economists have pointed out the benefits of localization on economic growth (Romer, 1986; Stuart and Sorenson, 2003) such as reduced production and transport costs leading to increased access to markets and economies of scale, specialized labor markets, and the lower costs of accessing information locally (Weber, 1929; Krugman, 1991; Maskell, 2001).

A few studies show that knowledge flows more readily to closer entities (Jaffe et al. 1993), whether through organizations or through individual labor mobility (Almeida and Kogut, 1999). This regional network effect applies both to high-tech and other industries such as apparel (Uzzi, 1997) and wine (Benjamin and Podolny, 1999).

Networks have been a key building block of the formation of regional economies in high-tech (Saxenian, 1994) and in biotechnology (Owen-Smith and Powell, 2004) companies; start-up firms in their regions have long recognized that colocation enables them to tap into necessary knowledge. 'Networks of collocated organizations are necessary to construct a regional social structure of innovation and the knowledge flows that lead to innovative activity (Chesbrough et al., 2006). Benjamin and Podolny (1999) studied the California wine industry and showed that membership in local networks increases innovation.

Since knowledge flows more readily to closer entities (Jaffe et al. 1993), the organization and institutional embeddedness of geographically-focused networks might be crucial in explaining the differences in effectiveness of innovation in different regions or nations. Cooke (2005) explains how open innovation plays a crucial role in the explanation of regional innovation systems. He argues that open innovation plays a crucial role in the changing spatial structure of industries. He claims that instead of the organization of industry determining spatial structure, the economic geography of public knowledge institution determines industry organization.

On the other hand there is a limit to the benefits of spatial concentrations in a business ecology. For example, Sorenson and Audia (2000) suggest that too much spatial concentration can lead to conformity in firm behavior and less innovation. Thus regional clusters, while known for their innovative capacity, run the risk of becoming closed to outside knowledge and becoming overembedded.

4.3. Social Innovation and Learning Communities

As culinary innovation has a high societal dimension, my research includes an understanding of social innovation communities. Societal and environmental impact has become a growing component of strategies for both for-profit and nonprofit entities. Today, corporations and nonprofits are investing in the development of open platforms to lead communities to respond to societal problems (e.g., OpenIDEO, Acumen). They are donating internal capital, infrastructure, and human resources to open innovation platforms. Yet, there is relatively little attention given to the social dimension of technological and economic innovations (Howaldt and Schwarz, 2010). Thus, social innovations should be included when we understand innovations as a ‘holistic’ interpretation (Hochgerner, 2011). In doing so, social practice theories have been used to explain the social innovations in community.

The contemporary Philosopher MacIntyre defines a (social) practice as “any coherent and complex form of socially established cooperative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partly definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved, are systematically extended” (MacIntyre, 1981, p. 187). This theory demonstrates that social goods are produced by motivated individuals in a social practice setting (Knight and Sened, 1998).

Benefits of joining a community to solve societal problems can be framed by learning theories. Lave and Wenger (1991) introduced the theory of situated learning that conceptualizes learning as a dialectic process where participants are actively learning and changing the social practice. Several scholars focus on the value of learning within a team and at an organizational level (Argot et al., 2001). Argyris and Schön (1974) argue that an individual learns within an organization and at the same time an organization itself learns. Later, Peter Senge developed the concept of “learning organizations” (1990). According to him, learning organizations are organizations where people continually expand their capacity to create the results they truly desire, where new and

expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together.

With its recent popularity, open source development has been greatly studied as a good example of how social innovation happens in a community setting. Von Krogh et al. (2012) reports how social practice, which is a collectively elaborated and shared standard of excellence, motivates developers to produce high-quality products and changes institutions. Rooted in the Free Software movement, open source developers often believe that their work should be free to share (Stewart and Gosain, 2006), or rather to reveal their code because they earn private benefits such as reputation, influence of the technical agenda, and learning (Von Hippel and Von Krogh, 2003). It also can be more successful doing by “running in packs” (Van de Ven et al., 1999; Hargrave and Van de Ven, 2006).

This “running in packs” can be institutionalized and sponsored as two types: (1) a market such as a firm and (2) non-market like university sponsors. As shown by Stewart, Ammeter, and Maruping (2006), developers consider the type of sponsors and licenses. They concluded that developers most favor projects sponsored by non-market organizations that employ non-restrictive licenses. For the open source developers, equality and morality are key factors to remain in the community. Thus, sponsor institutions change or build a new one when they cannot sustain social practices sought by open source developers (von Krogh et al., 2012). The authors describe, for example, how IBM created the Eclipse Project in 2001, and then the project was transferred to the Eclipse Foundation (www.eclipse.org) in 2004 as an independent non-profit organization to serve the stewardship to the developer community. IBM made this foundation vendor neutral and open. Another example, the Open Invention Network (www.openinventionnetwork.com) was formed in 2005 to promote innovations in the Linux community. This organization was formed by IBM, Philips, Novell, Red Hat, and Sony and was licensed by Oracle, Google, Barracuda and TomTom. The value is shared between the participants, representing a more closed model because licensees control the development of the projects.

The concept of corporate social responsibility (CSR) has been documented since the 1930s. Carroll (1999) traced an appearance of this construct from Chester’s *The Functions of the Executive* (1939), and claimed that Howard Bowen’s *Social Responsibilities of the Businessman* (1953) modernized it for the business world. CSR was constructed based on the theory of stakeholder, stewardship, business ethics, etc.

CSR is defined as “operating a business in a manner that meets or exceeds the ethical, legal, commercial and public expectations that society has of business. Social responsibility is a guiding principle for every decision made and in every area of a business.” (Dahlsrud, 2008) The goal of CSR is to let a corporation “internalize” the social and environmental costs of its business activity, thus making it responsible to the larger community. There have been intensive debates about whether CSR increases firms’ profit or helps their reputations. In other words, there are arguments that firms report CSR as a form of a “green washing campaign” (Banerjee, 2008).

Responding to this argument, Porter and Kramer (2011) framed the notion of Creating Shared Value (CSV). They claim that CSR largely improves a firms' reputation and the cost of CSR can be treated as a necessary expense (2011, p.5). They view the relationship of corporate success and societal gain as intertwined. Thus, corporations create competitive business opportunities based on societal problems and needs by emphasizing the development of local clusters and communities. CSR should be situated as a part of corporate strategy.

4.4. Characterization of Open Innovation Ecosystem by Social Impact Factors

We now connect open innovation to non-profit institutions and the social innovation field. I introduced Chesbrough's (2003) concept of innovation actors in Chapter 2. I wish to focus on *innovation missionaries* in this chapter as it relates to open innovation ecologies and the Chez Panisse case. Chesbrough (2003) defined *innovation missionaries* as self-generated emergent communities. Innovation missionaries not only advance innovation, but they also lead social movements (Chesbrough et al., 2006: Pp. 300). These self-generated groups create and advance innovations by responding to societal problems, and then donate them to society. Innovation missionaries are not limited to nonprofits or small start-ups. Within large corporations, they are sometimes called social intrapreneurs who focus on societal and environmental issues using a CSR or CSV framework. They make changes within the corporate environment, as well as the larger society (e.g., IBM's smarter planet initiative). In the table below I categorize the similarities and differences between innovation missionaries, corporate social responsibility (CSR) and a company's corporate shared vales (CSV) as framed by Porter and Kremer (2011)

Table 4.1: Similarities and Differences between Innovation Missionaries, Corporate Social Responsibility and a Company's Corporate Shared Vales.

	Independent Innovation Missionary Framework	Corporate Social Responsibility Framework (CSR)	Corporate Shared Values (CSV) Framework
Purpose	Advancing and donating innovation	Philanthropy, Citizen engagement, Tax purpose	Maximizing economic profit and societal value
Leading entity	Self-generated community, or corporate sponsored non-profit organization	Corporate sponsored non-profit organization	Corporation
Value Creation	Technology, service, social innovation	Community support, research support	Addressing societal problems, aligned with business strategy
Value Capture for corporation	Yes	No	Yes

Cost or Investment	Investment	Cost	Investment
Examples	1) Self-generated: Linux, Wikipedia 2) Corporate Sponsored: Chez Panisse Foundation, OpenIDEO, Eclipse Foundation, GreenXchange, Kaiser Permanente	Fair-trade program, Health Education program by Marlboro	Nestle's Nespresso, J&J Well-Being project

All three categories both emphasize building a strong business ecosystem to co-create values together. In particular, many problems they solve require local clusters and economies that require the maintenance of a good value ecosystem around the corporation.

However, there are also distinctive differences between independent innovation missionaries and those who are funded through corporations. Independent innovation missionaries have **freedom** from corporate sponsors and their stakeholders. They don't have an obligation to develop products or services for corporations. For example, although IBM donated the platform and capital to start the Eclipse Foundation, the foundation developed their own software and services independently from IBM. Therefore, innovation missionaries can continue to be innovative no matter what their sponsors aim to achieve in the market.

One very interesting observation is that corporations can capture the created value from missionaries in various ways. For example in the food sector, according to the food journalist professor Michael Pollan (personal interview in April, 2012), this is not just recruiting loyal customers to become contributors to the foundation, but also recruiting potential donors to become patrons of a restaurant. We explore this concept further in Chapters 4 and 5 as we introduce the Chez Panisse case as an example of a social innovation ecology.

4.5. Chapter Summary

In this chapter, I integrate the concepts of open innovation and business ecologies to define an *open innovation ecosystem* as: *a business ecosystem comprised of communities of suppliers, customers, and other stakeholders that practice open innovation within a network*. I then characterize an open innovation ecosystem based on the geographical and societal aspects that support such an ecosystem. In the next chapter, I will analyze the Chez Panisse case based on the theoretical foundations reviewed in Chapters 2-4.

5. Open Innovations in Culinary Ecosystems: Introduction of the Chez Panisse Case

This chapter introduces the Chez Panisse case by first providing a history of innovations in the culinary sector.

5.1. Innovations in Culinary Sectors

The word “*culinary*” originated from the Latin word *culinarius*, meaning something related to the kitchen or cookery. “Culinary” was introduced to the general public when French chef La Varenne published the book, “*Le Cuisinier François*” in 1651. His book contained the cuisine knowledge of the kitchens of the aristocracy in the seventeenth century. The French Revolution contributed greatly to the spread this culinary knowledge amongst the masses. During the French Revolution, the chefs lost their house cook jobs with the fall of the aristocracy, and had to find new occupations. This challenge led them to start up their own “restaurants” and chefs became a revolutionizing vehicle for introducing the cuisine to the general public (Trubek, 2000).

Auguste Escoffier greatly contributed to the industrialization and modernization of the restaurant kitchen. Having been a military chef during the Franco-Prussian War in 1870, he learned how important it was to organize the kitchen structure and to codify the *haute* culinary knowledge into a text. His book, *Le Guide Culinaire* (1903), includes the organization of labor in the kitchen (*Brigade de cuisine*), ingredient preparation, sanitation, recipes, presentation (*Service à la russe*) and so on. His book has been the culinary training bible for young chefs and apprentices (Rao et al., 2003). The organization of the labor structure is still used in the field with many variations. The organization chart in Figure 5.1 provides one example of how it is used in the French Laundry, a three star Michelin restaurant in Yountville, California.

In culinary history, there are two important streams: Haute and Nouvelle Cuisine. Haute Cuisine refers to “high food” and is usually prepared by a hierarchical kitchen at luxury hotels and restaurants. It is highly complicated and extravagant. On the contrary, “Nouvelle Cuisine”, which means “New Cuisine” was initiated in the late 1960s (Svejenova et al., 2007). Nouvelle Cuisine emphasizes fresh ingredients, and preparations in a lighter way, lighter sauces, open fusion of other cuisine and other innovations.

Restaurants are very competitive and high-risk businesses. During their first year, 26.2% of restaurants close, and by the end of the third year, 59.7% fail to maintain their ownership or close (Parsa et al., 2005). Although there are many variables involved in failures, research demonstrates that maintaining innovations in food concepts is one of the key factors for new restaurant survival. Traditionally, the chef community believes that “culinary traditions are collective, cumulative inventions, a heritage created by hundreds of generations of cooks” (Raustiala & Sprigman, 2012). Chefs work in an *open-source model*, drawing inspiration from fellow chefs’ ideas and expanding them freely. With this strong sharing tradition, the majority of chefs would not favor an intellectual property model. This community norm has made it such that innovations in

food can be very easily copied or imitated; therefore continuous innovation is suggested to heighten barriers to the competition (West & Olsen, 1989; Harrington, 2004).

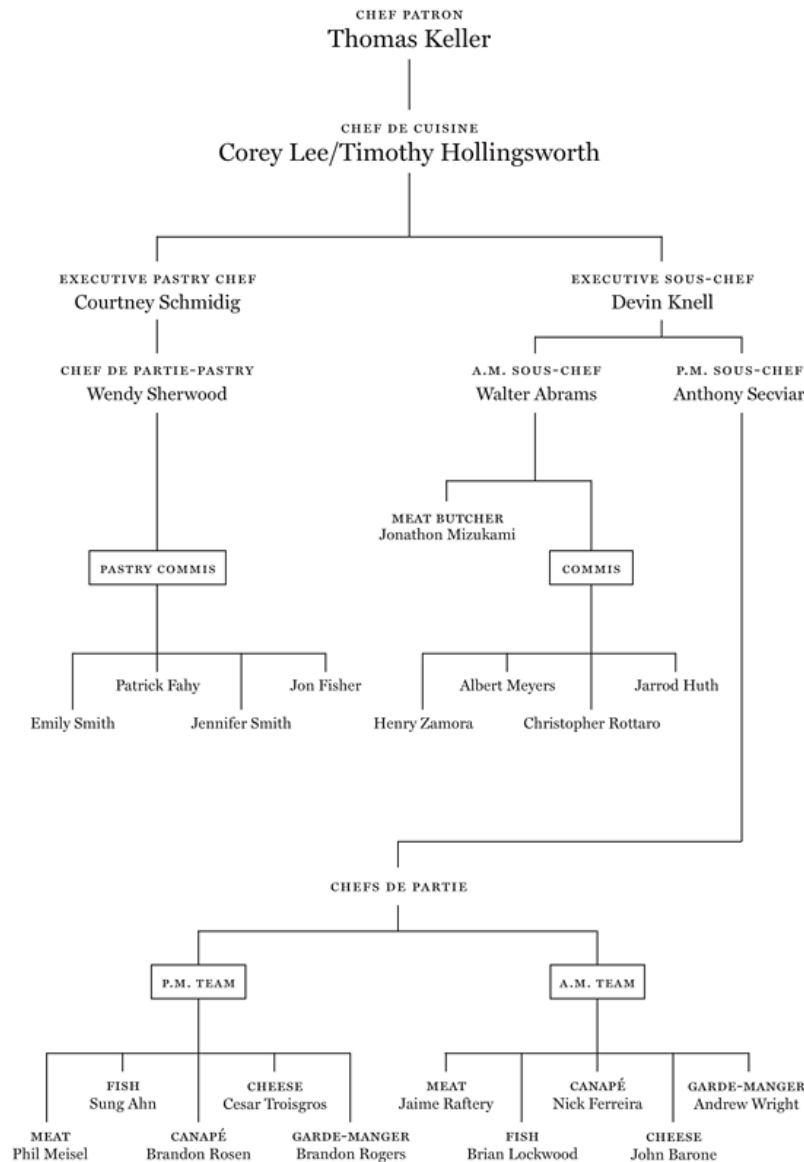


Figure 5.1: The French Laundry's Organizational Chart (grubstreet.com, 2009).

Additionally, there are other factors that drive innovations in the restaurant field. First, customer needs are changing. Particularly, patrons are becoming more internationalized and concerned about healthy eating (Askegaard & Madsen, 1998). Second, the supply chains for food are changing. This varies for the types of food; standardized food seeks the global supply chain whereas cultural and ethnic food prefers local and specialized ones. Third, science and technology are enhancing the techniques of cooking. Molecular gastronomy has emerged based on collaboration with scientists. Examples are the Nordic Food Lab (collaborating with restaurant Noma in Copenhagen),

the Basque Culinary Center in San Sebastián, Spain, and the famous chef Ferran Adrià's ElBulli laboratory in Roses, Spain. Fourth, new safety regulations and government policies promote changes in food. For example, *foie gras*, an ultimate gourmet delicacy, was banned in California with pressure from animal rights and welfare groups. Last, seasonality and *terroir* (French: taste of the earth, Merriam-Webster dictionary) have been important drivers lately. Seasonal ingredients maximize the quality of food with affordable costs while creating a "gastronomy identity." (Harrington, 2004; Ottenbacher & Harrington, 2007) *Terroir* is the collective knowledge of local taste on agricultural products. It transmits the unique characteristics of local food ecology into the whole dining experience (Fanet, 2001).

As a consequence, culinary innovation is a combination of technological innovations with social and cultural innovations. In addition, culinary innovation is situated on the continuum of products and services. When food is served at the restaurants, it comes as a bundle of products and services, and customers consume it as a total "experience" (Harrington, 2004). This leads to the consideration of how the innovativeness of food can be measured.

There are many ways to measure culinary innovations. Restaurant ranking systems, for example, are well known to the general public. The rankings and ratings appear in travel guidebooks, magazines, online sites, and environment health departments of government agencies. Among them, *the Michelin Guide* has been the most prestigious and popular system. The Michelin Guide was first published in 1900 by the Michelin French tire manufacturer. How do they rank the restaurants? They send anonymous inspectors and evaluate the restaurants based on five criteria: the quality of products, mastery of flavors and cooking skills, personality of cuisine, value for the money, and consistency. One star means "a very good restaurant in its category", 2 stars is "excellent cooking, worth a detour", and 3 stars presents "exceptional cuisine, worth a special journey". Lately, crowd-sourcing review sites have become extremely popular. For instance, Yelp.com, founded in 2004 in San Francisco, is the online place where patrons write about their dining experiences and rate them. The research shows that this restaurant ranking has a very strong influence on a restaurant's business and profit. Studies show that losing one Michelin star causes a 50% sales cut, and a one Yelp star increase brings about a 9% revenue gain (Luca, 2011).

Previously, the prevailing assumption was that the ease of imitation in service firms (including restaurants) motivates them to protect their innovations, making them less inclined to participate in networks. However, recent research indicates that the more innovative service firms actively participate in local networks and ecosystems, benefitting from external actors and knowledge trajectories in their innovation process (Sundbo et al., 2007). The implications to the Chez Panisse case are covered in Chapter 7.

5.2. Culinary Innovations as a New Product Development Process

As restaurants need to practice continuous innovation to stay ahead of the competition, the innovation process in high-end restaurants has many of the

characteristics of the generic New Product Development (NPD) process. Ulrich and Eppinger (2003, p.12) say that “a product development process is the sequence of steps or activities that an enterprise employs to conceive, design, and commercialize a product.” The process is evaluated on whether to be continued or not at the each stage, based on criteria of firms such as funding, resources, and fit to business strategy. This evaluation process is called the “stage-gate process” by Robert G. Cooper (1990). NPD processes have been highly studied in both small firms and in large complex organizations (Bacon et al., 1994; Beckman and Barry, 2007; Roschuni et al., 2013). There are several versions of NPD processes, yet they generally follow six steps after an understanding of the problem and user/customer needs: idea generation – screening – business analysis – concept generation – final testing – commercialization.

The NPD (New Product Development) process has been heavily studied for tangible products, yet research on its use in services is relatively new. The nature of services have several distinguishing features from tangible products: “1) largely intangible, 2) produced and consumed simultaneously, 3) heterogeneous and perishable” (Easingwood, 1986). According to Easingwood (1986), service staff are critical in the decision-making process of new service products because of the insights they have gained by interacting with customers. Simultaneity affects the assessment of products, and the intangibility of services can lead to flexibility and customization of production and delivery when customers need different requirements.

Culinary innovation is situated on the continuum of products and services. Thus, some modification of the generic NPD model is needed. Harrington (2004) addresses the limitations of the generic model for “real-time” foodservice settings in the context of high-end restaurants. He proposes a more organic process by considering the nature of food design, which is more service-oriented and uses tacit knowledge bases (Hervas-oliver et al., 2009). The NPD framework for culinary innovation in Figure 6 was motivated by the study of Michelin-starred chefs (Ottenbacher & Harrington, 2007).

5.3. Case Study: Chez Panisse

The Chez Panisse restaurant was founded by Alice Waters with film producer, Paul Aratow in 1971. During the 1960s, Alice Waters actively engaged in the Free Speech Movement at the University of California at Berkeley. She worked on the congressional campaign of Robert Scheer, an anti-Vietnam War politician. Her engagement was cooking for fellow campaigners, and this led her to pursue her job as a chef and an owner of a restaurant later. Upon graduating from UC Berkeley in 1967, she became a Montessori school teacher. She explains, “I loved the Montessori philosophy, which is all about educating the senses and learning by doing. While I was teaching, I kept learning about food by eating.” After quitting a teaching job, Waters opened Chez Panisse on Shattuck Avenue, in Berkeley, California. She named the restaurant after Honoré Panisse, a character in a trilogy of Marcel Pagnol films called *Marius, Fanny, and Cesar*. The food concept was called “*the New Left of cuisine*: college educated, erudite, and privileged, but self-consciously seeking as well a reformed simplicity that was itself a species of elite metaphor” (Starr, 2011). Alice Waters framed her concept of food as eco-gastronomy: “a hands-on understanding of where food comes from, how it is produced, and the traditions and rituals of eating it. When people know what the chickens are being fed, all of a sudden the chickens taste better.” (Danigelis, 2006) She also explained that going back to basics is the innovation in food. Although it is not unusual today, the *open kitchen* was a real innovation at the time. Waters strongly believes that the people who eat and the people who cook need to be connected; the open kitchen allows customers walk into the kitchen and ask for questions about their food.

Waters’ insistence on high-quality ingredients forced her to initiate the supportive and reliable relationships with farmers and suppliers. Chefs at even the highest-end restaurants still used frozen meat and produce during that time period. Waters had to reach out to the farmers and suppliers who would collaborate to engage in this food movement. Waters emphasizes: “We need to buy real food from those who are taking care of the land. We need to support them and to feed ourselves in a wholesome, delicious way. I think that’s going to be the basis for rebuilding an economy that takes care of the land for the next generation of people, who will be making their own decisions” (Waters, 2009). Initiated since their birth, the close collaborative relationship with local producers continues today as they provide majority of ingredients for Chez Panisse.

However, Waters’ strong commitment to the best fresh ingredients brought the restaurant to financial crisis a few times. She confesses that she didn’t think about a revenue model seriously. “I didn’t pay any attention to money. For years, I took no salary and lived with friends. For me, it’s never been about the money.” (CNN report, 2009).

Alice Waters’ philosophy of prioritizing customer and stakeholder satisfaction also includes employees. They have a co-chef system in which the main chefs, at the downstairs restaurant, each work six months on and six months off, but they still get paid for the whole year. During the six-month sabbatical, they are free to travel and to teach in culinary schools in Bordeaux or Paris. The chefs who work at the upstairs café work

three days a week, but they get paid for five days. On their free days, they spend their time with family, design new dishes, or go to the farmers' market for new inspirations (Waters, 2009). Alice said in the interview that she realized how important to take a break and clean her head when she took few months off to France and came back to the restaurant in the year of 1979. This made her to think bigger ideas like opening an upstairs café, which was a diversification to the original Chez Panisse business model (Personal Interview, 2011).

One significant contribution of Chez Panisse is that it has served as the birthplace for numerous prominent chefs, remarkable suppliers as well as food writers. For example, the Acme Bread Company was founded by Steven Sullivan who started his first job as a busboy at the age of 18 at Chez Panisse. Acme Bread has been the bread supplier to Chez Panisse since 1983. He notes, "I really wanted to be contributing [to Chez Panisse] in the meaningful way since the restaurant was a great project and you want to offer something useful. So, the bread is something that I can offer useful. But then, it is almost like that the bread grew up. It got big and it had to go actually room. I was making four kinds of bread, using every oven, the exhaust fan in the kitchen cannot be on when the bread is in the oven, if somebody wanted to put the lamb on the oven, if the bread is in the oven, lamb had to wait. It was too big of a project to restaurant to accommodate because the restaurant size has grown when the café opened. So, in the family basis, it was kind of natural progression of growing up and moving out." He initially came to Berkeley in 1977 as he got accept to UC Berkeley as a freshman, but he had too much fun baking bread, so he never went back to school. Currently, he is an undergraduate senior at the department of history at UC Berkeley as finally pursuing his original plan. He is currently taking some break from baking, but he will go back upon graduating from the college as the age of 55 (Personal Interview, 2012).

Alice Waters' food concept of caring for the source of ingredients led to the founding of the non-profit educational organization: the Chez Panisse Foundation in 1996. Waters said, "Once kids are educated, they eat in different ways... They make choices about food based on biodiversity. They become sophisticated tasters. I think we can have a generation of kids that grow up with a different set of values" (Fast Company, 2007). The Foundation initiated the Edible Schoolyard Program at Berkeley's Martin Luther King, Jr. Middle School. Students are involved in growing, harvesting, and preparing the foods from the garden, with the aim of promoting the environmental and social well-being of the school community. Numerous restaurant patrons have donated money and time to the program, and political leaders who are interested in food justice have visited the yard, including Hillary Clinton, Tipper Gore and Michelle Obama. Waters' work at the Edible Schoolyard has also developed into her School Lunch Initiative, which has the broader goal of bringing school children into a new relationship with food by making a healthy, fresh, sustainable meal part of the school day. It is focused on bringing wholesome school lunches to the 10,000 students in the Berkeley Unified School District. The Chez Panisse Foundation, together with Ann Cooper as the Director of Nutrition Services for the district, eliminated almost all processed foods from the district and introduced organic fruits and vegetables to the daily menu, all while staying within the district's budget, (they receive funds from the United States Department of Agriculture: \$2.57 for a free lunch, \$2.17 for a reduced-price lunch and 24

cents for a paid lunch). Waters & Heron (2009) documented their initiative as “no lunch left behind” in a *New York Times* guest editorial.

Since 2002, the foundation’s work was expanded beyond Berkeley. Waters has served as a Vice President of Slow Food International (pioneered by Carlo Petrini), an organization dedicated to preserving local food traditions, protecting biodiversity, and promoting small-scale quality products around the world. She was drawn to the Slow Food movement because of its work in passing food knowledge and traditions to future generations. Additionally, the foundation offered to help Yale University’s dining halls serve healthy food that was fresh, local, and organic. By 2002, the Yale project hired Sean Lippert, a former Chez Panisse cook, to develop its menus. Waters also proposed a school garden that would teach the same lessons at Yale that Edible Schoolyard teaches in Berkeley.

Besides the foundation’s influence, the philosophy of eco-gastronomy is now expanding to the corporate world. For example, the renowned Google Kitchen, where they serve all-organic meals to their employees and visitors, was founded by the alumni chef of Cesar restaurant (a spin-off of Chez Panisse).

5.4. Chapter Summary

In this chapter, I provided a historical perspective of how the Chez Panisse ecosystem was initiated 42 years ago, along with key features associated with its evolution. In doing so, I discussed the principles of open innovation that were introduced in their business strategy. In Chapter 6, the sustainability of the Chez Panisse ecosystem will be discussed on the theoretical basis of communities of practices. The evolutionary growth of this innovation ecosystem will be explained based on the knowledge spillover theory of entrepreneurship.

6. Evolution of an Open Innovation Ecosystem: Chez Panisse Case

6.1. Chapter Introduction

This chapter highlights how the Chez Panisse restaurant generated, expanded and maintained its ecosystem over the last 42 years. The analysis of this ecosystem is organized around three evolutionary stages and business model trajectories. The role of critical stakeholders in the ecosystem in each of these stages will also be discussed.

6.2. Evolution of Chez Panisse Ecosystem

Moore (1996) defines a business ecosystem as “an economic community supported by a foundation of interacting organizations and individuals – the organisms of the business world.” He additionally claims, “These communities come together in a partially intentional, highly self-organizing, and even somewhat accidental manner.” (Moore, 1998: p. 168) Customers receive “a total experience” which includes a variety of complementary offers with an addition to the core product developed by ecosystem members (Moore, 1996; Peltoniemi & Vuori, 2004). The metaphor of an ecosystem with a biological ecosystem helps demonstrate the trajectories of ecosystem evolution over time. Moore suggests the evolution of a business ecosystem falls into four stages: birth, expansion, leadership, and self-renewal.

Moore’s evolutionary stages were developed by analyzing business ecosystems in high-tech and manufacturing industries, with an emphasis on making high barriers to entry against potential followers, and maintaining high customer switching costs. My case observes a culinary innovation, which is local and highly service-oriented, thus I modified the stages to explain the Chez Panisse case better: (1) birth, (2) local expansion through leadership and open innovation and (3) global expansion through social innovation and education.

6.2.1. Stage 1: Birth (1971-1984)

Moore (1993) introduces the initial stage of a business ecosystem as the period that a business entity “works with customers and suppliers to define the new value proposition around a seed innovation.” This stage can be explained by the notion of *emergence* from complex systems theory; the process arises from the interaction of individual elements that are greater than the sum of the parts (Mitleton-Kelly, 2003; Peltoniemi & Vuori, 2004). It is also described as a “surprise-generating mechanism dependent on connectivity” (Casti and Andersen, 1997). In the following section, I will describe the seed innovation that sparked the birth of this ecosystem and how stakeholders became involved at this initial stage.

6.2.1.1. Seed Innovation

For Chez Panisse, the seed innovation was a new food concept. The founder, Alice Waters had spent time in the south of France in 1965, and was highly influenced by the simplicity and localism of *nouvelle cuisine*, an uprising culinary movement against *haute cuisine*. As an American visitor for the first time in Europe, she mentioned that it was odd that the servings were extremely small and the serving hours at table seemed too long. Gradually, she noticed that they served more vegetables, and ingredients were almost always local and fresh from weekend markets. “The poorest people always ate well, always had a salad and a beautiful soup with beans and cabbage and lovely things. It always tasted good” says Ms. Waters. Upon her return to Berkeley, she was looking for the same things from local restaurants and supermarkets, but there was not the equivalent available. “I wanted civilized meals... The cultural experience, that aesthetic, that paying attention to every little detail— I wanted to live my life like that.” This led her to start up her own restaurant that served what she wanted to have (McNamee, 2007). This initial principle can be consistently observed in documents from Chez Panisse over its history. For example, Figure 6.1 displays a staff meeting note from Chez Panisse in 1982. It indicates that one of their major goals was to provide *seasonal* ingredients to customers.

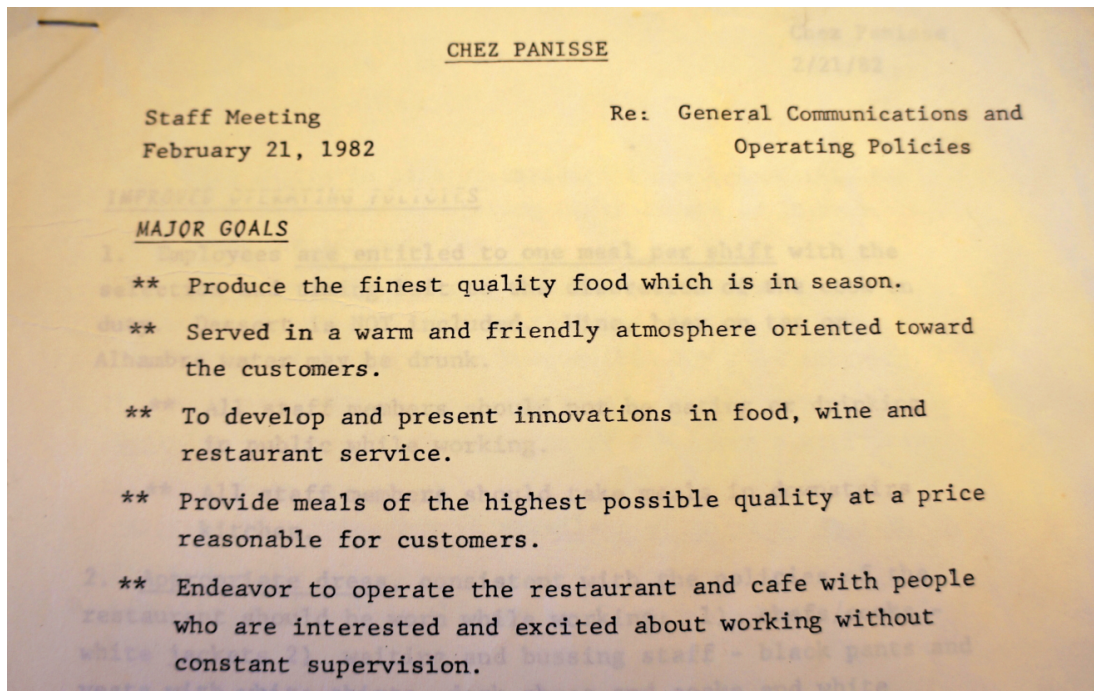


Figure 6.1: Staff Meeting Note from Chez Panisse, 1982.

Judy Rodgers, an alumna of Chez Panisse (1973-1975) and now the owner chef of the Zuni Café in San Francisco, describes, “The idiom that Chez Panisse stands for is *making what’s old new* (Personal Interview, 2010). The old traditional sustainable notion of deliciousness and satisfying meals is newly made popular and successful and also profitable.” For her, it was an innovation to customers because American culinary

culture in 1970s was seeking values like standardization, consistency, large quantities, etc. She mentioned, “There were bits of traditional food culture in America, but everything about big food and agribusiness was getting rid of it. And the commercial restaurant was thrilled, because if you are going to sell food to people and food is totally commoditized, and taste has been devalued, and portion has been valued instead... You chose the big peach, not the ripe peach. You chose the peach with no bruises, not the ripe peach. You chose the peach that was orange, not the one that smelled good. That’s what happened if you grew up in America in the 60, 70s.” According to her, culinary traditions throughout the world developed very slowly over time. Historically, people knew what fruits and vegetables were in season, they knew what meats were healthy, so they knew how to eat and live well. It is a practice of something sensible that is in rhythm with the planet. The invention of automobiles highly impacted this American food culture. The principles of mass-production in assembly lines inspired an emergence of fast-food restaurants like White Castle and the booming of the automobile industry popularized drive-thru restaurants. Towns were being formed where freeways intersected. People in remote towns could taste fish as trucks delivered them via highways. Frozen food was firstly mass-produced in the United States by the General Seafood Corporation, founded by Clarence Birdseye who got the idea of freezing seafood from the Inuit of the Dominion of Newfoundland, now part of Canada (Kurlansky, 2013). Thus, the aim for Chez Panisse of providing food with seasonal and fresh ingredients was very ambitious and challenging.

In the next section, I describe Alice Waters’s vision for bucking this trend in fast foods and how she engaged others in this vision.

6.2.1.2. Vision and Strategy

Alice Waters’ strategy at the birth stage of Chez Panisse was very simple. It would “never be grand, but it would never compromise on quality” (McNamee, 2007). Ms. Rodgers from the Zuni Café commented, “She [Waters] was uniquely well positioned by being the first-mover, the first one there to start something. She’s very charismatic...It was a very, big, Berkeley, sort of almost collective like spirit. And then you also have her whole revolutionary thing about being very driven by social justice and general issues.” She concluded the early strategy of Chez Panisse still influences her own practices. “I’m driven by quality. And for me the thing that’s of interest to me is *quality, integrity, and sustainability*, which tend to frequently align with deliciousness.”

Alice Waters’ quality-driven model caused serious financial problems. R.W. Apple, Jr., the late *New York Times* Editor, stated that Alice Waters was not much of a businesswoman. He complained that her obsession for the highest-quality ingredients and the over-generosity to customers for their complete dining experience made it impossible for her to run the business well (McNamee, 2007). Ms. Rogers finds additional reasons for financial difficulties with the quality-driven strategy in the birth years of Chez Panisse. “When you’re cooking with fresh ingredients, and changing seasonally, everything is a variable always. And if you are not doing the same dish every night, you never get the efficiencies of doing the same thing over and over. There’s just so much risk as a business owner.” Michael Pollan, Professor at the School of Journalism at UC Berkeley, commented “the ingredient cost of every meal at a typical

restaurant is 8%, at Chez Panisse it could be double, yet the restaurant is not maximizing its financial potential... money as a by-product and not necessarily the goal” (Personal Interview, 2012).

To compound the financial situation, Alice Waters did not pay enough attention to business details. For instance, \$30,000 worth of wine was unaccounted for by the end of 1972, less than a year after they started operating. There was a lack of management and structure: no system of tracking the personnel hours and the cost of ingredients. “One of the most remarkable mysteries in the history of Chez Panisse is how this careless, sometimes intentional ignorance of fiscal discipline persisted through the years, as the restaurant’s excellence and reputation rose and rose” (McNamee, 2007).

As a result of these severe financial challenges, Chez Panisse changed their practices. Although they didn’t give up the quality, they started organizing the structures. They hired a general manager who served as a combined CEO/CFO to take care of fiscal hardships. In addition, they employed Jeremiah Tower as head-chef to take charge of the kitchen in 1973, so that Alice Waters could focus on her role as executive chef and leader. At the suggestion of customers and internal employees, Chez Panisse reached to other segments of clients. Originally, the restaurant only served a fixed menu, which could be expensive to some people who were still enthusiastic to taste their food. In 1980, an upstairs café was opened, with a simpler and cheaper menu than the original downstairs restaurant. This new extension served a broader range of clientele as well as brought in more revenue. The café was able to cut costs by using the expensive leftovers from the downstairs restaurant, while satisfying more customers with affordable prices for both lunch and dinner.

6.2.1.3. Stakeholders

Chez Panisse’ stakeholders during its birth stage were suppliers, family, friends and eventually alumni spin-offs (Figure 6.2).

Suppliers. There was almost no infrastructure or network of suppliers that provided high quality and organic produce in the San Francisco Bay Area during the Chez Panisse start-up time period. The Oakland Produce Market (founded in 1916), one block from Jack London Square in Oakland, was one of the only reliable sources of fresh fruit and vegetables for the restaurant, although they were not organic. Few small stores in Chinatown and Japantown in San Francisco provided meats and vegetables. Ms. Rogers said, “There was absolutely no farmers’ market. There were some friends of the restaurant who would bring stuff from their back garden in Berkeley. But it wasn’t even 1% of what’s going on now. It just didn’t exist.” Due to the relatively small number of suppliers during the first stage of the Chez Panisse ecosystem, supplier influence in the creative culinary process was minimal. As I describe in the next section, the positioning of suppliers radically changed in the next stage of expansion.

Family and friends. During the early days, the restaurant grew based on friends and family. Pat Waters, Alice’s father and the author of *Organic Leadership*, moved to Berkeley after his retirement in financial business and volunteered to help with the accounting for his daughter’s restaurant (Personal Interview with Professor Raymond

Miles at UC Berkeley, a long-time friend with the late Pat Waters). Alice's sister and brother-in-law also helped the restaurant until they started their own restaurant, Café Fanny. For the first two years, the most personnel were family and friends although many did not have much cooking experience. Steven Sullivan, the former baker at Chez Pannise (1973-1977) and the founder of ACME Bread Company, emphasized the birth of restaurant was based on a family model. "Alice always hired people that had some kind of connection because she felt that if you have connection with somebody, son of somebody you know, your nephew, your friend, if you have a strong connection with them, at least they are going to do the best they can do." As discussed in Chapter 2, this can lead to overembeddedness and lack of diversity in the social ties. Fortunately, Chez Panisse eventually recognized the need for more people with a wider variety of skills, so they started looking for people who had knowledge in cooking, finance and management during the year 1973.

Alumni Spin-offs. Not surprisingly, the expansion and growth of the restaurant led to the departure of many employees. Ms. Rogers at Zuni Café commented, "I basically made the break when they were going to do the café. It was just going to be too big and too complicated and I didn't want to do that. So that's why I left." Mr. Sullivan at ACME Bread reflected on this change: "In the family basis, it was kind of a natural progression of growing up and moving out. So, I think the family model is also an important model with Chez Panisse. People do grow up at the restaurant and now [that] the restaurant is much bigger, there is a place to put somebody, but if you grow up and get to a certain point, you can grow up to have so many chefs, so many managers, there are only so many places. So they grow up and move out of the house." This alumni spin-off pattern started at the end of the birth stage and grew substantially in the local expansion stage described next. Of note is the fact that Alice Waters kept track of her alumni and invited them back, particularly as alumni guest chefs in Stage 3.

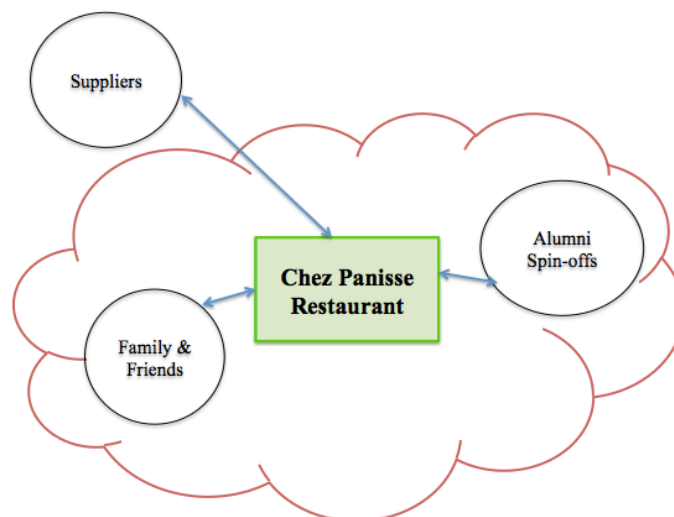


Figure 6.2: Stakeholders of Chez Panisse Ecosystem in the Birth Stage.

6.2.2. Stage 2: Local Expansion through Leadership and Open Innovation (1985-1996)

According to Moore (1993), the expansion stage refers to the phase that the firms “bring the new offer to a large market by working with suppliers and partners to scale up supply and to achieve maximum market coverage.” This can be also explained by using the *co-evolution* construct in the theory of complex systems. Anthropologist Bateson terms co-evolution in his book “Mind and nature: A necessary unity” as “a process in which interdependent species evolve in an endless reciprocal cycle.” (1979; Moore, 1993) This concept was studied in various fields later, including social networks and business ecosystems. For instance, the microprocessor industry boosted the growth of software field. While microprocessors are faster, the software industry seizes more opportunities to serve the more efficient microprocessors at the same time.

In the Chez Panisse case, expansion was enabled through Alice Waters’ vision and leadership in building local networks and strong ties with partners. In addition, I argue that the “open innovation” philosophy employed at this stage allowed a flow of ideas to and from Chez-Panisse, as well as co-evolution with suppliers and farmers.

6.2.2.1. Co-Evolution with Suppliers and Farmers

By 1984, Chez Panisse worked with a number of farmers and suppliers; however, the restaurant was dependent on its choices of produce and their schedules of harvesting and delivery. Pat Waters visited over one hundred farms and ranches in Sonoma Valley and interviewed them to see who might collaborate and share the Chez Panisse’ business goals. With the consultation support from the department of Agriculture at UC Davis, Pat was able to choose farmers in 1985 who were dedicated to the Chez Panisse vision (McNamee, 2007; Personal interview with Professor Raymond Miles at Haas, UC Berkeley, a long-time friend of Pat Waters).

The majority of farmers during this period were providing produce to the commercial restaurants; the main values were size, price and continuity, rather than taste. Therefore, support and education were needed to develop a collaborative ecology with farmers, by articulating what Chez Panisse wanted them to grow and what it considered good. This effort led to the initiation of organic micro-farming, which was revolutionary in the American Agribusiness. This was a critical event in the emergence of the larger Chez Panisse ecosystem.

Sibella Klaus was the very first *forager* (food sourcer and buyer) for Chez Panisse, but left to pursue agricultural economics at UC Berkeley. As part of a summer project at UC Berkeley, she initiated a program to increase the ties between local farmers and chefs in the SF Bay Area. The aim of this project was to connect the farmers to the restaurant by taking direct orders. It was the very first time that farmers and chefs communicated about their particular needs mutually (McNamee, 2010). This was in sharp contrast to *haute cuisine*, where there is typically only one-way communication between chefs and

farmers. Sibella Kraus continued and pursued to make this project a permanent, year-round farmers market. She continued to have a farmers market at a parking lot in front of the Ferry Building in San Francisco till the early 1990s. She approached the city of San Francisco to allow a permanent farmers market at the Ferry Building but they kept saying no. She and her supporters held a one-time farmers market as a protest to the city, and it attracted more than 10,000 people including high-profile restaurants, farmers, artisanal producers, etc. The city finally approved the permanent market and now the SF Ferry Building farmers market has become a world famous attraction (Personal Interview with Linsey Shere, the former pastry chef, 2011; www.cuesa.org). Directly channeling between producers and the public, the products are local, seasonal, and mostly organic while the prices could be lower and the profits go to the suppliers.

After graduation from UC Berkeley, Sibella Kraus, with strong support from Chez Panisse, founded the nonprofit called CUESA (Center for Urban Education about Sustainable Agriculture) and later SAGE (Sustainable Agriculture Education) to provide education and activism to promote farmers' markets and organic micro-farming. Ms. Rogers, a former cook at Chez Panisse and founder/owner of the Zuni Café, emphasized that this all happened because Chez Panisse was willing to take the risk of doing an "experiment". "This is after years of errors and mistakes and experiments. So what people say now is true. But the process of getting there wasn't linear."

6.2.2.2. Reflective Menu

The reliable relationship with farmers generated another innovation. Prior to Chez Panisse, most leading American restaurants listed their menus based on food themes. For instance, the renowned restaurant *Colony* in Manhattan's menu in 1955 listed their dishes under the theme of "Poissons": "La Sole Anglaise Bonne Fenne," "Saumon Froid Parisinne," "Les Goujionette de Flounder Mural." Otherwise, it was described by the cooking methods. "Broiled Baby Lobster Tails" is one such example from the menu by the very popular restaurant *Romanoff* in LA in the 1960s (Pearlman, 2013).

Chez Panisse was the first restaurant to introduce ingredient-based menus, listing the sources such as their collaborative farmers, ranches, wineries, etc. (See example menu in Figure 6.3). This ingredient-based menu helped customers "obtain a keener interest in the constituent ingredients of food and how they were put together, in lieu of the haute cuisine pretension of named dishes." (Kuh, 2001; Guthman, 2003). This also led to the customer experience of "reflective eating", which means reflecting on the production of the food, the treatment of foods, the transport and processing, their preparation and cooking and finally digestion and physiological effects of food as a culinary experience (Santich, 1996). When I interviewed John Finger, the founder of Hog Island Oyster Company, who has been a 30-year collaborator with Alice Waters, he said, "We wanted something distinctive that people would remember and we asked people when they served them [our oysters] to put them on the menu as 'Hog Island' and Chez Panisse gladly did that. And again, almost 30 years ago, that was not a common thing." He also claims that this menu also brings more customers to his business, stating, "Customers come and say, I had your oysters at Chez Panisse or I saw your oysters on a menu there. A lot of times, this is a large part of our ideas of branding, for people to see our name on

a menu and be able to come out... People can have our oysters at the Chez Panisse and the next day to be able to come out to the farm who grew them.”

As for this idea of ingredient-based menu, Patricia Curtan, a menu designer for Chez Panisse, says it requires a lot of knowledge to it so: “I had physical and intimate knowledge of process of the food and the cooking process and ingredients and all of that. When I started making the menus, I had all of that internalized. And I was working in a medium that has a lot of constraints, the letterpress in general.”



Figure 6.3: Chez Panisse’s Ingredient-based Menu with Supplier Names (Source: Author, 2012).

6.2.2.3. Changing Strategy and Business Model

In the expansion and leadership stage, Chez Panisse moved beyond being a local business entity, to becoming a business ecosystem by co-creating and co-evolving with its stakeholders and sharing the vision of providing healthy foods to its community of customers.

In the process of co-evolution, Chez Panisse somewhat served as a social venture capitalist. Ms. Rogers from Zuni Café highlights, “having the fiscal ability to fund farmers and alumni chefs is very unusual.” Even if they didn’t have enough money to provide direct funds, they provided financial support by becoming a customer. According to Mr. Sullivan from ACME Bread, “When I left, Alice did not have money to invest but Chez Panisse kind of invested by paying fixed and very exorbitant weekly amounts for bread for the first six months. We do not have money to lend you or whatever but we will pay you \$5000 [per month] for bread for the first six months even though the bread is only going to be like two thousand dollars a month. So they served as a buffer and loyal customer so that you can have the constant money coming in.” He added that the restaurant was even willing to co-sign for the loan as banks trusted the business of Chez Panisse. Several interviewees claimed sharing values with internal employees was also critical. Jennifer Sherman, the former chef and now the general manager of Chez Panisse, emphasized, “Our staff are very well paid for the industry. We have incredible benefits... The point is to provide a livelihood for all of these people who are affiliated with the restaurant. Cooks, waiters, artists, gardeners, all different kinds of people.” The long-time customer, Gilbert Chambers mentioned an interesting thing about the fixed 17% service charge of the restaurant: “Servers are well compensated because they have the 17% service charge that is attached to each bill; the servers are not dependent on tips so they don’t have to ingratiate themselves to customers although they are very professional here.” Alice Waters claims that it is another form of sustainability as they provide good medical insurance, time off, and retirement savings. The current waiter also says, “If I do leave Chez Panisse, the thing I will miss the most is the food; the staff meal. They do feed us exactly what they serve the guests. It’s something that you can’t easily find in other place.”

6.2.2.4. Other Stakeholders

In addition to the co-evolved suppliers and farmers, the Chez Panisse ecosystem during the second stage of local expansion included culinary artist, loyal customers and food journalists. The expanded ecosystem at this stage is shown in Figure 6.4.

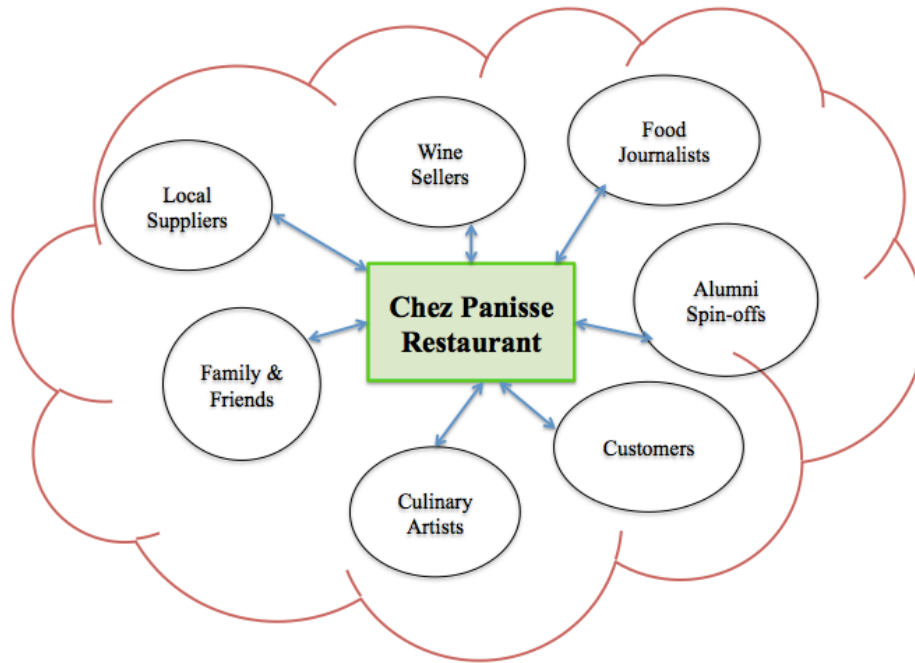


Figure 6.4: Stakeholders of Chez Panisse Ecosystem in the Local Expansion Stage.

Culinary Artists. By expanding innovation beyond the bounds of the food and the food chain, culinary artists have become a very important part of the Chez Panisse ecosystem and support and broaden *reflective eating practices*. More than an ingredient-based menu, Chez Panisse started introducing customized menus to reflect dining experiences for customers' special days. Artists played a critical role in improvising menus on a daily basis. Patricia Curtan, the former cook and now the menu designer at Chez Panisse, explains that the "Menu is a souvenir of that meal... You only have your memory of the experience. So this piece of paper is an artifact of that experience." Figure 6.5 shows an example of a customized menu for a customer's 90th birth upon the request of her son. More on the co-design of the menu at Chez Panisse is provided in Chapter 7.

Designers of Dinnerware also became a part of community. Heath Ceramics in Sausalito, CA, has collaborated in making dinnerware to reflect the Chez Panisse ambiance with the restaurant and their alums for more than 30 years. They produce the ceramics products using local materials and manufacturing facilities to embed localism (Personal Interview, 2010). The creative work of these artists illustrates how the Chez Panisse ecology exhibits both product and experience in the new product development process. This co-creation aspect of the ecology will be explored further in Chapter 7.

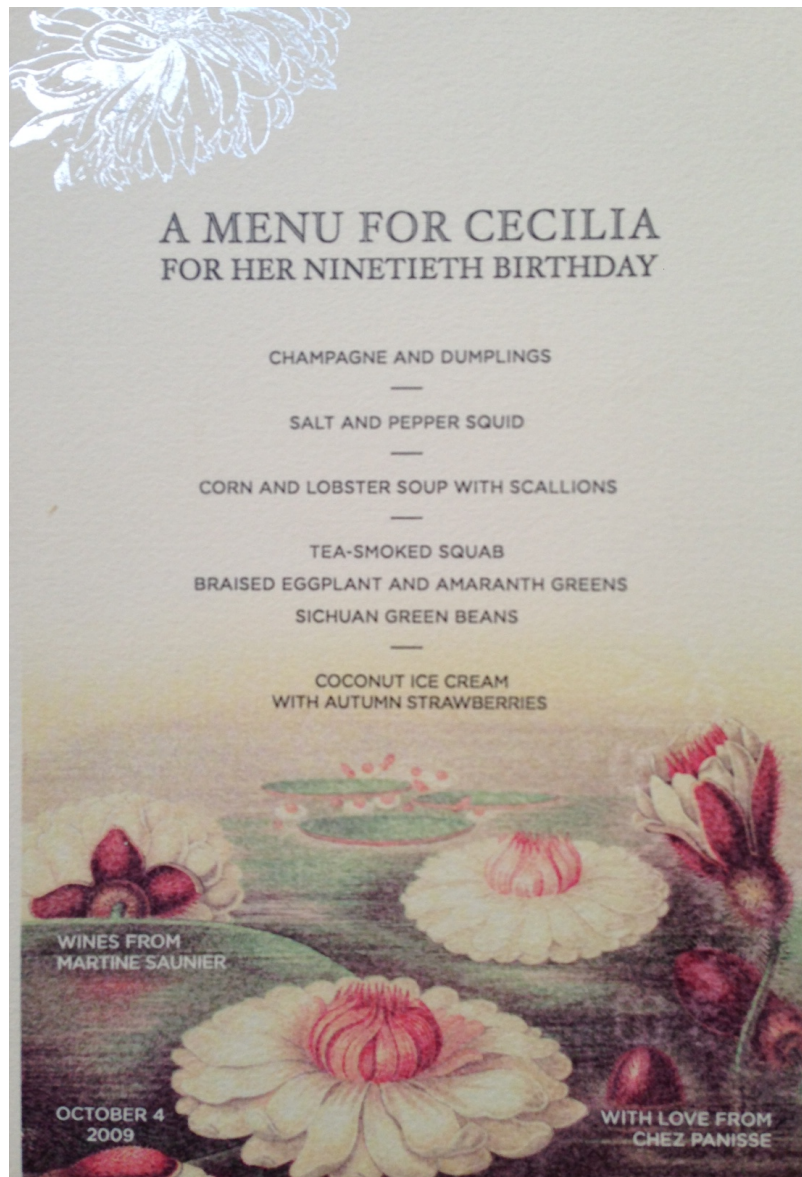


Figure 6.5: Customized Menu for a Customer's 90th Birthday.

Loyal Customers. When I started interviewing the waiters and bus boys at the restaurant, they all suggested that I talk to one gentleman, Gilbert Chambers. They mentioned that he comes almost every day for lunch. Mr. Andrew Browne, the waiter who worked there from 2007-2012, said that this customer probably has missed only 5 lunches during the entirety of his time there. When I finally met Gilbert Chambers for the research interview in 2011, he introduced himself as a retired Philosophy professor from the University of Wisconsin. He moved to Berkeley in 1980, in the same month that the upstairs café opened. He said that he has been coming to this restaurant for the last 32 years: “I eat here very frequently, it’s a bit of an exaggeration to say everyday but I eat here very often. It’s unusual for me to miss a day here, for lunch.” He says that he definitely loves the quality of the food, but more importantly he finds himself fitting in well because of the political ambience of the place. I was very curious if he ever gets

tired but he says, “They change the menu everyday, for instance, if you come here, the lunch menu will be different from the dinner menu on the same day. The café serves 12 meals a week- lunch and dinner Monday through Saturday. 12 meals, all 12 will be different.” He also states that the restaurant listens to customers very carefully. He always tells servers when particular things appear too often.

Although this customer is an extremely loyal case there are many other enthusiastic customers; I could observe that the restaurant grew up based on a loyal customer base, and Chez Panisse took listening to customer needs very seriously.

Food Journalists. In this local expansion stage, the role of suppliers was much more significant than in the birth stage, as I explained earlier. The other important stakeholder that emerged was the food writer: “Prior to the 80s, there was no food writing, or food media. It did drive the industry and define things. It tells you the reader what to think is good, what to think is new, what is important.” Says Ms. Rogers at Zuni Cafe. The word *foodie* did not even exist until 1982. Before the advent of the term *foodie*, the word *gourmet* was used to describe people who enjoyed food in good quality, although it was arguably snobbishly shaped by social ranking and identity (Personal Interview with Tom McNamee; Bourdieu, 1984). Foodies are often informally referred to as people who enjoy food and drink with a great concern for sources of ingredients. With the rise of a group of foodies in the United States in the 1980s, food journalism and the California Cuisine movement popularized each other. Food journalism was enlarging the market for products they describe and recommend. Michael Pollan, the famous food journalist and professor and collaborator with Alice Waters, explained that his books expanded the market for ‘grass-fed beef’ (Personal Interview with Michael Pollan, 2011).

From my data of the trajectories of 77 alumni chefs, six chefs became professional full-time writers after leaving the restaurant. I have identified an additional ten chefs who published their own cookbooks and actively appeared in the food section of the *New York Times* while they remained chefs. The introduction of food journalism and the central role given to Chez Panisse greatly contributed to the global expansion of the Chez Panisse ecology as described in the next section.

6.2.3. Stage 3: Global Expansion through Social Innovation and Education (1996-Present)

In this global expansion stage the Chez Panisse ecosystem now expands beyond its original local region in Northern California. This stage is characterized by a major emphasis on education that promulgates the creation and capture of social values and business values associated with Alice Waters’ vision.

6.2.3.1. Establishing the Chez Panisse Foundation

Critical to the expansion of the Chez Panisse ecosystem was the establishment of the Chez Panisse Foundation in 1996 to support schoolyards by teaching and nurturing K-12 students based on food traditions. Alice Waters mentioned to me once that she always walked by the Martin Luther King Jr. Middle School in Berkeley when she comes

to the restaurant, and found out that there was neglected land at the school. In order to expand her vision to K-12 students, Alice Waters met the school principal to discuss transforming that yard into a garden project for students, teachers and Berkeley community. The idea soon became a pilot project: after-school class of the gardening and cooking. Accordingly, it spurred the establishment of a non-profit foundation to serve and design the educational programs with a financial support of the restaurant and its patron donations.

This initiative is an example of making *what's old new*; a concept that comes up many times in the evolution of the Chez Panisse open innovation ecology. The Edible Schoolyard was the old traditional pedagogy in American schools in 1900s. In 1909, Professor Ernest Babcock at UC Berkeley published the book *Suggestions for Garden Work in California Schools* and documented the very first children's school farm in Philadelphia. Yet, these school gardens gradually disappeared in the United States by the late 20th century (McNamee, 2007).

Having been a Montessori teacher, Alice Waters saw the opportunity to solve problems with food waste, nutrition, and obesity in American children by rebirthing this old idea. Her initial proposal says, "The tangerine peel that gets tossed into the compost pile becomes a feast for the organisms that will turn it into humus, which enriches the soil to help produce the fruit and vegetables that the students will harvest, prepare, serve, and eat... Thus the discarded peel becomes the vehicle which provides tomorrow's city planners, software engineers, artists, and master gardeners their first adult understanding of the organic concept of interconnectedness."

With massive support by volunteers of bakers, farmers, chefs, artists, this program has achieved great success. Alice Waters' friends provided \$15,000 of start-up funds. Restaurant patrons offered their time on gardening, cleaning as well as donations. From an informal interview with Professor David Teece at UC Berkeley, he mentioned that he donates funds to support this program, as he loves the restaurant as well as the philosophy of the foundation. See Figure 6.6 for a photograph of part of the Edible Schoolyard Classroom at the MLK Middle School in Berkeley, California.

For the last five years, this program has received a tremendous national attention. The National School Garden Network (www.nationalschoolgardennetwork.org) was recently launched to transfer and share the knowledge at a regional, school district and a national level. Mrs. Michelle Obama planted the White House Vegetable Garden in 2009, inspired by Alice Waters' educational initiatives. The foundation is now partnering with The National School Lunch Initiative, whose national agenda integrates a nutritious lunch with gardening and cooking experience into project-based learning curricula at all American public and non-profit private schools.



Figure 6.6: The Edible Schoolyard Classroom at the MLK Middle School in Berkeley
(Source: Author).

6.2.3.2. Move to a Global Strategy

The business strategy of Chez Panisse in the current global expansion stage is directed towards creating business and social values with its stakeholders in the local community as well as propagation in a global context. From the interview with Jennifer Sherman, the general manager at Chez Panisse, says, “It is a ‘think globally, act locally’ business model.” They have a proven value model working at the local level, so their next goal is to develop a national and even a global model. Although the scope of the Chez Panisse ecosystem is expanding beyond the local, the same value principles apply to the larger community.

6.2.3.3. Stakeholders

Figure 6.7 represents the current stakeholders of Chez Panisse Ecosystem.

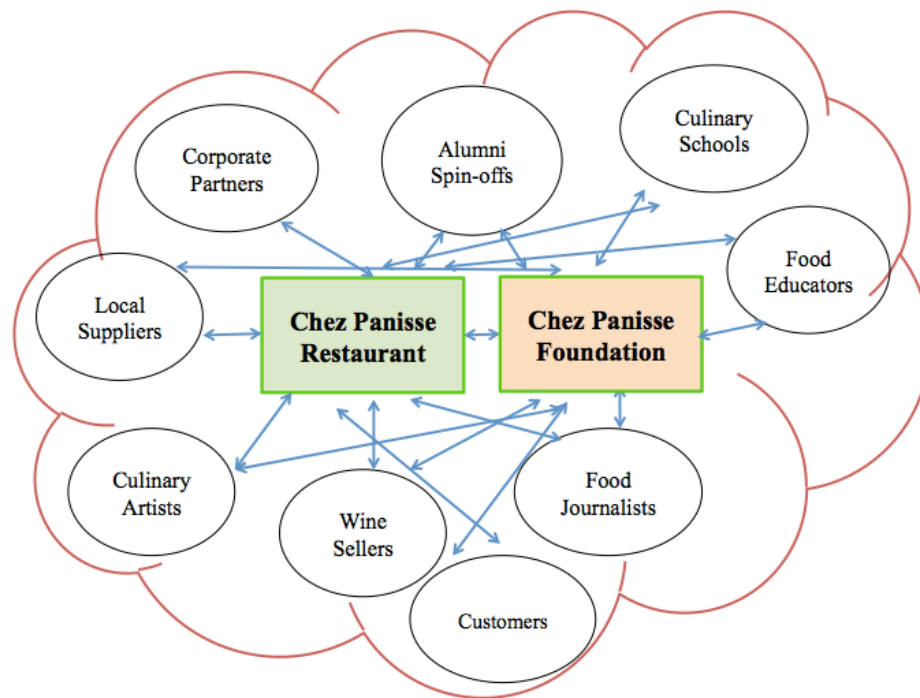


Figure 6.7: Stakeholders of Chez Panisse Ecosystem in the Global Expansion Stage.

Food Educators. Food Educators have become an important part of the Chez Panisse open innovation ecosystem at this stage. The current and former chefs of Chez Panisse participate in the education at multiple levels. The alumna chef of the restaurant, Marsha Guerrero, served as the director of the edible schoolyard program from 2000 to 2010. She led curriculum development, and transferred the curricula to other schools in New Orleans, Los Angeles, San Francisco, Greensboro, and Brooklyn (Personal Interview, 2010). Not only local teachers, but also numerous educators in other locations are participating in the Chez Panisse educational community via online mechanisms. Through the edible education community website, more than 250 curriculums are open-sourced and freely shared.

The Chez Panisse educational ecology goes beyond the K-12 education. UC Berkeley now has a course titled “Edible Education: Telling Stories about Food and Agriculture”, a 2-unit class offered to undergraduate and graduate students that is taught by Professor Michael Pollan. Alice Waters helped organize the initial offering of the course and provided partial funding to allow the public to attend the lectures.

Culinary Schools. In previous stages, alumni chefs were mostly trained through apprenticeship informal learning within the Chez Panisse ecosystem. In the global expansion stage formal culinary education institutions have become part of the Chez Panisse ecosystem. The American Academy in Rome, Italy (founded in 1894) has collaborated with the restaurant and foundation since 2006. The restaurant sends four cooks for four months a year to learn new European trends and to teach Californian

Cuisine. The Culinary Institute of America near Napa Valley sends their interns to the restaurant regularly each year as well.

Corporate Partners. Although Chez Panisse only has weak ties with corporate partners, a number of business entities donate funds to the edible schoolyard program. In addition, the alumni chefs from Chez Panisse have been involved in the corporate canteen through consulting or employment. For instance, Maggie Pond, a former chef of the Cesar Tapas Bar (a spin-off restaurant of Chez Panisse), helped the Google Cafeteria to serve meals made with organic, seasonal and local produce in 1998.

Returning Alumni Chefs (Spin-ins). Through the data collection, I have observed one interesting phenomenon. There were several examples of alumni chefs that had left at one point, but then returned to Chez Panisse. In some cases, they had failed at their own start-ups; others returned for a career change. Also, Chez Panisse has the system of alumni guest chef cooking occasionally.

For example, the current pastry chef, Mary Jo, closed her restaurant, JoJo in 2008 and has now returned to the Chez Panisse kitchen. Her husband and a co-owner of JoJo, Curt Clingman mentioned that it is great that the Chez Panisse restaurant honors external experiences and accepts people when they return (Personal Interview, 2010). “We do a lot of cooking exchanges with other cooks from different restaurants. You know, we have a lot of cooks here that have left here and opened their own places. And we have quite a lot of flow in-between the restaurants for staff and we have the edible schoolyard which is right over... They come back and occasionally we’ll have guest chef cooking here.” I argue that all of these porous boundaries are essential in sustaining the Chez Panisse open innovation ecology.

In the next section, I analyze the trajectories of Chez Panisse alumni over the three stages: (1) birth, (2) local expansion through leadership and open innovation and (3) global expansion through social innovation and education.

6.3. Trajectories of Chez Panisse Alumni

In Chapter 3, I outlined the data collected about employment and the trajectories after employees left the Chez Panisse restaurant. The restaurant did not regularly keep track of employment details, thus I supplemented my interview data with published books and articles about Chez Panisse. I also used the chef database website (www.chefdb.com), which stores chefs’ careers at well-known restaurants over time. The Bancroft Library at UC Berkeley has “the Chez Panisse Archives, 1966-2011”, donated by Alice Waters who graduated from UC Berkeley at 1966. This was helpful in tracking the information about founding members in the 1970’s. As the Chez Panisse Archives were collected anecdotally, there could be flaws or missing data. In particular, a massive change in the organization occurred when two head-chefs (David Tanis and Jean-Pierre Moule) retired in 2011 and 2012 and a large number of alumni guest chefs temporarily worked during this time period before Chez Panisse appointed the new head-chefs. David Tanis worked for 28 years, and Jean-Pierre Moule was there for 37 years; these two chefs are the ones who worked the longest with Alice Waters. David Tanis is now working at the *New York Times* as a food columnist, and Jean-Pierre Moule is

running his own business: Jean-Pierre's Tours, a culinary tour business. This was a big loss for the restaurant, but they were able to bring back alumni chef, Jerome Waag who was running a food design studio in San Francisco. They also promoted Cal Peternell from café chef to restaurant head-chef. As a consequence of the incomplete data during this period due to temporary staff, I end many of my graphs with 2010. I did verify all of the individuals included in my database, but there may be missing employees not taken into account.

6.3.1. The Number of Employees

Figure 6.8 displays the average number of employees at Chez Panisse per year from 1971 to 2010.

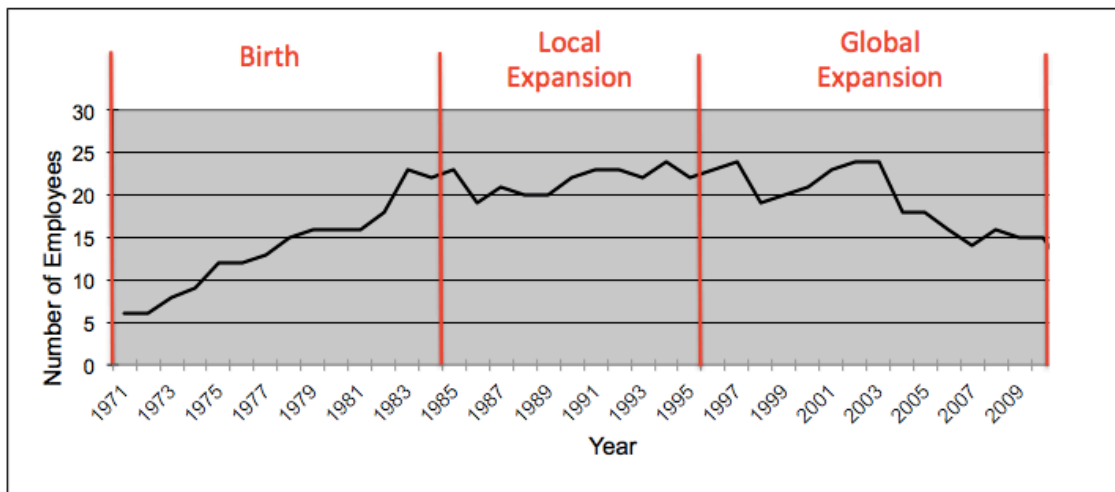


Figure 6.8: The Average Number of Employees at Chez Panisse from 1971 to 2010.

Figure 6.8 shows that the number of employees grew vastly during the birth stage, and then stabilized during the local expansion stage. The third stage would appear to illustrate downsizing; however, this is perhaps due to the increasing use of temporary alumni guest chefs that were not captured in my database.

6.3.2. Post-career After Chez Panisse

I also tracked the career activities of alumni after they left Chez Panisse. People left to go to school, to work at other places, to start their own businesses, to become a writer, instructor, food consultant, private chef of the Steve Jobs family and so on. I discovered that at least 277 new businesses were started by 76 Chez Panisse alumni. These alumni became part of the Chez Panisse *knowledge spillover* (Audretsch, 1995) in encouraging open innovation in the Chez Panisse ecosystem. In the data, “start-up” only includes businesses that generate culinary products and services. For instance, I include restaurants, farms, ranches, diaries, coffee rosters, wine merchants, bakers and designers. Food consultants, authors, educators, or people who are employed at organizations (not doing their own) are excluded in the start-up list.

As an example, Table 6.1 traces the trajectory of one former Chez Panisse cook, Suzanne Goin. She came to Chez Panisse in 1990 as a cook and left in 1992 as a cook, not promoted. After Chez Panisse, she had 4 careers; being hired two times as a chef then started her two restaurants as a chef and co-owner.

Name	At Chez Panisse						After Chez Panisse					
	Initial Position	Initial Rank	Final Position	Final Rank	Begin	Leave	Start-up?	Position	Rank	Begin	Leave	Place
Suzanne Goin	Cook	2	Cook	2	1990	1992	N	Chef	4	1994	1994	Alloro Restaurant
							N	Chef de Cuisine	5	1995	1998	Campanile
							Y	Chef, Co-owner	5	1998	2012	Lucques
							Y	Chef, Co-owner	5	2002	2012	AOC

Table 6.1: An Example of a Former Cook’s Careers at Chez Panisse, and After Chez Panisse.

6.3.3. The ranking of value and knowledge

The ranking metric I used represents the level of value and culinary knowledge that the person has based on the position she or he holds. Steve Sullivan, the founder of ACME bread company, gave me the idea of looking at the knowledge and skill levels of people. He explained, “So you have some people who are already in their career and came to Chez Panisse and therefore could be considered ‘value contributor’ and there are some contribution who came with very little and could be considered ‘value beneficiary’.” Taking his suggestion, I was able to rank the value level based on their positions at the kitchen and floor, both when they first came and when they left. The following table illustrates the value ranks for different positions in kitchen and floor.

Value Level	Kitchen	Floor (Service)
1	Intern, Stagiaire	Busser, Waiter/Waitress, Dishwasher, Server
2	Prep cook	Host, Assistant, Forager, Florist
3	Line cook, Bread maker, Pastry cook	Creative manager
4	Sous chef, Pastry chef	Wine director, General manager
5	Head chef (Downstairs, Upstairs café)	Partner/Owner

Table 6.2. Chez Panisse Value Ranking Based on Position.

Steven Sullivan used his own example. “When I started going to UC Berkeley [as a student] in the 70s, I asked if I could apply to Chez Panisse. My parents knew people at the restaurant, so Alice said you can come in and have a try out. So I came in and worked as a busboy and waiter.” He added that he later became a baker until he left to start up his own bread company. Thus his value rank started from 1 and ended at 3 at

Chez Panisse, but his rank later reached 5 as a founder/owner when he started his own bread company.

6.3.4. Learning in the Chez Panisse Open Innovation Ecosystem

By plotting the value rank of culinary knowledge and level of responsibility in the ecosystem, I was able to reveal interesting aspects of employees' knowledge and culinary skill growth over 42 years of data from Chez Panisse. Figure 6.9 shows a density graph of value rank, normalized to one. The probability density function was calculated by taking the ratio of employees at each rank, smoothed over all ranks to obtain a continuous curve. The red line displays the density of the rank level for all employees when they first started at Chez Panisse. The blue line shows the final rank at the time they left the Chez Panisse to pursue other careers. When people first came to work, the majority were in the low rank (the red curve is heavier to the left) which means they came with very little knowledge or culinary value to the restaurant. It also shows that this restaurant grew its own talent and did not use the 'star chef' model used in haute cuisine; a major effort was placed on educating employees. The green line represents the value rank of alumni at their very first position after leaving Chez Panisse, whether they started up their own businesses, or left the kitchen to do other things. The green line in Figure 6.9 shows that alumni enlarged their knowledge and culinary expertise during their time at Chez Panisse and were able to leverage this training with higher ranking jobs after they left.

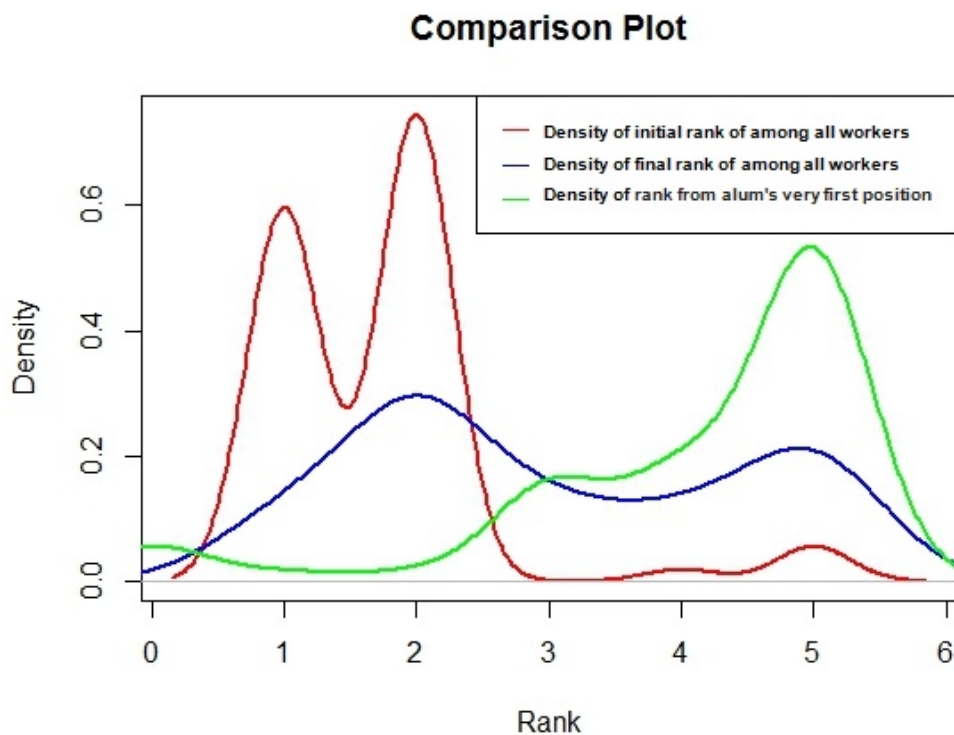


Figure 6.9: The Density Graph of Alumni Value Ranks.

Alice Waters and the employees and alumni of Chez Panisse strongly believe in the “learning by doing” or apprenticeship model, as opposed to formal academic schooling. Previous research (Johnson et al., 2005) demonstrates that academically trained chefs, who have a degree in hospitality or culinary arts, open their businesses at a younger age than ones based on the apprenticeship model. In addition, this research shows that those with traditional apprenticeship training take longer to start-up, requiring on average 10-15 years of field experience.

Table 6.3 shows that the average apprenticeship times before leaving for a start-up are 6.21 years for employees who left in rank 1, 9.57 years for those leaving at rank 2, and 7.29 years leaving from rank 3. Along with the interviews, this analysis reflects that the Chez Panisse ecosystem encourages spin-offs in various ways. The spin-offs benefit from consulting, financial investment and networking from the ecosystem. This allows them to be able to build an early customer base from the ecosystem’s network. Another benefit is the knowledge the ecosystem has about suppliers. Local spin-offs tend to use the same suppliers, thus they are able to source the same quality of ingredients as Chez Panisse and don’t need to put a lot of effort into building their own sources.

In addition, if you look at each rank, people at the rank of 1 and 4 spent relatively little time before their first start-ups. A few interviewees explained that people at the 4th level (Sous Chefs) said they left to do their own ventures, as they didn’t see promotion opportunities soon enough at Chez Panisse. Alumni who left from the first rank (intern or *stagiaire*) at the early days of Chez Panisse shared that some left as they didn’t like the culture or restaurant jobs. Alumni at the third stage did enjoy the culture and were inspired by previous successful alumni to leave and start their own ventures.

Final Rank at Chez	Average Employment Time before the first start-up (Year)
1	6.21
2	9.57
3	7.29
4	6.43
5	13.87

Table 6.3: The Average Employment Time Before the First Start-up at Each Value Rank (Years).

Another interesting phenomenon I found is that most of the start-ups founded by alumni had five or fewer years of employment at Chez Panisse (Table 6.4). Several employees commented that a lot of people left the kitchen for other ‘soft’ jobs like an author, instructor, culinary consultant, etc. They emphasized that they worked more than 100 hours per week and it was very difficult to have a social life; they even had to work

during the holidays, peak times at Chez Panisse. Only the head chef has a three-day work policy.

Employment Time (Year)	# of Start-ups
0-5	62
6-10	2
11-15	5
16-20	0
21-25	0
26-30	1
31-35	0
36-41	0

Table 6.4: The Average Employment Time and the Number of Start-ups.

Alumni with employment times less than five years have been much more entrepreneurial than those with longer tenure (18 people founded 62 start-ups). In this group, those with a final rank in 1 or 3 have been the most highly prolific in the generation of startups: six from each rank. There were also three in Rank 2, two in rank 4 and one in rank 5. There was only one alumnus who was employment for 6-10 years. His rank was 5 and he founded two start-ups. The group with the employment time between 11 and 15 years was comprised of four people and three were from the final rank in 2, and one from the rank 5. The one person with an employment time of 26-30 years, did one start-up, leaving at the rank of 5. This shows some interesting results: In the shorter employment group, the lowest ranks of 1, 2, and 3 were more entrepreneurial. These people were interns and low-profile cooks. If you look at the group with 10-15 years of experience, the final rank of 2 was the mode. I investigated and discovered that they worked on pastry, which requires much more thorough training as baking is more scientific process-oriented.

Table 6.5 shows a substantial increase in the number of start-ups and other alumni employment in the last decade. During this period the percentage of employment in start-ups increased as well. Those in non-start-up employment enjoyed careers as food journalists, educators, photographers, etc. in the ecosystem, adding to its variety.

	Number of Alumni's Businesses		
	Own Start-ups	Employed or worked at other industry	TOTAL
1971-1980	5	5	10
1981-1990	5	5	10
1991-2000	29	28	57
2001-2010	57	34	91

Table 6.5: Alumni Businesses and Other Employment by Decade.

6.3.5. Tracking of Start-ups

Figure 6.10 shows the number of start-ups formed by employees after leaving Chez Panisse from 1971-2010. In this figure, I only list the first start-ups by alumni, although a number of Chez Panisse alumni did multiple start-ups over time. Considering the ecosystem's three stages, it is interesting to see that the number of start-ups each year is highest in the third stage since 1996.

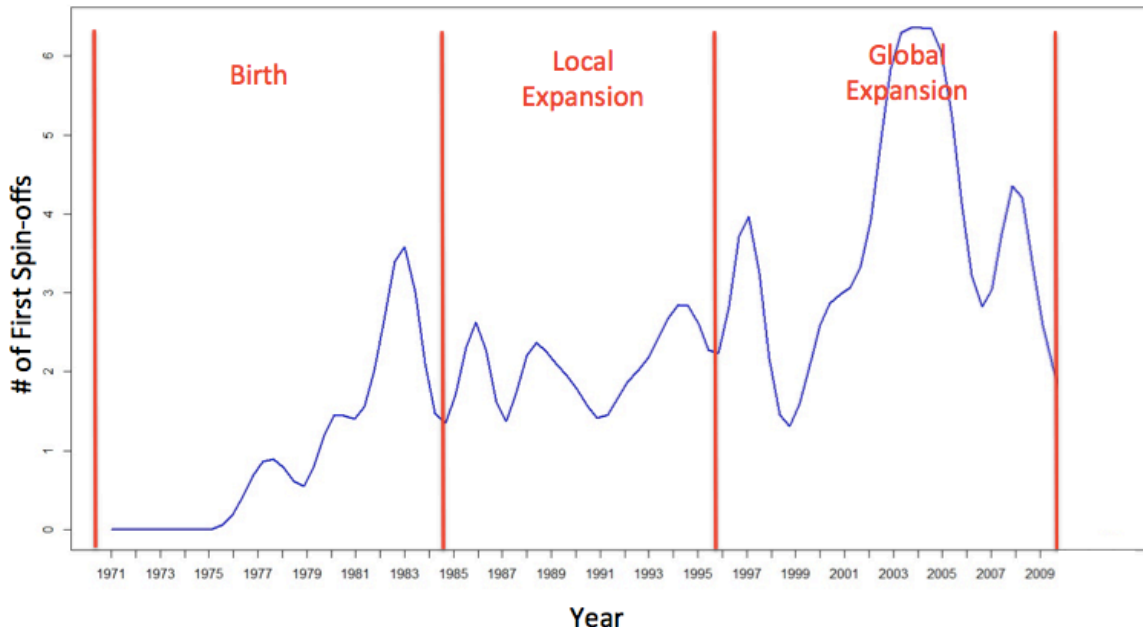


Figure 6.10: The Number of First Start-ups by Chez Panisse Alumni from 1971-2010.

Figure 6.11 illustrates the ratio between the number of remaining staff at Chez Panisse and the total number of start-ups by alumni. The majority of alumni were involved with multiple start-ups. For example, Jonathan Waxman, who worked at Chez Panisse in the

1970s, had nine start-ups during his entire career. Again, it is clear that the highest number of start-ups occurs during the third global expansion stage.

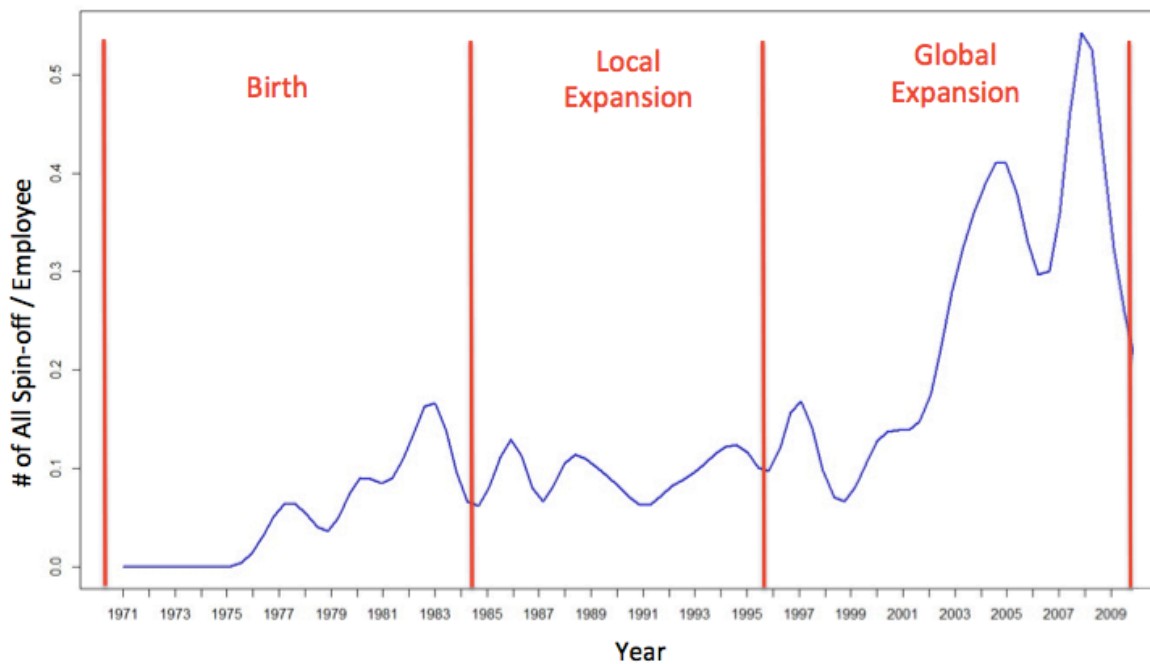


Figure 6.11: The Ratio of Total Start-ups to Remaining Employees from 1971 – 2010.

6.4. Development of an interactive platform for visualizing the Chez Panisse Ecosystem

I stored the alumni data in a Microsoft Excel spreadsheet and developed an interactive platform to visualize the ecosystem and view relationships in the Chez Panisse ecosystem over time. The system can be accessed at: www.californiacuisineecosystem.com (alternatively it can be accessed at www.aprilrd.github.io/chez-visual/). This platform displays the employment history of each person (Figure 6.12), along with collaborations between people.

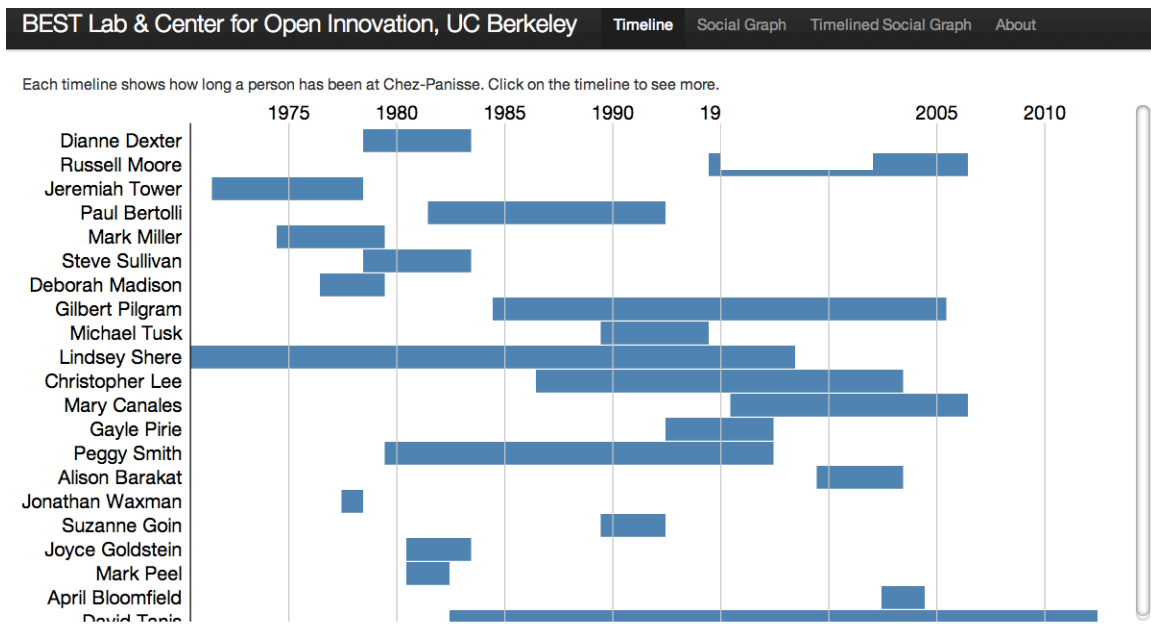


Figure 6.12: Employment Record of Each Person at Chez Panisse.

The interactive social networks shown in Figures 6.12, 6.13, 6.14 and 6.15 were developed with two views: dots and names. Figure 6.13 shows how the former head-chef Jean-Pierre Moulle collaborated with other people before his retirement. The dot size represents the length of work history in the ecosystem. Since Mr. Moulle worked for 37 years, his dot is relatively larger than other ones. You can see the difference in the number of social links and dot size by comparing with Figure 6.14

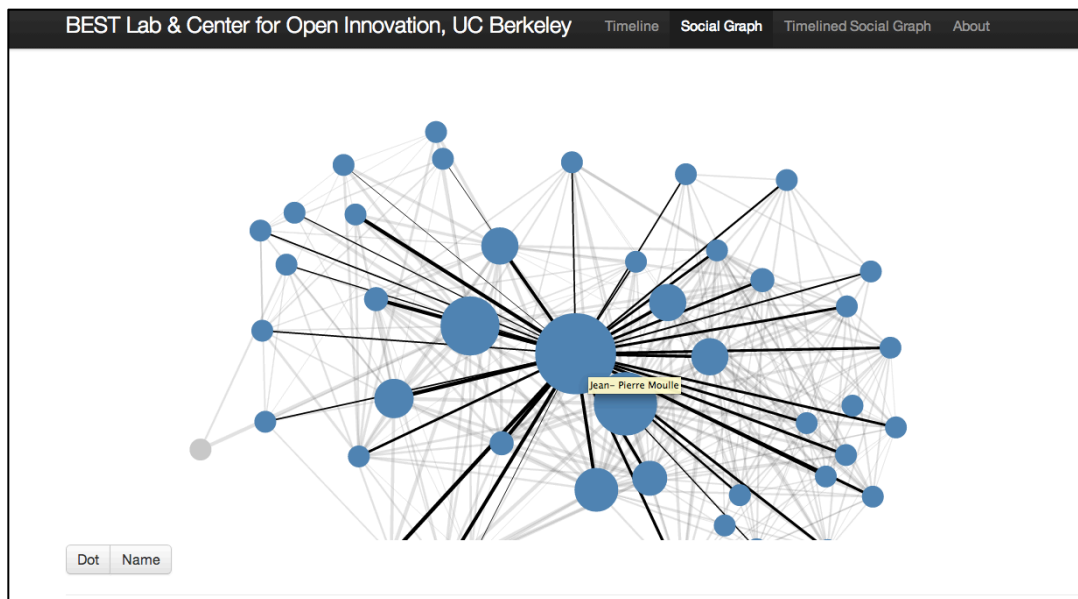


Figure 6.13: Social Network Diagram of Chef Jean-Pierre Moulle with Other Stakeholders.

Figure 6.14 below shows the social network of Joyce Goldstein. She worked from 1981 to 1983 as a café chef and excelled her talent in the food writing. As an award recipient of the James Beard Foundation, she has written 26 cooking books and culinary history books after she left Chez Panisse. The size of dot is shown as a smaller one than Jean-Pierre Moulle's based on her employment time. The largest dot in the center represents Jean-Pierre Moulle as they worked together at the same time period when she was there. With the interactive system, when you place the cursor on any dot, the name belonging to the dot appears.

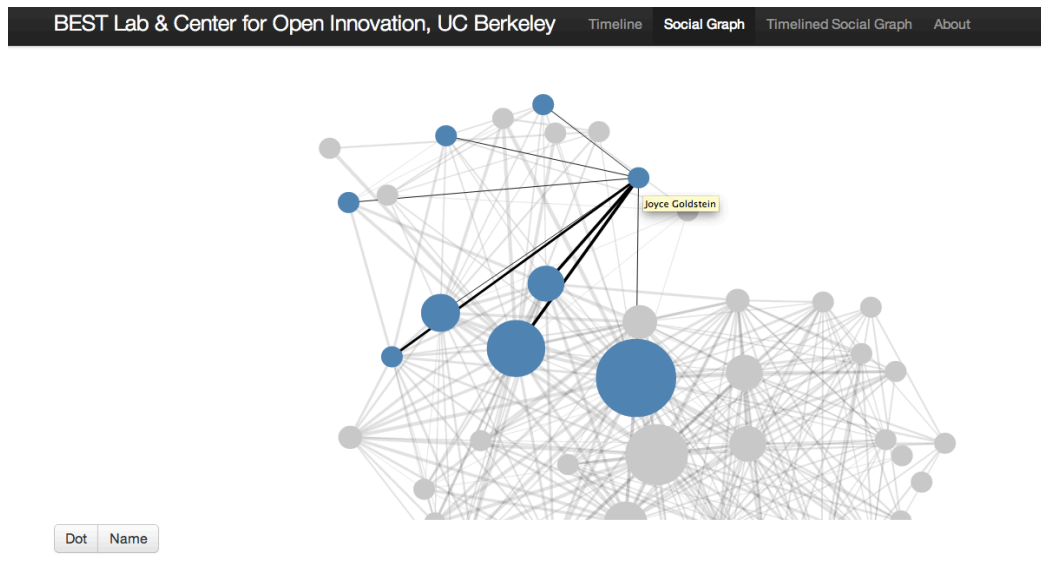


Figure 6.14. Social Network Diagram of Joyce Goldstein with Other Stakeholders.

Alternatively, you can see the connections via names as shown in the social network of Chef Peggy Smith in Figure 6.15.

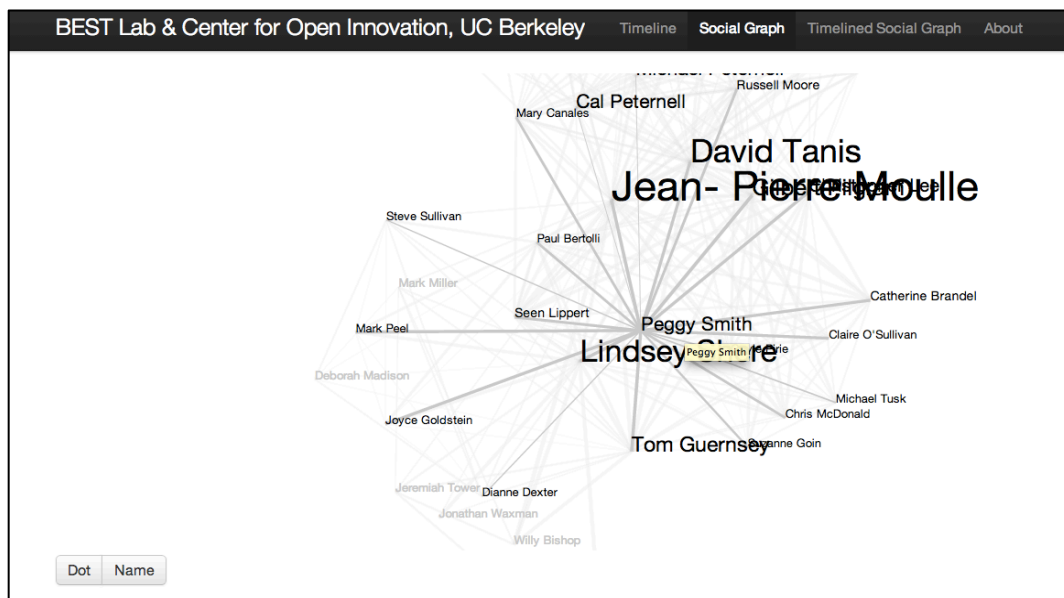


Figure 6.15: Social Network Diagram of Chef Peggy Smith with Other Stakeholders.

Figure 6.16 shows how many social links are generated over time on the upper left corner. The darker the link between names, the stronger the social tie between them. The example screen shows that 65 social links had been created in 1982, and the number of alumni was 18. The red box represents the focal firm, Chez Panisse, and the dots inside show each person working there while the dots outside of box are alumni. The square on the bar in the upper center can be moved to see the status of ecosystem for each year.

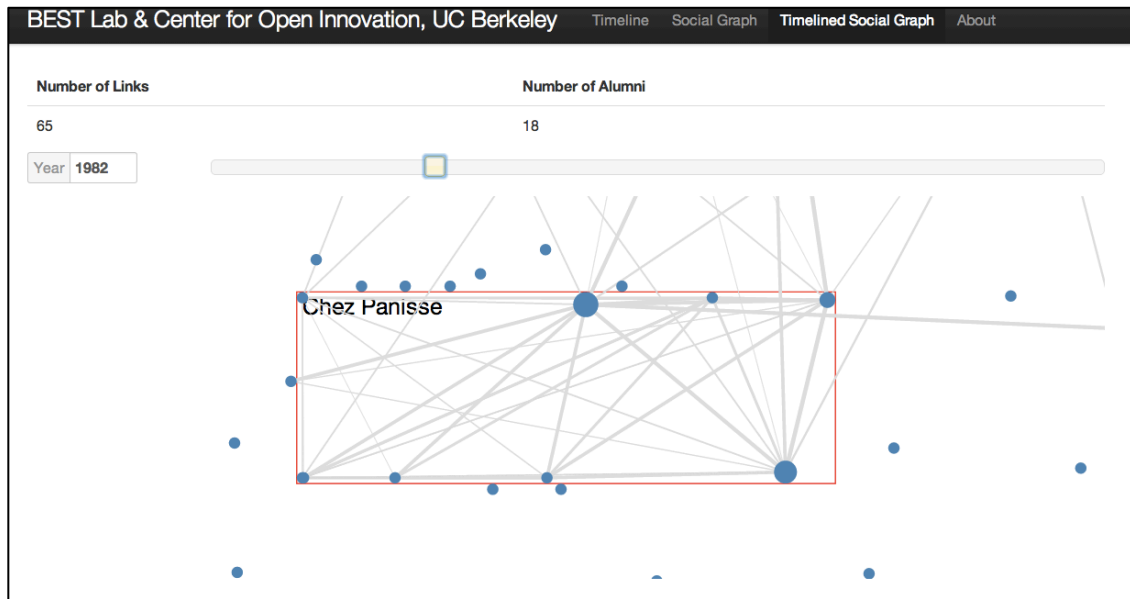


Figure 6.16: The Interactive Timeline of the Social Network Growth at the Chez Panisse Ecosystem. (The example is for year 1982.)

As discussed earlier, this ecosystem significantly expanded geographically during the third stage. I collected the data on the ‘diaspora’ of Chez Panisse, and displayed them on Google Maps by using the function of “My Maps”. Figure 6.17 shows the alumni businesses in the San Francisco Bay Area, and the Figure 6.18 illustrates the world-wide diaspora of Chez Panisse alumni and stakeholders and the success of the global expansion of the Chez Panisse ecology. For example, Jonathan Waxman, an alumnus from 1970s, launched nine start-ups in multiple cities. Barbuto continues to be a popular restaurant in New York City’s West Village. Although Rosa Mexicana closed in Paris, it is thriving in Dubai, Puerto Rico, and Panama.

Currently Chez Panisse alumni and stakeholders are in North America, Europe, Middle East, and Asia, although more than 80 percent are still in the San Francisco Bay Area.

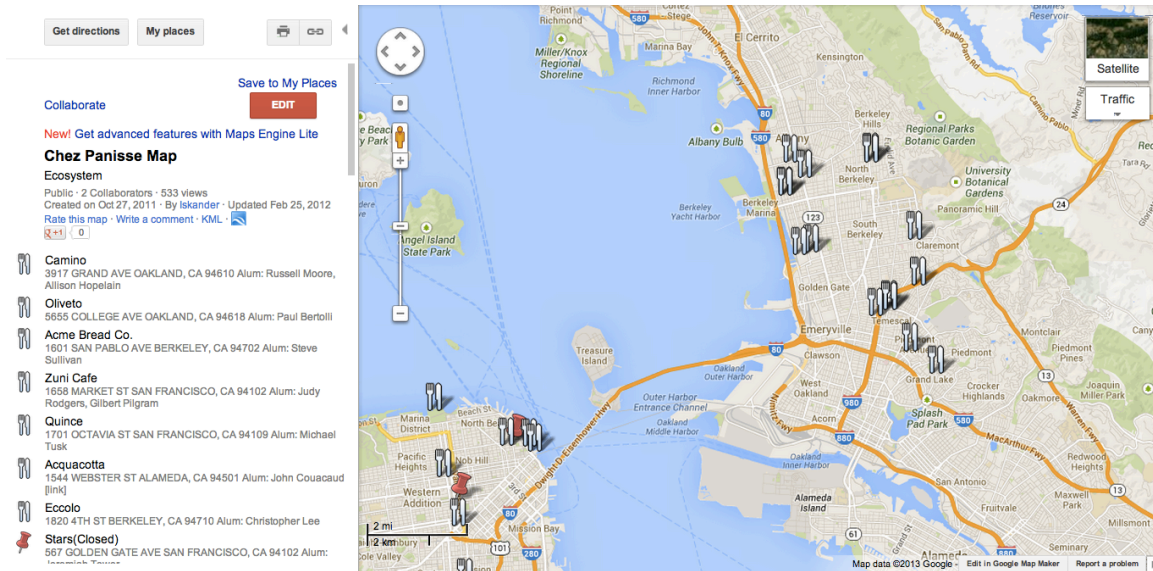


Figure 6.17: Alumni Businesses in the San Francisco Bay Area on a Google Map.

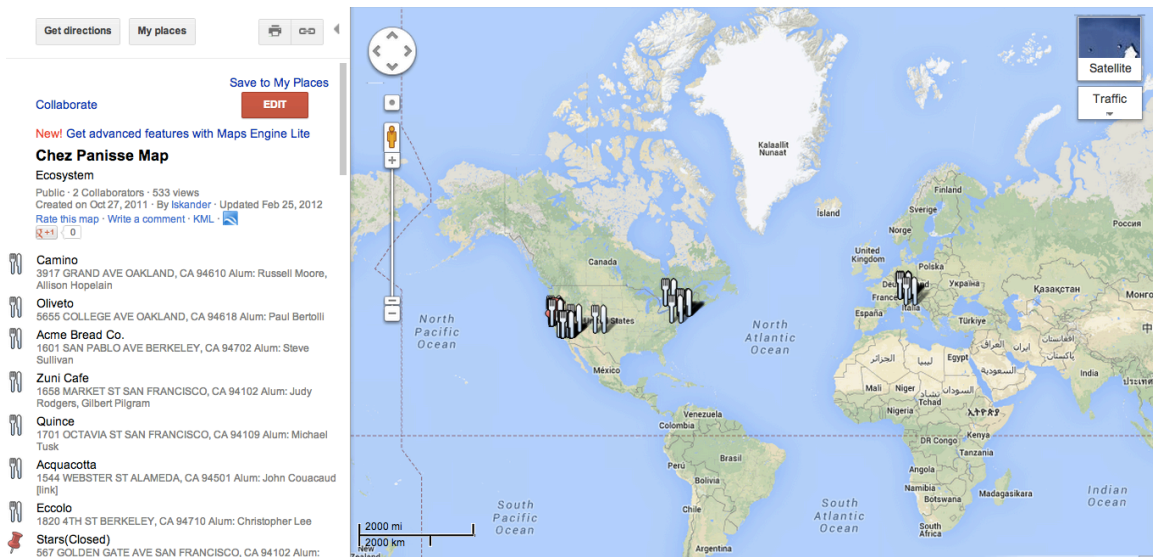


Figure 6.18: Alumni Businesses on a Global Google Map.

6.5. Chapter Summary

In this chapter, I discussed the evolutionary stages of the Chez Panisse Ecosystem; (1) birth, (2) local expansion based on leadership and vision, and (3) global expansion through education and social innovations. I specify the significant innovations generated at the each stage along with the evolving business strategies and growth of stakeholders. Knowledge spillover based on employees' turnover greatly started from the second stage since 1986. However, the loss of employees was not simply the loss of

internal knowledge nor training investment; a lot of cases show that they stayed in the ecosystem, and even expanded the territory of the ecosystem by changing their roles from an employee to a supplier or a collaborative partner. This phenomenon illustrates how knowledge spillover was not a cost of doing R&D, but was utilized to produce an open innovation ecosystem. Chez Panisse, as the focal firm, played an important role here in providing knowledge, resources, such as consulting, training and finances to sustain the ecosystem. The culture of accepting returning alumni after a failure of their own start-ups was vital to motivate new spin offs.

The social engagement through the Chez Panisse Foundation in the third stage of global expansion in 1996 brought more diverse stakeholders in non-profit fields as well as more customers, who contributed to generate more revenues as patrons. Alice Waters' leadership during that local expansion stage created a culture of being open. However, it did take Alice Waters some time to see the Chez Panisse diaspora as a positive factor in being open. The owner of ICI Ice Cream, the one recently ranked as one of the top 3 ice cream services in America, said: "Alice once told me years ago that she had a hard time with people leaving, and when people left, she'd be really really upset, that she wouldn't talk to them ... it was hard. Later she realized, and started saying, that *it's kind of like a school*. And that she would train people and send them out to the world.... It became greater than the restaurant; it was the philosophy. She somehow changed her thinking and it made her feel better, that we're here to send this message out, and so I think she had an easier time when people left." (Personal Interview, 2011). Based on my interviews, I believe that this shift in Alice Waters' thinking of Chez Panisse as a school gradually came about in the mid-1980s. She proudly refers to her "*Chez Alum*" and celebrated leaving as if the employees were graduating from a school.

The next chapter details the role that co-creation played in developing the Chez Panisse open innovation ecosystem.

7. Co-creation of Culinary Innovation in the Chez Panisse Ecosystem

7.1. Chapter Introduction

This chapter describes how culinary innovation is co-created within the Chez Panisse ecosystem. I frame the Chez Panisse culinary co-creation process using the six steps of the new product development process summarized in Chapter 5, where I introduced the Chez Panisse case study as an example of innovation in a culinary ecosystem.

7.2. Culinary Innovation as New Product Development and Design

That food requires “design” has long been recognized. A Harvard Business School case study about Bush Boake Allen (Thomke, 2010) describes the iterative process of working with clients to design flavoring for food. Today, design firms often have food and beverage teams, in IDEO’s case devoted to food design, working with companies to develop new flavors, expand supply chains, and rethink product packaging and branding. They maintain their own test kitchen for rapid prototyping of culinary concepts. Chefs themselves, such as Jérôme Waag, acknowledge that cooking is an activity of design, and he even ran a food design studio in San Francisco, called *OPENrestaurant* from 2005 till 2012.

Schön (1992) describes design as a social process involving sharing knowledge with a larger design community. This social aspect of design was a key feature in the Chez Panisse innovation ecosystem as well.

To understand the role of co-creation in the Chez Panisse innovation ecosystem, I served as a participant observer in the restaurant kitchen of the Harvest Moon Café in Sonoma, California. Nick Demarest, trained under Christopher Lee, the former Chez Panisse head-chef, gave me access to meetings with suppliers (Figure 7.1), and allowed me to observe cooking preparations (Figure 7.2) and menu writing activities (Figure 7.3).

By observing the whole cycle of the menu design process, I was able to understand the cooking process as a design activity or as the new product development process described in Chapter 5. Moreover, the Chez Panisse ecosystem uses co-creation in new product development as an open innovation feature of the ecosystem. As described by Prahalad & Ramaswamy (2004), co-creation through dialogues among firms, consumers, and suppliers provides a medium for open innovation. This chapter describes the collaboration and rich dialogue between stakeholders in the Chez Panisse open innovation ecosystem.



Figure 7.1: Brainstorming Menu with a Supplier, Checking their Inventories, Harvest Moon Café.



Figure 7.2: Cooking preparation at Harvest Moon Café.

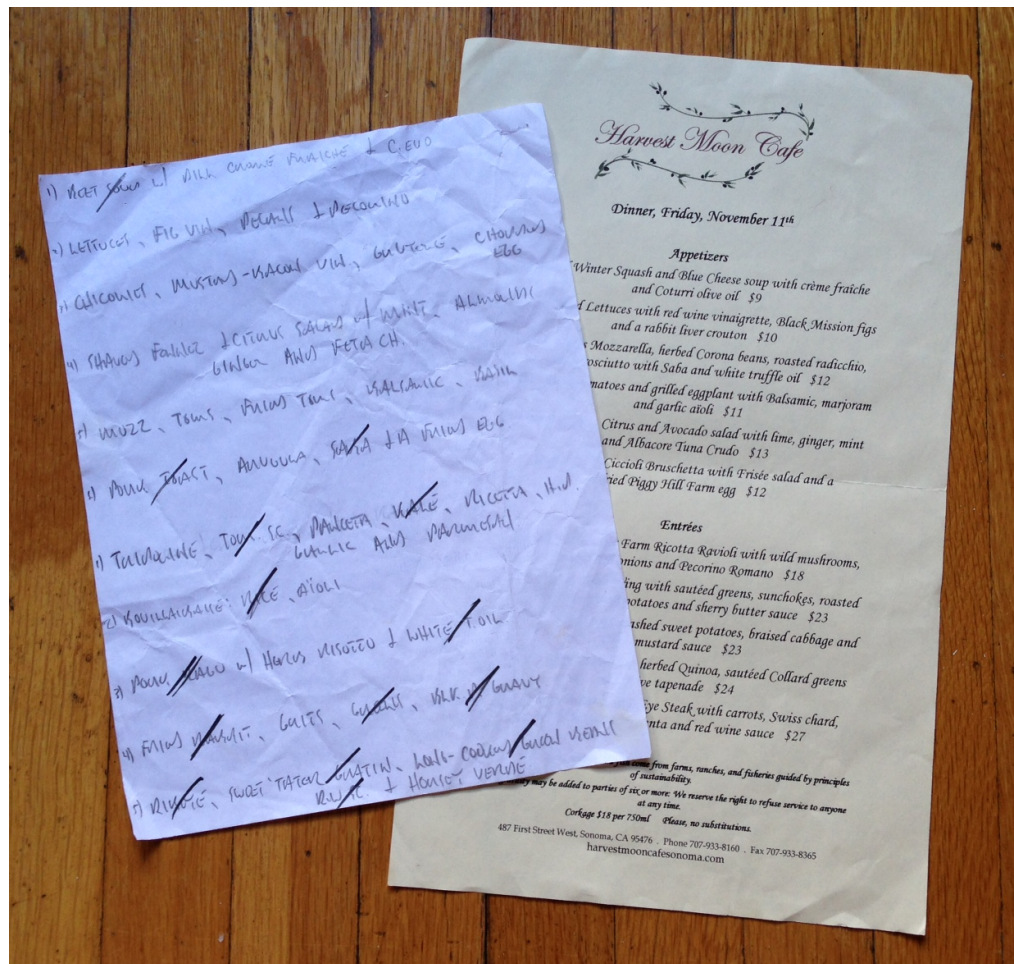


Figure 7.3: Work-in Progress and Finalized Menu at Harvest Moon Café.

7.3.Co-creation as a Part of the Chez Panisse Open Innovation Ecosystem

7.3.1. Step 1: Idea Generation

The idea generation process in the Chez Panisse case involves an open kitchen, communities of practice and co-creation with suppliers, journalists and alumni guest chefs.

Open Kitchen. Chez Panisse has an open kitchen where everyone is invited to walk in and thus the kitchen becomes a place to share ideas with all stakeholders. Curt Clingman, the former owner of the JoJo restaurant, says, “It seems like Chez Panisse had the first open kitchen in America, but kitchens were a long time ‘open’ before they were closed; but in restaurants, it was somewhat of an innovation. We had doors. I remember

when I first started the thought of an open kitchen, I thought “what is that?” and that I’d just be too nervous. There were people that really didn’t like the idea of being exposed and I have to agree that it did take some getting used to. You’re concerned with what bad habits do I have, do I touch my face too much, do I put things in my mouth too much, things like that.” He added that its open kitchen allowed people to listen to others’ idea and to share what they made. Open kitchens, in contrast to the closed kitchens in haute cuisine, serve as a physical environment that encourages ideas to bloom and to co-evolve.

Community of Practice. As I discussed in Chapter 6, Chez Panisse has embraced the tradition of informal learning via apprenticeship. This learning model encourages peer teaching; thus learning is embedded in the innovation process (Beckman & Barry, 2007). Jerome Waag, currently the head-chef at Chez Panisse, comments: “It’s a very interesting mix of openness as a person... a lot of the cooking was done by people who didn’t necessary go to culinary school. So they are really open to things. They don’t have a lot of skills but they have a lot of enthusiasm and a lot of curiosity... People want to discover everything about stuff, but also in the same time, it comes from a very conservative place.” Patricia Curtan, a former chef and now a menu designer, adds: “There wasn’t someone who possessed all the knowledge and really directing that.... We were teaching ourselves as we went along. The only way to achieve was for everyone to contribute. Certain people had certain skills and experience. It wasn’t as if everyone had uniforms or someone in charge who really knew. The only way it was going to happen was through collaboration.” She describes the sabbatical system they have: “Some of the very best chefs say you would have to get away for a while, go do something. And they have. They learn a bunch and get inspired, and they come back full with ideas. It’s like taking the sabbatical. Working there was my education.” Although this ecosystem started accepting academically trained people in the last several years, the community of practice is still the preferred practice. This situated learning (Lave, 1988) embraces an authentic learning experience in a real-life context and a lifelong learning environment; thus people keep learning and sharing their knowledge even after they graduate and leave the focal company, Chez Panisse. Christopher Lee, former head-chef and currently a consultant, states that it is always more of a school, so people call themselves “Chez Panisse Alumnus”, a term which is never used in the other restaurants. In contrast, “former chef” and “former restaurateur” are the common terms used in the industry (Personal Interview, 2011).

Getting Ideas from Suppliers. I had a great opportunity to accompany the truck driver of Chez Panisse, Dhondup Karpo, for few trips to farmers and ranches in Sonoma Valley (Figure 7.4) and to the Berkeley farmers market (Figure 7.5). These trips with Mr. Karpo made me understand how the restaurant interacts with suppliers about the quality of ingredients and the sourcing of menu ideas.



Figure 7.4: Dhondup Karpo, with 23-year Experience at Chez Panisse, Transporting Food Compost to a Partner Farm.



Figure 7.5: Dhondup Karpo, 23-year experience at Chez Panisse, shopping at Berkeley Farmers Market.

Dhondup Karpo came to the United States 25 years ago as a refugee from Tibet, and got a job as a cleaner at Chez Panisse 23 years ago. After a few months, he learned to drive and became a driver at Chez Panisse, sourcing all the ingredients from suppliers and partners. His role at Chez Panisse is a sort of *gatekeeper*, who enables an exchange of dialogues between Chez Panisse and its suppliers as well as local alumni. While Alice Waters is central to the Chez Panisse ecosystem in terms of philosophy, business and social innovation, Mr. Karpo truly serves the practical role of connecting people inside and outside.

Mr. Karpo once took me to the Green String Farm in Petaluma, CA. Farmer, Ross Connard, mentioned, “We don’t even talk to them, we’ll just send them some peppers. And they’ll like the peppers, or they won’t like them and won’t order them again.” Basically, he says that they send the best products twice weekly to the restaurant via the Chez Panisse driver, and then the restaurant tries to use them for that week (Personal Interview, 2011). The key here is that the inspiration first comes from suppliers, and then the chefs start designing meals. On the contrary, previous research shows that high-profile chefs in *haute cuisine* use a more sequential and top-down process than general and average chefs (Harrington, 2004), which means they start from a thorough menu planning process before initiating foraging.

Alumni Guest Chef System. Chez Panisse offers head-chefs a leave of absence for four to six months each year. They take a break to clear their brains; they travel to other countries to learn new techniques and also teach at culinary institutions world-wide while they still receive a salary from the Chez Panisse. The sabbatical system has led to a new culinary innovation, the alumni guest chef system. When one head-chef is gone on sabbatical, the other head-chef usually takes a charge. However, they occasionally invite alumni chefs to share the responsibilities. In addition, there are several chefs who have left Chez Panisse and specialized in ethnic cuisine. They are sometimes invited back to lead special theme nights, such as the Kosher-style Jewish deli night. The general manager at Chez Panisse describes this innovation: “We do a lot of cooking exchanges with other alums from different restaurants... And we have quite a lot of flow in-between the restaurants for staff and we have the edible schoolyard cook right next to us.” When they have a big event like the ‘Dalai Lama dinner’, they usually collaborate with alumni due to a shortage of staff. The expertise and involvement of these alumni chefs greatly enriches the repertoire of new ideas at Chez Panisse.

Ideas from Food Journalist. Michael Pollan, the author of *The Omnivore's Dilemma* (2006), comments in an interview: “Alice Waters is listening to journalistic conversations about food.” Pollan gave me examples of how Alice Waters brought external ideas from food journalists to the Chez Panisse ecosystem. House-made sparkling water was one of his examples. From the early 2000s, a lot of food articles criticized how many resources are used to manufacture water bottles and untold millions of gallons of fuel are used to transport expensive Italian sparkling waters to American restaurants. Americans choose bottled beverages to the tune of 26 gallons per person in the year 2006. The general manager of Chez Panisse explained that they did several experiments to find the best solution during an interview with the National Public Radio

in 2007. They typically consume about 24,000 bottles of Santa Lucia from Italy per year. They first considered using local sparkling waters like Calistoga, but these products were too heavily carbonated for the food at Chez Panisse. The final solution was a carbonator, which injects bubbly into the water. The restaurant also revealed that it was not an easy decision; bottled water is a big money-maker for restaurants, which can buy it for less than \$1.5, and sell it for as much as \$8. Regardless, Alice Waters strongly took the lead in the campaign to discontinue the use of imported bottled water and the restaurant completely stopped selling it. The alumni also participated in this movement, so now house-made soda water is easily found at many of Chez Panisse diaspora restaurants and shops. This movement also influenced the schools in the community. For example, the Berkeley Unified School District replaced commercially bottled water with large containers of tap water and cups in 2007 as well. In 2010, the undergraduate student group at UC Berkeley initiated the “I Heart Tap Water” campaign, and it has been highly successful. This is an example where a seed idea from food journalists on the overuse of bottled water led to the generation of new concepts and practice at Chez Panisse and other participants in its ecosystem.

7.3.2. Step 2: Concept Screening

Several interviews reveal that the quality of ingredients is the top priority in the screening process. Russell Moore, alumnus Chez Panisse and the executive chef at Camino, emphasizes that he is driven by quality and the sustainability of ingredients. The screening process has to balance quality and innovation. For example, Moore expressed concern about customer satisfaction and the tension between serving high quality standard menu items versus having variety: “When I was at Chez Panisse for 23 years, I got tired of the few things that I had to make all the time: garden lettuce salad, goat cheese salad, pizzas and I’m like “I don’t want that” to me those were the worst dishes there sometimes because the cook didn’t care... But anyway I had to make them for customers.” Some interviewees also mention that they cannot be too creative, as each dish has to be balanced as a part of the whole picture. “Chez Panisse itself is very limited in what it serves. You cook a certain way within the restaurant; certain ideas are the core of their repertoire. The ironic part of Chez Panisse, the contradictory part is that they say we never cook the same menu and it’s different every day. Well, it is true. But, within the range of ideas, really.” (Christopher Lee, Personal Interview, 2011).

7.3.3. Step 3: Prototyping

Several interviewees mentioned that they start designing dishes in their head, then sketch out a possible display of the concept on paper. Several aspects of the prototyping process are of concern here, including the balance between different ingredients, spices, textures, colors, aromas, etc. Then the improvisation starts in the kitchen. “It’s so exciting to see the moment of improvisation.” (Jerome Waag, Personal Interview, 2011). And the improvisation usually takes place as a collaborative effort without following one “star chef”. “You are kind of sitting around in the table and say, let’s do this again which is fish soup and we have cod, we have lobster and we have potatoes. Do you know how we like to do it? Yes, we know how you like to do it. And you go [for it]” described chef Christopher Lee (2011). Sometimes there is a tension between chefs and business owners

on the value of many prototypes. Ms. Rogers, owner and chef at Zuni Café, warns that too many prototypes can add risk as it takes time and one might potentially make mistakes.

7.3.4. Step 4: Concept Development

At this stage, the ideas that are sourced and selected are developed as concepts. The concepts can be stored as a recipe-date file, photograph, presentation with arrangement instructions, or as written working instructions (Ottenbacher & Harrington, 2007). In the culinary field, the inclusion of *terrior* (French: taste of the place, Personal Interview with Kermit Lynch, 2011) as a food concept is a differentiation factor between competitors. *Terrior* represents “gastronomic identity”, thus local influence should be transmitted into the character of the food so that it reflects the distinctiveness and uniqueness of the place of the origin (Harrington, 2004). After deciding the food concept, chefs choose the plates for presentation of the designed meal based on the hall ambiance, lighting, music, etc.

Kermit Lynch taught me about the notion of *terrior* during my interview with him (Personal Interview, 2011). He is a well-known European wine importer based in Berkeley. He was the award recipient of the James Beard Foundation, and was awarded the insignia of *Chevalier de la Legion d'Honneur* by the French government. He says, “When I go to winery to eat, it was the food from the region that goes back centuries so that you have the wine and recipes and everything. Recipes are based on what grows right there, like in Provence, garlic, rosemary, tomatoes, eggplants...and cuisine and wine choice should reflect a certain place together.” Several customers that I have met for interviews complained that Chez Panisse doesn't have many Californian wines; but many are French wines bottled by the local Kermit Lynch Wine Merchant in the wine list. Andrew Browne, a former waiter, who now works at the Gary Danko restaurant in San Francisco notes: “If people really, really knew about food, they would know that a lot of California wines don't work with Chez Panisse food. It's too light- well, not too light but it's very subtle.” Therefore, since the food concept needs a harmonized balance with certain wines or other drinks, they then use things beyond local to complete the full concept. The founder of the Blue Bottle Coffee Company, James Freeman, also commented that a complete experience is more important than one particular dish or drink. Blue Bottle Coffee is the main coffee roaster for Chez Panisse and developed the Chez Panisse Blend after numerous tests for balancing as a food concept.

In the concept development phase at Chez Panisse, seasonality plays a huge role. Jerome Waag, now the head-chef at Chez Panisse says, “If the ingredients are good, there's not much that you need to do with them. If you have good asparagus, then it's good enough! It's there for a couple of months and then you eat it all the time and then when it's gone it's gone.” The emphasis on utilizing the seasonality in the menu does not lend itself to the structured codification of recipes. “To develop recipes, no. We're really driven by the food itself, like you saw the food coming from the farm. So basically, we write the menu every day so we kind of see what's there and then we decide what to make. So we don't really decide ahead of time. And all of our chefs travel a lot and eat all over the world so they have quite a lot of perspective and input from what they see where

they eat.” This seasonality principle led to the birth of the *ingredient-based menu* and encourages customers to enjoy a *reflective eating* experience as I described in Chapter 6. Mr. Waag gave an interesting metaphor about their food concept. “When you get a plate of food, it’s sort of a map of the world. If you eat a plate of food from Chez Panisse, it’s a map of a certain world. That means you can trace it. You can trace all the things, like the chicken from this place and that place, and the people about how they treat their animals in a certain way and they treat their workers in a certain way.”

7.3.5. Step 5: Concept Testing

Before the concept turns into a real meal, the chefs may prototype concepts and conduct concept testing. They use various people from the Chez Panisse ecosystem for testing the final concepts: internal employees, waiters, alumni, customers and suppliers. Jim Maser, the former owner/chef of Café Fanny, and now an executive chef of Picante, uses chef friends, food consultants, and loyal customers to get an evaluation. He adds, “I invite everybody who works around the restaurant whether it is the person delivering the food, garbage man, UPS man, the person who sharpens my knife, mailman, everybody comes in and I treat them like they are the internal guest. Without them, I cannot operate. So, I created the community through food that makes it so that they also eat well. So there is a lot of free food at Picante. Hospitality has to do with generosity. Also they represent a lot of different sensibilities” (Personal Interview, 2012).

7.3.6. Step 6: Customer Feedback

Customer feedback is obtained from loyal customers as well as indirectly from waiter/server staff.

Feedback from Loyal Customers. “The philosophy here is that we have a lot of very long time employees, we have people who have worked here for 20 years, which is unusual in the restaurant business. And what that means is that those regular customers who come in and develop a relationship with that waiter or a host or a cook in the kitchen, they see them and they feel like it’s very meaningful, it has a deeper value than just going to a nice restaurant” says Ms. Sherman at Chez Panisse. She says that by having an *open kitchen*, it is very easy for chefs to communicate with clientele and to get feedback in a dining context. Often times, the restaurant observes that customers are too polite, or too upset to complain and just want to leave, and later it becomes problematic. “They’re not eating all of it or they don’t like that....You’re asking for information at the very end of the process, and you get a response too late...To be on an open kitchen, you can see the diner right there. You can see them really enjoying themselves and you can see the community that you are now part of.” Therefore, this open kitchen has helped to enrich a subtle and open communication with customers.

Also, there are customers who directly share their opinions among those who have been coming for a long time. Gilbert Chambers, referred to earlier as the most loyal and frequent customer for coming there for the last 33 years, says “Sure, I’m outspoken to the staff if I have observations or complaints, they take them seriously and sometimes they act on them...And I tell some servers about things that appear too often...Because I

come here so often- sometimes I notice they serve the same soup 3 lunches in a row and I don't like that because I like to have soup with my meal, but other customers don't notice that because they don't come here as often. I notice there are some things that appear with too much regularity – like cardoons – I don't care for them so much – and nettles! You always see pizza with nettles and it's really just a weed.”. Then he continued, “A few years back maybe 4-5 years ago, it was very common to get at least one sandwich per week on the menu – and sandwiches are such a humble thing that the cooks took that as a challenge; but they would make a glorious sandwich. As soon as I saw a sandwich on the menu, I would go ahead and order that because I knew it would be good. But sandwiches disappeared and I complained bitterly so they brought them back and now they'll have them maybe once every 2 months.” (Personal Interview, 2011).

Waiter/Server as Messenger. Mr. Browne, who worked for five years at Chez Panisse as a waiter claims that the front people of the restaurant are always a good sensor for customer opinion. He thinks that the service staff should constantly catch the inconvenience of customers, and communicate observations with the kitchen. He says that the service staff at Chez Panisse attend the menu meetings everyday before they start that day, because the menu gets changed throughout the day. He does caution about the tension between the restaurant's vision of quality food and customer satisfaction, however. He now works at Gary Danko, a one Michelin-star restaurant in San Francisco, and he says: “At Gary Danko, the menu doesn't change that much. It changes seasonally sometimes. So it was a little bit different. They just had about a two minute menu meeting yesterday.” With a top priority on customers, sometimes he finds it difficult to communicate between chefs and customers. “Sometimes the customer isn't always right. We often have strong disagreement with the customers. They don't always know how it is supposed to be. Some customers walked in and they ordered pasta with some kind of shellfish. There's no Parmesan cheese in the pasta. It's not appropriate to put cheese on fish. But then they asked, “Where's the cheese?” or said “You must always offer cheese with fish pasta.” We go back to the cooks asking for the Parmesan cheese. We looked down, very ashamed. As a server you couldn't compromise the interaction.”

7.4. Chapter Summary

In this chapter, I described how chefs at Chez Panisse co-create the culinary innovation within its ecosystem. This co-creation process is a good example of how open innovation is practiced in a culinary ecosystem. I organized the co-creation process around six steps of the new product development process. I argue that this co-creation would hardly happen as the main source of innovation without the collaborations and tie strengths in the Chez Panisse ecosystem under Alice Waters' leadership. The sabbatical policy initiated by Alice Waters greatly contributed to bringing in more global ideas, and allowing alumni guest chefs to contribute their skills in enriching the innovation of food concepts. As a counter example, Micheal Pollan, UC Berkeley's Journalism Professor, noted that ElBulli, the leading Molecular Gastronomy restaurant in Barcelona, has excelled through research, recipe, and novelty while Chez Panisse has grown up based on community, quality and continuity. Judy Rogers at Zuni Café provides a similar analysis, “Maybe not in Mercedes-Benz, because you only get one car per every five years. But dinner? You go out to dinner a bunch. So it's not that scary. I mean, this industry is very

friendly. No one is ever worried about another great restaurant in town. Because no one is going to eat at your restaurant every single night.” Her comments emphasize the importance of collaboration and open innovation in providing continuous innovation. She believes that the conventional closed model would be less efficient and effective.

8. Conclusions

8.1. Significance of the Study

This study introduces the concept of an innovation ecosystem and uses the Chez Panisse restaurant as a case study to show how such an ecosystem can be generated, developed and sustained over time. Chez Panisse and its chef/founder Alice Waters are credited with taking the lead in the California Cuisine movement with influences that extend to numerous other restaurants, suppliers and educational networks worldwide. Although there have been numerous books and articles written about Chez Panisse, there have been no academic studies that have analyzed how its innovations were generated, and how it actively engaged its stakeholders in the process of innovation. Additionally, prior work has not documented the impact of building Chez Panisse's local and now global ecosystem using an open innovation strategy with stakeholders. Considering the relatively young history of research in open innovation, this historical study of a 42-year old successful example is a contribution to the knowledge of open innovation ecosystems in its own right. I summarize my high level findings and suggest future research below.

In order to fill this research gap, I reviewed the literature in 1) open innovation, 2) inter-organizational networks including business ecosystems, community, and value networks, and 3) new product development in culinary studies. The Chez Panisse case study was used to examine how one highly successful innovation ecosystem was created and sustained by collaborative and collective innovation activities. I conducted a single-case study with an in-depth interview, participatory observation, and a collection of public data to address the following research questions:

1. How has the Chez Panisse innovation ecosystem evolved over the last 42 years? What characteristics led to its success?
2. Who are the participants in this ecosystem? What characteristics of the Chez Panisse eco-system have allowed them to cultivate their innovative behaviors?
3. What activities/approaches have enabled Chez Panisse to encourage, propagate and sustain collaborative and innovative behaviors throughout its ecosystem?

I defined an open innovation ecosystem as *a business ecosystem that co-evolves, and co-creates business values with its stakeholders*. This dissertation performed a historical and ethnographic review of the evolution of the Chez Panisse ecosystem over time, and analyzed how innovation was practiced within the ecosystem in three stages: birth, local expansion and global expansion. Using the Chez Panisse example, I found that growth in its ecosystem was based on generating a strong network of stakeholders, and embracing spin-offs and spin-ins within the community. The change in the ecosystem from its initial stage to the local growth stage is shown in Figures 8.1 and 8.2. When this ecosystem matured, it became important to find other means to sustain it.

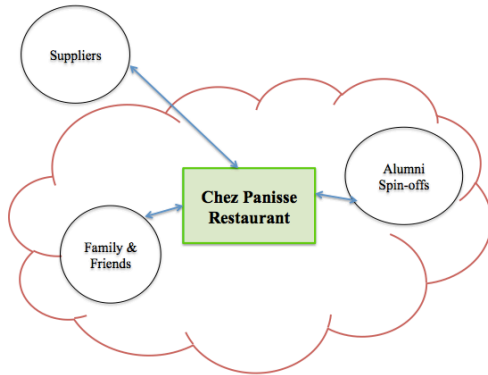


Fig. 8.1: Initial Chez Panisse Ecosystem. Suppliers are not part of the ecosystem in this stage.

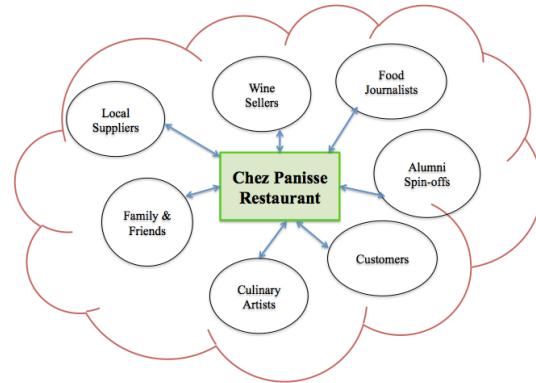


Fig. 8.2: Chez Panisse Ecosystem After Local Expansion.

Based on my research, I posit that education and social innovation provided the cultural bond with stakeholders and became a vehicle to attract more outside people into the ecosystem, enabling it to expand to a global level (Figure 8.3). Alice Waters in this case study served as a charismatic leader and Chez Panisse as the leading firm in developing an innovation ecosystem, providing knowledge, resources, and financing. They performed the role of an innovation investor and architect in the context of open innovation.

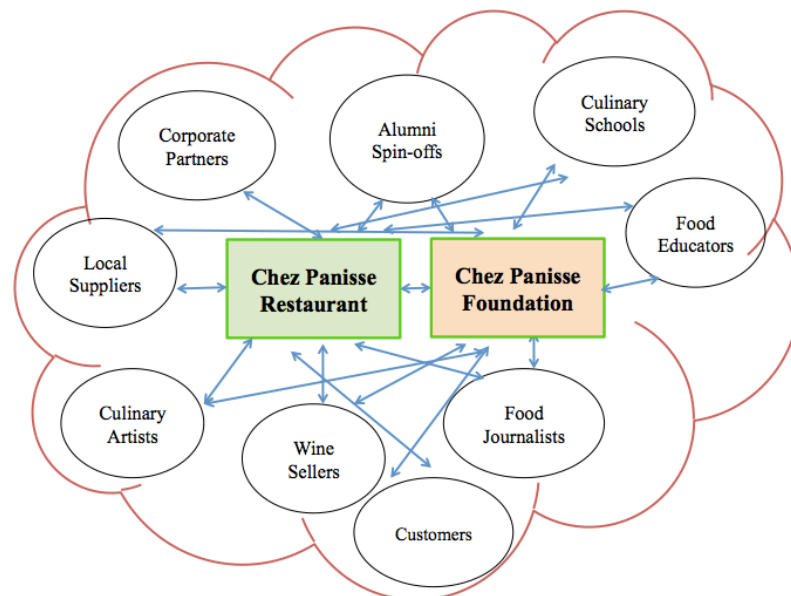


Fig. 8.3: Chez Panisse Ecosystem in Global Expansion Stage.

A summary of my findings follows:

1. Alice Water's determination to consistently pursue quality-driven innovation

- enabled Chez Panisse to seek reliable partners to provide high-quality resources for the evolving Chez Panisse ecosystem. Chez Panisse and Alice Waters were effective in communicating this shared vision and in providing an education to partners to co-evolve with them. Their co-created innovations, such as ingredient-based menus, not only satisfied customers, but also generated more revenues to suppliers. Suppliers not only had a dedicated customer in Chez Panisse, they were also able to increase their revenues by co-branding with Chez Panisse. This porous open innovation process led to the co-creation of values as well as products and services.
2. The Chez Panisse ecosystem also grew by eventually embracing a culture of accepting turnover of employees and welcoming them back after their failures in start-ups. Well beyond being just a business network of strategic alliances, this open innovation strategy had characteristics of strong family and school ties. It truly encouraged and celebrated participating entities' growth, sometimes failure, and always pride in being a "*Chez Alum*". This strategy consequently enlarged the scope of the Chez Panisse ecosystem in terms of geography and variety. The growth of spin-offs per employee is shown in Figure 8.4.
 3. Chez Panisse benefited from its social innovations through food education. The donation of talents and funds from stakeholders initiated and sustained this social innovation, and consequently contributed to the spread the Chez Panisse ecosystem nationally and globally. Although the investment in social innovations was truly philanthropic at the beginning, it did end up bringing in more customers and stakeholders in the long-run.
 4. The co-creation of values and co-evolution of the ecosystem with stakeholders was a successful business strategy for the Chez Panisse innovation ecosystem. The celebrated culture of spin-offs and the ecosystem's subsequent expansion indicates that knowledge spillover based on employee turnover is not necessarily a cost of investment in employees, but can be understood as a benefit of open innovation at the ecosystem level. The welcoming culture of accepting spin-ins and even honoring their failure experiences also shows that the ecosystem excels in encouraging innovation experimentation. This history shows the advantage of organic, albeit slow, growth in evolving an open innovation ecosystem. It shows that a top-down short-term strategy of achieving fast innovations, as sometimes practiced in industry today, may not always be the best strategy if long term impact is the goal.

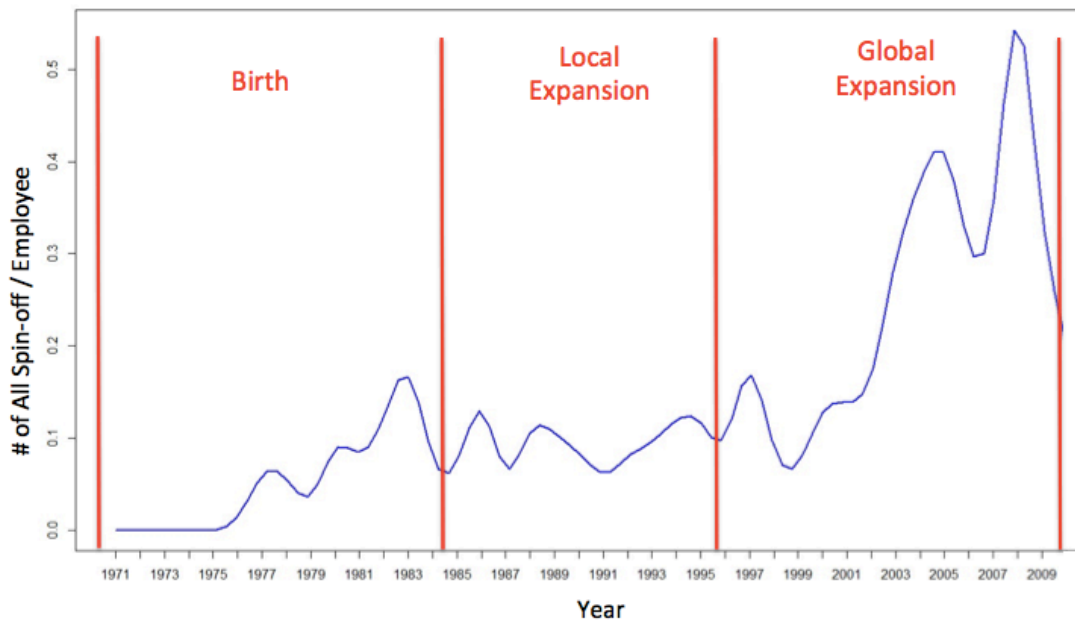


Figure 8.4: The Ratio of Total Start-ups to Remaining Employees from 1971 – 2010.

8.2. Directions for Future Research

A single-case study is limited and thus future research should expand the scope and number of firms studied. In addition to studying a successful firm that is still thriving, it would be useful to research a firm that has gone through an entire life cycle, including the death of its ecosystem. A cross-analysis with other competing ecosystems would provide more general insights as well.

The study of one single leader made the case study distinctive. What would happen if the ecosystem lost its initial evangelical leader? It would also be interesting to expand the scope of research to the second generation, and more consequent generations of alumni to see if these later generations still maintain and practice Chez Panisse's principles over time.

Another avenue of research would be to explore the impact of Alice Water's educational and social innovations initiated during the global expansion stage. I was struck by the passion of one young cook intern that I met. She attended the Edible Schoolyard program in middle school and was profoundly inspired by the experience. She is hoping to be a chef when she is older. Clearly learning has been a driver for growing innovators in the high tech sector. What is early education's emerging impact in the Chez Panisse ecology and how might policy makers and businesses evaluate their investment in the social and educational side of innovation?

The expansion to a global scale raises concerns about the dilution of the previous focus on locality. Several interviewees indicate that social media will be important to keep their relationships when they leave the geographical area around Chez Panisse. Therefore, it would be interesting to study how social media helps maintain the principles within the ecosystem and even propagate them beyond the original geographical area.

9. References

- Acs, Z. J., & Plummer, L. A. (2005). Penetrating the knowledge filter in regional economies. *The Annals of Regional Science*, 39(3), 439-456.
- Acumen. (<http://www.acumenllc.com/>)
- Agrawal, A., & Henderson, R. (2002). Putting patents in context: Exploring knowledge transfer from MIT. *Management Science*, 48(1), 44-60.
- Ahuja, G. (2000). Collaboration networks, structural holes, and innovation: A longitudinal study. *Administrative science quarterly*, 45(3), 425-455.
- Almeida, P., & Kogut, B. (1999). Localization of knowledge and the mobility of engineers in regional networks. *Management science*, 45(7), 905-917.
- Amit, R., & Zott, C. (2001). Value creation in e-business. *Strategic management journal*, 22(6-7), 493-520.
- Argote, L., Gruenfeld, D., & Naquin, C. (2001). *Group learning in organizations*. In M.E. Turner (Ed.). *Groups at Work: Theory and Research* Lawrence Erlbaum Associates. 369-411.
- Argyris, C., & Schon, D. A. (1974). *Theory in practice: Increasing professional effectiveness*. Jossey-Bass.
- Argyris, C. (1977). Double loop learning in organizations, *Harvard Business Review*, Vol.55, 115-125.
- Arrow, K. J. (1962). The economic implications of learning by doing. *The review of economic studies*, 29(3), 155-173.
- Askegaard, S., & Madsen, T. K. (1998). The local and the global: exploring traits of homogeneity and heterogeneity in European food cultures. *International Business Review*, 7(6), 549-568.
- Audretsch, D. B. (1995). *Innovation and Industry: Evolution*. The MIT Press.
- Bacon, D. F., Graham, S. L., & Sharp, O. J. (1994). Compiler transformations for high-performance computing. *ACM Computing Surveys (CSUR)*, 26(4), 345-420.
- Banerjee, S. B. (2008). Corporate social responsibility: The good, the bad and the ugly. *Critical Sociology*, 34(1), 51-79.

- Barnard, C. I. (1939). *The functions of the executive*. Harvard University Press.
- Bateson, G. (1979). *Mind and nature: A necessary unity*. New York: Dutton.
- Baum, J. A., Calabrese, T., & Silverman, B. S. (2000). Don't go it alone: Alliance network composition and startups' performance in Canadian biotechnology. *Strategic management journal*, 21(3), 267-294.
- Beckman, C. M., & Haunschild, P. R. (2002). Network learning: The effects of partners' heterogeneity of experience on corporate acquisitions. *Administrative science quarterly*, 47(1), 92-124.
- Beckman, S. and M. Barry (2007). Innovation as a Learning Process: Embedding Design Thinking. *California Management Review*, Vol. 50, no. 1: 25-56.
- Bekkers, R., Duysters, G., & Verspagen, B. (2002). Intellectual property rights, strategic technology agreements and market structure: The case of GSM. *Research Policy*, 31(7), 1141-1161.
- Benjamin, B. A., & Podolny, J. M. (1999). Status, quality, and social order in the California wine industry. *Administrative Science Quarterly*, 44(3), 563-589.
- Benjamin Gomes Casseres. (1996). *The alliance revolution: The new shape of business rivalry*. Harvard University Press.
- Bourdieu, P. (2013). *Distinction: A social critique of the judgment of taste*. Routledge.
- Bowen, H. R. (1939). *Social responsibilities of the businessman*. Harper & Brothers.
- Carroll, A. B. (1999). Corporate social responsibility evolution of a definitional construct. *Business & Society*, 38(3), 268-295.
- Casti, J. L., & Andersen, R. (1997). *Would-be worlds: How simulation is changing the frontiers of science*. New York Press.
- Chandler, A. D. (1962). *Strategy and structure* (Vol. 4). Cambridge, MA: MIT press.
- Chef DB. (www.chefdb.com)
- Chesbrough, H., & Rosenbloom, R. S. (2002). The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. *Industrial and corporate change*, 11(3), 529-555.
- Chesbrough, H. W. (2003). *Open innovation: The new imperative for creating and profiting from technology*. Harvard Business Press.

- Chesbrough, H. W. (2006). The era of open innovation. *Managing innovation and change*, 127(3), 34-41.
- Chesbrough, H. (2007). Business model innovation: it's not just about technology anymore. *Strategy & leadership*, 35(6), 12-17.
- Chesbrough, H. & Bogers, M. (2013, Forthcoming) *Remembrance of Things Past: An Overview of 10 Years of Open Innovation Research*. Unpublished Manuscript.
- Chesbrough, H., Vanhaverbeke, W., & West, J. (2006). Open innovation: a new paradigm for understanding industrial innovation. *Open innovation: researching a new paradigm*. Oxford University Press.
- Cooke, P. (2005). Regional knowledge capabilities and open innovation: Regional innovation systems and clusters in the asymmetric knowledge economy. *Clusters, networks and innovation*, 80-109.
- Cooper, R. G. (1990). Stage-gate systems: a new tool for managing new products. *Business Horizons*, 33(3), 44-54.
- Dahlsrud, A. (2008). How corporate social responsibility is defined: an analysis of 37 definitions. *Corporate social responsibility and environmental management*, 15(1), 1-13.
- Danigelis, A. (2006). Alice Waters. *Fast Company Magazine*. March 2006, Issue 103.
- Escoffier, A. (1903). *Les fleurs en cire*. Bibliothèque de l'Art Cullinaire.
- Easingwood, C. J. (1986). New product development for service companies. *Journal of Product Innovation Management*, 3(4), 264-275.
- Fanet, J. (2001). *Great Wine Terroirs*, University of California Press.
- Gargiulo, M., & Benassi, M. (2000). Trapped in your own net? Network cohesion, structural holes, and the adaptation of social capital. *Organization science*, 11(2), 183-196.
- Gassmann, O., & Enkel, E. (2004). Towards a theory of open innovation: three core process archetypes. *R&D management conference*, July 2004. 1-18.
- Gemünden, H. G., Ritter, T., & Heydebreck, P. (1996). Network configuration and innovation success: An empirical analysis in German high-tech industries. *International Journal of Research in Marketing*, 13(5), 449-462.
- Glaeser, E. L., Kallal, H. D., Scheinkman, J. A., & Shleifer, A. (1991). *Growth in cities*. National Bureau of Economic Research.

Gläser (2001). 'Producing Communities' as a Theoretical Challenge. *Proceedings of The Australian Sociological Association (TASA 2001)*, 1-11.

Glenn, B., Beckman, S., Mowery, D., & Wilson, E. (1994). Managing Product Definition in High-Technology Industries: A Pilot Study. *California Management Review*, Volume 36, Number 3, Spring.

Gomes-Casseres, B. (1996). *The alliance revolution: The new shape of business rivalry*. Harvard University Press.

Gompers, P., & Lerner, J. (2001). The venture capital revolution. *The Journal of Economic Perspectives*, 15(2), 145-168.

Granovetter, M. S. (1973). The strength of weak ties. *American journal of sociology*, 1360-1380.

Granovetter, M. (1985). Economic action and social structure: the problem of embeddedness. *American journal of sociology*, 481-510.

Griliches, Z. (1979). Sibling models and data in economics: Beginnings of a survey. *The Journal of Political Economy*. 37-64.

Griliches, Z., & Mairesse, J. (1991). R&D and productivity growth: Comparing Japanese and US manufacturing firms. In *Productivity growth in Japan and the United States*. University of Chicago Press. 317-348.

Gulati, R. (1999). Network location and learning: The influence of network resources and firm capabilities on alliance formation. *Strategic management journal*, 20(5), 397-420.

Guthman, J. (2003). Fast food/organic food: Reflexive tastes and the making of 'yuppie chow'. *Social & Cultural Geography*, 4(1), 45-58.

Hargadon, A. B., & Bechky, B. A. (2006). When collections of creatives become creative collectives: A field study of problem solving at work. *Organization Science*, 17(4), 484-500.

Hargrave, T. J., & Van de Ven, A. H. (2006). A collective action model of institutional innovation. *Academy of Management Review*, 31(4), 864-888.

Harrigan, K. R. (1985). Vertical integration and corporate strategy. *Academy of Management journal*, 28(2), 397-425.

Harrington, R. (2004). "Part I: The Culinary Innovation Process - A Barrier to Imitation." *Journal of Foodservice Business Research*, 7(3), 35-57.

Hax, A. C. (1996). The Strategy Concept and Process: A Pragmatic Approach.

- Henderson, R. (2006). The innovator's dilemma as a problem of organizational competence. *Journal of Product Innovation Management*, 23(1), 5-11.
- Hervas-Oliver, J. L., & Albors-Garrigos, J. (2009). The role of the firm's internal and relational capabilities in clusters: when distance and embeddedness are not enough to explain innovation. *Journal of Economic Geography*, 9(2), 263-283.
- Hochgerner, J. (2011). The analysis of social innovations as social practice. *bridges*, 30.
- Howaldt, J., & Schwarz, M. (2010). Social Innovation. *Concepts, research fields and international trends*.
- Jacobs, J. (1969). *The economies of cities*. Vintage Press.
- Jaffe, A. B., Trajtenberg, M., & Henderson, R. (1993). Geographic localization of knowledge spillovers as evidenced by patent citations. *the Quarterly journal of Economics*, 108(3), 577-598.
- Johnson, C., Surlemont, B., Nicod, P., & Revaz, F. (2005). Behind the Stars A Concise Typology of Michelin Restaurants in Europe. *Cornell Hotel and Restaurant Administration Quarterly*, 46(2), 170-187.
- Knight, J., & Sened, I. (Eds.). (1998). *Explaining social institutions*. University of Michigan Press.
- Krugman, P. R. (1991). *Geography and trade*. MIT press.
- Kuh, P. (2001). *The last days of haute cuisine*. Viking Adult.
- Kurlansky, M. (2013). *Birdseye: The Adventures of a Curious Man*. Random House Digital, Inc.
- La Varenne, D. L. F. P. (1651). *Le cuisinier françois*.
- Langlois, R. N. (2003). Schumpeter and the Obsolescence of the Entrepreneur. *Advances in Austrian Economics*, 6, 283-298.
- Leventhal., B & Martin., A. (2009). *Understanding French Laundry's Kitchen*. Grub Street. (http://sanfrancisco.grubstreet.com/2009/07/understanding_french_laundrys.html)
- Lave, J. (1988). *Cognition in practice: Mind, mathematics and culture in everyday life*. Cambridge University Press.
- Lave, J. and Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*, Cambridge: University of Cambridge Press.

- Lazonick, W. (2010). The Chandlerian corporation and the theory of innovative enterprise. *Industrial and Corporate Change*, 19(2), 317-349.
- Lazonick, W., & O'Sullivan, M. (2000). Maximizing shareholder value: a new ideology for corporate governance. *Economy and society*, 29(1), 13-35.
- Luca, M. (2011). *Reviews, reputation, and revenue: The case of Yelp.com* (No. 12-016). Harvard Business School.
- MacIntyre, A. (1981). *After Virtue: A study in moral theory* (London, Duckworth).
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization science*, 2(1), 71-87.
- Marshall, A. (1920). *Principles of economics: an introductory volume*.
- Maskell, P. (2001). Towards a knowledge-based theory of the geographical cluster. *Industrial and corporate change*, 10(4), 921-943.
- McNamee, T. (2007). *Alice Waters and Chez Panisse*. Penguin.
- Michelin Guide. (<http://www.michelintravel.com/michelin-guides/>)
- Mitleton-Kelly, E. (2003). *Ten principles of complexity and enabling infrastructures*. Elsevier.
- Moore, J. F. (1993). Predators and prey: a new ecology of competition. *Harvard business review*, 71(3), 75-86.
- Moore, J. F. (1996). *The death of competition: leadership and strategy in the age of business ecosystems*. New York: Harper Business.
- Moore, J. F. (1998). The rise of a new corporate form. *Washington Quarterly*, 21(1), 167-181.
- Mowery, D. C., Oxley, J. E., & Silverman, B. S. (1996). Strategic alliances and interfirm knowledge transfer. *Strategic management journal*, 17, 77-91.
- Nooteboom, B., Berger, H., & Noorderhaven, N. G. (1997). Effects of trust and governance on relational risk. *Academy of management journal*, 40(2), 308-338.
- Normann, R., & Ramirez, R. (1993). From value chain to value constellation: designing interactive strategy. *Harvard business review*, 71(4), 65-77.
- Open IDEO. (www.openideo.com/)

- Osterwalder, A. (2004). The business model ontology: A proposition in a design science approach. *Institut d'Informatique et Organisation. Lausanne, Switzerland, University of Lausanne, Ecole des Hautes Etudes Commerciales HEC, 173.*
- Ottenbacher, M., & Harrington, R. J. (2007). The innovation development process of Michelin-starred chefs. *International Journal of Contemporary Hospitality Management, 19*(6), 444-460.
- Owen-Smith, J., & Powell, W. W. (2004). Knowledge networks as channels and conduits: The effects of spillovers in the Boston biotechnology community. *Organization science, 15*(1), 5-21.
- Parsa, H. G., Self, J. T., Njite, D., & King, T. (2005). Why restaurants fail. *Cornell Hotel and Restaurant Administration Quarterly, 46*(3), 304-322.
- Patton, M. Q. (2002). Qualitative interviewing. *Qualitative research and evaluation methods, 3*, 344-47.
- Pearlman, A. (2013). *Smart Casual: The Transformation of Gourmet Restaurant Style in America*. University of Chicago Press.
- Peltoniemi, M., & Vuori, E. (2004). Business ecosystem as the new approach to complex adaptive business environments. *Frontiers of E-business Research, 2004*, 267-281.
- Pollan, M. (2006). *The omnivore's dilemma: a natural history of four meals*. Penguin.
- Polley, D. E., Garud, R., & Venkataraman, S. (1999). *The innovation journey*. New York: Oxford University Press.
- Porter, M. (1990). The competitiveness of nations. *Harvard Business Review*.
- Porter, M. E. (1998). Clusters and the new economics of competition, *Harvard Business Review*, Vol. 76, No. 6, 77-90.
- Porter, K., Whittington, K. B., & Powell, W. W. (2005). The institutional embeddedness of high-tech regions: relational foundations of the Boston biotechnology community. *Clusters, networks, and innovation, 261*, 296.
- Porter, M. E., & Kramer, M. R. (2011). The big idea: creating shared value. *Harvard Business Review, 89*(1), 2.
- Powell, W. W. (1990). Neither market nor hierarchy: Network forms of organization. *Research in organization behavior, 12*, 295-336.

- Powell, W. W., Koput, K. W., & Smith-Doerr, L. (1996). Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology. *Administrative science quarterly*, 116-145.
- Prahalad, C.K. and Ramaswamy, V. (2004). Co-creation Experiences: The Next Practice in Value Creation. *Journal of Interactive Marketing*, 18 (3), 5-14.
- Rao, H., Monin, P., & Durand, R. (2003). Institutional Change in Toque Ville: Nouvelle Cuisine as an Identity Movement in French Gastronomy¹. *American journal of sociology*, 108(4), 795-843.
- Raustiala, K., & Sprigman, C. (2012). *The knockoff economy: How imitation sparks innovation*. Oxford University Press.
- Richardson, H. W. (1973). *Regional growth theory*, London: Macmillan.
- Richardson, G. B. (1972). The organisation of industry. *The economic journal*, 82(327), 883-896.
- Rittel, H. (1984). Second-generation design methods. *Developments in design methodology*, 317-327.
- Romer, P. M. (1986). Increasing returns and long-run growth. *The Journal of Political Economy*, 1002-1037.
- Rothaermel, F. T., & Deeds, D. L. (2004). Exploration and exploitation alliances in biotechnology: A system of new product development. *Strategic management journal*, 25(3), 201-221.
- Roschuni, C., E. Goodman, A.M. Agogino, "Communicating Actionable User Research for Human-Centered Design, Special Issue on Studying and Supporting design Communication, *Journal of Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, Vol. 27 (Special Issue 02, 2013), 143-154.
- Rosenkopf, L., & Almeida, P. (2003). Overcoming local search through alliances and mobility. *Management science*, 49(6), 751-766.
- Santich, B. (1996). 'Introduction to Sustaining Gastronomy' in Santich, B., Hillier, J. and Kerry, C. (eds) *Proceedings of the eighth Symposium of Australian gastronomy*, Adelaide: self-published.
- Saxenian, A. (1994). *Regional advantage: culture and competition in Silicon Valley and Route*. Harvard University Press.
- Schön, D.A. (1992). Designing as a reflective conversation with the materials of a design situation, *Research and Engineering Design*, Vol. 3, Issue 3, Springer-Verlag, USA.

- Schumpeter, J. A. (1934). *The Theory of Economic Development. An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*. New Brunswick, NJ, London: Transaction Publishers.
- Schumpeter, J. A., & Fels, R. (1939). *Business cycles* (Vol. 1, pp. 161-74). New York: McGraw-Hill.
- Schumpeter, J. A. (1942). *Capitalism, Socialism and Democracy*. Harper and Brothers.
- Senge, P. M. (1990). The art and practice of the learning organization. *The new paradigm in business: Emerging strategies for leadership and organizational change*, 126-138.
- Shedroff, N. (2009). *Design is the problem: the future of design must be sustainable*. Rosenfeld Media.
- Shan, W., Walker, G., & Kogut, B. (1994). Interfirm cooperation and startup innovation in the biotechnology industry. *Strategic management journal*, 15(5), 387-394.
- Small, M. L. (2009). How many cases do I need on science and the logic of case selection in field-based research. *Ethnography*, 10(1), 5-38.
- Song, J., Almeida, P., & Wu, G. (2003). Learning-by-Hiring: When Is Mobility More Likely to Facilitate Interfirm Knowledge Transfer? *Management Science*, 49(4), 351-365.
- Sorenson, O., & Audia, P. G. (2000). The Social Structure of Entrepreneurial Activity: Geographic Concentration of Footwear Production in the United States, 1940–1989. *American journal of sociology*, 106(2), 424-462.
- Starr, K. (2011). *Coast of Dreams*. Random House Digital, Inc.
- Stewart, K. J., Ammeter, A. P., & Maruping, L. M. (2006). Impact of license choice and organizational sponsorship on success in open source software development projects. *Information System Research*, 17(2), 126-144.
- Stewart, K. J., & Gosain, S. (2006). The impact of ideology on effectiveness in open source software development teams. *Mis Quarterly*, 291-314.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research*, Thousands Oaks.
- Stuart, T., & Sorenson, O. (2003). The geography of opportunity: spatial heterogeneity in founding rates and the performance of biotechnology firms. *Research Policy*, 32(2), 229-253.
- Sundbo, J., Orfila-Sintes, F., & Sørensen, F. (2007). The innovative behaviour of tourism firms—Comparative studies of Denmark and Spain. *Research Policy*, 36(1), 88-106.

- Svejenova, S., Mazza, C., & Planellas, M. (2007). Cooking up change in haute cuisine: Ferran Adrià as an institutional entrepreneur. *Journal of Organizational Behavior*, 28(5), 539-561.
- Szarka, J. (1990). Networking and small firms. *International Small Business Journal*, 8(2), 10-22.
- Teece, D. J. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research policy*, 15(6), 285-305.
- Teece, D. J. (2010). Business models, business strategy and innovation. *Long range planning*, 43(2), 172-194.
- Ten Brink, S. (2001). Convergence behavior of iteratively decoded parallel concatenated codes. *Communications, IEEE Transactions on*, 49(10), 1727-1737.
- Thomke, S. & Ningade, A. (2000). *Bush Boake Allen*. Harvard Business Publisher. (<http://www.hbs.edu/faculty/Pages/item.aspx?num=27636>)
- Tirella, J. V. (2009), *Alice Waters: My startup story*, August 28, 2009. CNN Money (http://money.cnn.com/2009/08/27/smallbusiness/alice_waters_how_we_got_started.fsb/)
- Trubek, A. (2000). *Haute Cuisine: How the French Invented the Culinary Profession*, University of Pennsylvania Press.
- Ulrich, K. T. & Eppinger, S.D. (2003). *Product design and development*. Tata McGraw-Hill Education.
- Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative science quarterly*, 35-67.
- Van Den Brink, P. (2001). Measurement of conditions for Knowledge Sharing. In *Proceedings 2nd European Conference on Knowledge Management, Bled*, November, 2001.
- Von Hippel, E. (1986). Lead users: a source of novel product concepts. *Management science*, 32(7), 791-805.
- Von Hippel, E. (2007). *The sources of innovation* (pp. 111-120). Gabler.
- Von Hippel, E. (2005). Democratizing innovation: The evolving phenomenon of user innovation. *Journal für Betriebswirtschaft*, 55(1), 63-78.
- Von Hippel, E. (2009). Democratizing innovation: the evolving phenomenon of user innovation. *International Journal of Innovation Science*, 1(1), 29-40.

- Von Hippel, E., & Von Krogh, G. (2003). Open source software and the “private-collective” innovation model: Issues for organization science. *Organization science*, 14(2), 209-223.
- Von Krogh, G. (2012). How does social software change knowledge management? Toward a strategic research agenda. *The Journal of Strategic Information Systems*, 21(2), 154-164.
- Von Krogh, G., Nonaka, I., & Rechsteiner, L. (2012). Leadership in organizational knowledge creation: a review and framework. *Journal of Management Studies*, 49(1), 240-277.
- Von Krogh, G., & Von Hippel, E. (2006). The promise of research on open source software. *Management Science*, 52(7), 975-983.
- Vossen, R. W. (1998). Relative strengths and weaknesses of small firms in innovation. *International Small Business Journal*, 16(3), 88-94.
- Waters, A. (2009). Relentless Idealism for Tough Times A Conversation with Renowned Restaurateur Alice Waters. *Harvard Business Review*, June 2009.
- Waters, A. & Heron, K. (2009). *No Left Lunch Behind*. The New York Times. February 19, 2009. (<http://www.nytimes.com/2009/02/20/opinion/20waters.html>)
- Weber, A. (1929). *Alfred Weber's theory of the location of industries*. The University of Chicago Press.
- Weiss, R. S. (2008). *Learning from strangers: The art and method of qualitative interview studies*. Simon and Schuster
- West, J. J., & Olsen, M. D. (1989). Environmental scanning, industry structure and strategy making: concepts and research in the hospitality industry. *International Journal of Hospitality Management*, 8(4), 283-298.
- West, J., & Lakhani, K. R. (2008). Getting clear about communities in open innovation. *Industry and Innovation*, 15(2), 223-231.
- This is listed twice, so remove one.
- West, J., & Lakhani, K. R. (2008). Getting clear about communities in open innovation. *Industry and Innovation*, 15(2), 223-231.
- William, L. (1991). *Business Organization: the myth of the market economy*. Cambridge University Press.
- Yin, R. K. (2009). *Case study research: Design and methods*. Sage.