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Toward a Systemic Model for Governance and Strategic Management: Evaluating Stakeholder Theory Versus Shareholder Theory Approaches

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Toward a Systemic Model for Governance and Strategic Management: Evaluating Stakeholder Theory Versus Shareholder Theory Approaches

by

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Business Administration
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DEDICATION

To all those people whose lives crossed mine these last 64 years and created the “path dependency” that is me. Without all those stories, good and bad; without all those learnings, good and bad; this work, nor I, would not exist. Thank you

"Nothing matters more than results"

Except for:
Community, contribution and what our friends think
Trust
The perception of quality
How much we like doing business with you
Side effects
and self-esteem.
Also... doing work that matters, with people we care about.
It seems like almost everything important matters more than results.

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Thank you to my family for the patience with this dream.

James A. Stikeleather

October 13, 2001, Tampa, Florida
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ABSTRACT

The research’s intent is improvement in governance and strategic management initially by comparing Shareholder Theory and Stakeholder Theory and making results useful for both Practitioner and Academic audiences. A conceptual model for how a society establishes and evolves the roles it legitimizes for a business to support reasoning about those roles and the process originating the expectations, responsibilities, obligations, contributions and freedom to act in the roles is proposed. Understanding this process would enable better governance and strategic management of a firm while avoiding unintended consequences when fulfilling the role and consequences for failing the role. The model becomes a basis for comparing Shareholder and Stakeholder Theories.

Context for the model comes from practitioner narratives around changes occurring in business and their themes around the relationship of a business with its ecosystem. To incorporate both the societal and business relationship components, the model building process was based upon concepts and ideas from General Systems, Economics, Sociology, Neuroscience, Philosophy, Evolution, Complexity and Complex Adaptive Systems, Semiotics, as well as Business. This was an iterative abductive, inductive, deductive process with each iteration compared to relevant theory, integrated across the subject domains, then tested against other academic research on the issue, evidence of the model in practice, and a culturomics study across social and industry literature.
These results are exploratory, descriptive, directional, and suggestive for future research opportunities. Problems with Stakeholder Theory are identified but potentially addressed with the conceptual model, in turn suggesting a systemic approach to governance and strategic management. It was determined that Shareholder Theory results in many unintended consequences detrimental to society and the firm. The conceptual model provides points of intervention in the process and suggests potential tooling for governance and strategic management.

A side effect of the research was a perspective on the practitioner / academic divide as the research grappled with the “wicked problem” nature and transdisciplinary nature of process being described. By introducing systems and complexity paradigms in the model, potential ways to address the divide are suggested, such as 3 level analysis (micro, meso, macro).
CHAPTER 1 Introduction

Despite our management schools, thousands of books written about business, and despite multitudes of economists who tinker with the trim tabs of a world economy... our understanding of business—what makes for healthy commerce, what the role of such commerce should be within society—is stuck at a primitive level. (Hawken, 2013)

1.1 An Introduction to the Research

The research described here represents the beginning of an attempt to address the problem identified by Hawken. How do we advance our knowledge of the relationship between the economy and society so that both are healthy? In the process it must increase the flow of information between researchers and practitioners in both directions about the issues of governance and strategic management.

This is a critically important issue. A business’ legitimacy to operate and the freedom to act are increasingly being challenged by society at large—directly through laws concerning “responsible” investing and regulation; indirectly through reputation, preference and protest. Some of this is the direct fault of business behaviors. The examples are legion: the energy crisis of the 70s; the savings-and-loan crisis and Japanese asset bubble of the 80s and 90s; the innumerable crises of the 90s (India, Finland, Sweden, Mexico, Asia, Russia, Ecuador, Argentina); the dot-com bubble; the 2007-2009 financial
crisis and its side effects like the housing bubble and market correction, the subprime-mortgage crisis, automotive crisis; and more. Some of these crises resulted from intentional misdeeds, such as those of Enron, MCI, the Peanut Corporation of America and Madoff. Some were side effects of pursuing business best practices, such as those of Hooker Chemical Company and Love Canal; BP and the Gulf; Union Carbide and Bhopal; Wall Street firms and ABS, CDS, and CDO\(^1\); Turing Pharmaceuticals and Daraprim; Mylan, EpiPen, the whole medical ecosystem and the opiate painkiller crisis. Some defy understanding such as Toyota’s endless recalls, Takata and airbags, Volkswagon and emissions, Merck and Vioxx, Firestone tires and Uber. They are not just a recent phenomenon given examples like the Medici Bank failure in the 1400s, the Virginia Company and Tulip Mania in the 1600s, the Company of the West in the 1700s and the South Sea Company in the 1800s. There are many more examples, most not as large or infamous as these, and most not the least bit nefarious but simply a consequence of a lack of clarity and a misunderstanding of the role of business in society by both business and society.

From a practitioner’s perspective, having clarity and understanding of a business’ commitments, obligations, expectations, responsibilities, contributions and freedom to act is quickly becoming the critical issue for governance and strategic management. Technology has globalized business and society, made information ubiquitous, elevated smaller and previously deprecated populations and perspectives and accelerated both the ability to change a business and the ability to conduct business. Laws, regulations,
standards and other guidance used in the past have failed to keep (Wadhwa, 2014). Mistakes, missteps, unintended consequences and gaps in a business’ ecosystem demands and in the expectations versus performance of a business can be instantly known and “punished” worldwide so that reputations—an increasingly important form of capital with economic return and loss—need to be renewed every day (Kossovsky, Re, Gerken, & CPCU, 2016). Customers, investors, suppliers, employees, and other stakeholders should be constantly engaged. However, this is increasingly done without the benefit of formal terms of engagement (J. Stikeleather, 2014b).

The academic perspective on the relationship between a business and a society is also moving in this direction. Consider the following from the International Association for Business and Society:

[T]he field has reached a crossroads in its development, in accordance with the conference theme. To move forward, academic stakeholders should reassess the field’s identity and purpose to continue contributing meaningful work. The field could reframe itself as “Business in Society” to reflect the fact that organizations operate within a social and ecological context. The role of business in society can be thought of differently by examining the memes or core cultural

2 In the spirit of bridging academia and practice, this is a practitioner article that summarizes the problem efficiently and effectively (in addition to proposing their business solution).

3 Also, a practitioner article.
artifacts that shape individuals’ beliefs and relevant narratives about what is expected of business. (Waddock et al., 2016)

This study proposes several principles derived and synthesized from theories across multiple academic disciplines and from practitioner observations to begin to address the following question: What is the role of a business in a society? The question is treated as a dynamic one: I seek understanding of how business roles emerge and evolve in a society over time. The results are presented in the form of a conceptual model for reasoning about this question and process. The study offers preliminary evidentiary support for the framework and its artifacts in academic, industry, and popular literature.

The goal is twofold: first, to lay a foundation for a theoretical approach to governance and strategic management decisions, thereby supporting business’ role, as legitimizd by society, for future research; second, to compare two business theories via the model which apply to governance and strategic management—stakeholder theory and shareholder theory—thereby to lay an actionable foundation for practice. This foundation is discussed in terms of a scanning capability to monitor potential changes in business roles and a monitoring capability to assess a business’ performance against those roles.

The study synthesizes a conceptual framework to address - what is the role of a business in a society? As it progressed it challenged contemporary shareholder wealth creation suggested by shareholder theory (M. Friedman, 2009) as the primary focus of a sustainable enterprise. It supported a stakeholder-theory (R Edward Freeman, 2010; R Edward Freeman, Harrison, Wicks, Parmar, & De Colle, 2010) approach to governance and strategic management. It is essential to have a framework to reason about this question of role now, as a business must co-evolve with society faster than before and in new
directions. This is important, as the framework contributes systemic insight to decades of political and social debate (Glavas & Mish, 2015) about whether corporations are properties whose sole purpose is creating wealth for their owners or fictional persons with obligations to society equivalent to those of all other participants. The study’s answer is that businesses are the latter.

The framework also suggests a way to begin a root-cause analysis of where, when and why a business might fail in performing its socially legitimized role.

At this stage, the study is best considered speculative, as it introduces the paradigm of complex adaptive systems and new assumptions around causality, bounded rationality, equilibrium, dynamism, optimization, and generic representation of actors into the analysis of the business-societal relationship and its need for enterprise governance and strategic management. Any claims or statements about the results achieved so far should be considered supportable emergent propositions rather than affirmative conclusions. Until more confirming research is done, they constitute what Gallie calls “essentially contested concepts” (Gallie, 1955). Consequentially, this report is meant to explore the systemic relationship between business and society, which is to describe a process that legitimizes a business’ participation in society, to define some concepts and artifacts of that description in terms of how to study the relationship more deeply, and to suggest next steps to move the study forward. It is therefore broad rather than deep, more general than specific, more notional than concrete. It is meant as a beginning for further exploration of the signaling among participants in the business-society ecosystem rather than as an immediate solution to the problem of business and society balance.
Additionally, the study itself has become a form of meta-research on the process of dealing with problems that have no definitive formulation such that each real-world instantiation is unique, there are no distinct boundaries or extensive interconnectedness among the elements of the problem, and it is based upon emergence in lieu of causality. The resulting trans-disciplinary nature of the study provides insight into the siloed nature of academic disciplines and the need, when addressing real-world “wicked” (Rittel & Webber, 1973) problems, to reconcile epistemology, ontology and methodology across disciplines, both academic and practical. These may be useful in bridging the discontinuity and impedance mismatch between academic research and practitioner application.

A caution comes from the classic analysis and decision-making problem of the map-versus-terrain relationship. A representation of an object is not that object (also sometimes phrased as “the word is not the thing”). I would argue that business has focused on one abstraction—that supplied by an economic perspective of the world—and sees the world generally in a manner that simplifies the metrics of that perspective. For example, everyone is familiar with the Mercator projection (taking the 3D globe and putting it on a 2D surface). Most do not realize that this projection was developed so that navigational bearings would be straight lines. That is the context for analyzing a trip and making course decisions using this map. However, a map is just a paradigm for representing territory, and there are many other decisions for which using a Mercator projection map would result in

\[4\] Wicked problems are defined in the citation. The ideas behind them has been adapted for this study.
very erroneous conclusions. For example, legions of elementary school students are under the impression that Greenland is larger than the United States. Likewise, the developed conceptual model is also a paradigm: one that maps the territory of business-role development by a society.

Lastly, Donella Meadows’ work (Meadows & Wright, 2009) provided many fundamental insights as the conceptual model was being constructed. One observation was particularly germane as this research report was being written: “[T]here is a problem in discussing systems with only words. Words and sentences must, by necessity, come only one at a time in linear, logical order. Systems happen all at once” (Meadows & Wright, 2009, p. 5). Another complication in presenting the conceptual model is in its synthesis of ideas from across the fields economics, sociology, complexity and complex-adaptive systems, general systems theory, evolution and autopoiesis, semiotics, philosophy, memetics, and business. The result is that, in many places, this report, when introducing and explaining a concept, must refer to other concepts that are introduced and explained later. For this reason, I use concept maps to aid the reader and to periodically refresh the holistic perspective of the conceptual model. There is also a key-concepts section in this introduction to give the reader awareness of concepts that are referenced before they are officially introduced and explained.

____________________

5 List of map-projection types
1.2 Overview of the Study

What is the purpose of business? Aside from economic value creation, what are the roles, responsibilities, obligations, and expectations for business among the elements of a society which includes other businesses? Societies are continually evolving their conceptualizations of business and economic roles to address unintended consequences such as a lack of sustainability, wealth inequity, moral hazards and other problems. This drives a “Red-Queen effect\(^6\)”\footnote{The Red-Queen hypothesis or Red-Queen effect comes from evolutionary theory. A system (organism, ecosystem, etc.) must constantly adapt not only to its environment but to other systems as they adapt. The name of the theory comes from Alice in Wonderland’s Red Queen, who required Alice to run faster and faster to stay in place. A business competes not only with other businesses but with other elements of society for value (resources) and permissions.}: a confrontational environment with significant societal responses and constraints on business in the form of laws, regulation, taxation, boycotts, protests, and public shaming. Simultaneously, changes in how Societies consume value, and reduction in historical economic environmental constraints on value creation (such as time, space, information, and access to capital with their opportunity for competitive advantage through scale efficiency) is redefining the nature of economic interactions among the economy’s participants. The overarching problem facing business (and this study) is to determine how a business can better understand and anticipate changes in its role as it emerges from society. Determine how to fulfill that role through its ecosystem of stakeholder relationships Then determine how it can better govern and manage itself to

\[^6\]
meet these expectations and responsibilities while avoiding the consequences of failing or unintentionally harming society.

This study joins an ongoing conversation around the roles, responsibilities, and obligations of business in society. Combining a composite of practitioner observations with concepts and principles from general systems theory, economics, sociology, neuroscience, philosophy, evolution, complexity and complex adaptive systems, semiotics, and business, the study generates a conceptual model and analytical framework for examining business-role development in society. The framework suggests systemic approaches to determining how societies develop and evolve their expectations of business which in turn inform both the governance and the strategic management of business enterprises. It also suggests tools for addressing the emerging expectations businesses must meet to operate with social legitimacy and thereby meet the changes in the economic environment.

Using the proposed conceptual framework for role generation, a comparison of Freidman’s shareholder and Freeman’s stakeholder theories—the predominant foundation theories for governance and strategic management—has exposed a potential source of failure in the shareholder theory for governance and agency and stewardship theories of management: systemic over-optimization of business to serve owners. The analysis suggests that there is significant long-term risk to both society and the firm in the application of shareholder theory. Weaknesses in stakeholder theory are identified and itemized in Chapter 8. The framework suggests a shift from a primary focus of shareholder value creation to collaborative value creation among stakeholders as a more sustainable approach to governance and strategic management.
1.2.1 Understanding the Problem

The study evolved along two simultaneous paths. One concerns the problem of improving enterprise governance and strategic management based upon either stakeholder or shareholder theories. The other concerns how to synthesize the concepts and approaches of the multiple disciplines needed to describe and formulate the problem space and organize a coherent model in terms of which to reason about it.

One issue encountered in the early stages of the study is in the preference most theorists exhibit for equilibrium models versus the dynamism exhibited by the real world. Roles are not static, as society and its participants and their roles evolve. All are dynamic and continually evolving. In fact, they coevolve: Changes in one role trigger changes in others which then trigger more changes in the one that originally changed. Consideration of the resulting evolution, how to detect it and how to respond to it, are critical to the governance and strategic management of any enterprise, business or otherwise. Governance is responsible for ensuring that the role assigned by a society within which an enterprise participates is fulfilled by the enterprise. Strategic management is charged with determining who, what, where, when and how much to engage in carrying out that role. It also differentiates the enterprise’s performance of any role it may share in the society from that of other participants. Governance also ensures that strategic and operational management (situation-specific role or sub-role execution) perform their functions with the right to act granted by the society. Governance is accountable for the inevitable role conflicts that are sure to arise. Both must co-evolve and adapt dynamically with the society over time, or the enterprise faces extinction.
Another issue concerns the assumption that generic and rational agents engage in the activities of both business and society. Both in theory and practice, it is generally assumed that all decision makers and actors are effectively equivalent (fungible) and act in a rational manner bounded by the information (facts) available to them. This is especially true in the broader business and economic literature and in providing rationalization for decisions in practice. The management and economics literature identifies some conflict between normative and positivist approaches to decision-making—though even normative approaches revert to a rational evaluation of the assumed norms when making decisions. We need to recognize that, in practice, many decisions incorporate intuitions, which emerge more from the life of the actor than from the facts at hand, as described by Kahneman (Kahneman, 2011) and Ariely (Ariely, 2008). We also need to reconcile the supposed difference between a “fact” and a “value” (that one is objective and another is subjective, as “knowledge of facts presupposes knowledge of values”) and their use in evaluation and decision-making (Putnam, 2002).

Current theories (knowledge-based, agency-based, resource-based, ownership- and property-rights-based, economic-based, finance-based, and organization-based theories) of the firm appear static, disjointed and do not address the emerging expectations businesses must meet and disappointments they must avoid without the social legitimacy they need to operate. Some business theories and practitioner best practices also produce counterproductive behavior in addressing changes economic frictions, value perception and the emergence of dynamic value chains. An element of the issue is the emerging fluidity of the boundaries of the firm in practitioner narratives. One consequence of this is
the elevation of the “stake” many stakeholders (such as suppliers, employees, and customers) have.

Looking at the evolving relationship of business and society in the United States, the business of business is no longer “just business”; its mission is much more than shareholder wealth creation and includes the health of its total ecosystem of stakeholders. To be successful in the future, business and its practitioners need to better and more quickly understand what is happening, why it is happening, and how to influence and respond to what is happening.

The question of the role of business in society is currently both simple and unanswerable. Ask a practitioner, an academic or a layperson and each will offer multiple answers depending on context at any point in time. It is an important question. A society legitimizes any participant’s role (Biddle, 2013) both implicitly by norms and explicitly through institutions. For a business to sustain itself, it must meet the expectations, duties, norms and behaviors that encompass its role. The business must also understand its rights and the degrees of freedom of action it is permitted. A systemic framework as is proposed here can provide a useful starting point for understanding both rights and degrees of freedom.

1.2.2 Purpose and Objective

The study suggests that four areas of governance and strategic management could benefit from a conceptual model for reasoning about the evolution of the role of a business in a society and for testing existing business theories against the model. A goal is to inform both practice and academia.
First, societies are increasingly dissatisfied with many unintended consequences of business, including inequity (Corning, 2011), ecological damage (Hawken, 2013) and disruptions of culture and social norms (Storr, 2009). Societies across the globe have responded—what Granovetter (Granovetter, 1985) calls embeddedness. Embeddedness is effectively non-economic actions that constrain economic activity. Some ways it is accomplished is through increased legislation, regulation, taxation, civil suits, criminal proceedings, protests, boycotts and shaming in social and mass media. Ghoshal even argues that the very theories, methods and practices taught by business schools are effectively amoral, release practitioners of moral responsibility, and are a direct cause of business failing its society (Ghoshal, 2005). For example, in determining whether to acquire Ellsworth’s Leading with Purpose: The New Corporate Realities (Ellsworth, 2002) to support the stakeholder theory study, I came across a review by Scott Snook (Snook, 2003), who says,


8 The use of the term society is generally meant to be considered in this report as “a society”: i.e., any aggregation of individuals together operating as an ordered community. But it might occasionally refer to a specific society.

9 Embeddedness appears to be a society’s quid-pro-quo response to economic and business externalities. This is a topic for future research.
I had just finished interviewing dozens of second-year MBA students as part of a research initiative when I was asked to review this book. Not surprisingly, our interviews included the question, "What is the purpose of a public corporation?" From our research, we learned that many students were deeply conflicted about this fundamental issue. On the one hand, they reported that corporations should serve society. On the other hand, somewhere along the way they had learned that the real purpose of a corporation is to maximize shareholder wealth. After a bit of probing, we also learned that very few students could support either argument with much clarity or depth.

Better governance and strategic management enabled by a societal framework can help prevent mistaken actions and behaviors, their consequences, and society’s responses.

Second, technology changes the nature of economic activity and the sources of and relationship among a business’ factors of production, revenue, and costs. This change is both accelerating and disrupting traditional sources of competitive advantage. For example, efficiency at scale was an advantage in overcoming the economic frictions of time, space, information, and access to capital. A world that creates, exchanges, and moves value through electrons rather than through atoms requires different business models with different roles and relationships among all participants. These changes often diminish and even invert the benefits of scale and require significantly more reliance upon and interdependence with a firms’ ecosystem—particularly with stakeholders who benefit and suffer in concert with the firm. A framework would benefit governance and strategic management in developing and executing these new models.
Third, in public companies, a sea change is taking place around the nature of ownership and the resulting expectations of these new shareholders. Examples of emerging new forms of governance as business responses are given in Table 1. There is evidence that the traditional shareholder wealth-creation focus, and its surrogates have created serious, unintended consequences for businesses themselves (Willmott et al., 2016). With measurements such ROI, RONA, and other profit-focused measures driving operative goals and missions, even shareholders may be losing. Current standards for traditional corporate accounting can lead to a misrepresentation of enterprise value and to incorrect management decisions around the application of assets (Hockerts, 2015; Sroufe & Ramos, 2015), thereby exacerbating the problem and accelerating the unintended consequences.

<table>
<thead>
<tr>
<th>Form</th>
<th>Description</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Social-responsibility Programs</td>
<td>Voluntary self-reporting of secondary, tertiary and other purposes and missions by traditional for-profit organization and governance forms. Its only enforcement is in potential public relations implications both positive and negative, if ever discovered. Benefits include reputation with a limited connection to the business. Difficult to justify and maintain.</td>
<td>(Michael E. Porter &amp; Kramer, 2011)</td>
</tr>
<tr>
<td>Corporate Shared-value Programs</td>
<td>CSV drives a company’s profitability and competitive position. It creates a company’s economic value simultaneously with social value.</td>
<td>(Michael E. Porter &amp; Kramer, 2011)</td>
</tr>
<tr>
<td>B-Corp Certification</td>
<td>Voluntary standardized third-party audited and reported purpose and mission encompassing all stakeholders of an organization. Its only enforcement is potential public relations implications both positive and negative off loss of the certification and use of the B-Corp moniker.</td>
<td>(Honeyman, 2014)</td>
</tr>
<tr>
<td>Double Bottom Line Organizations (2BL)¹⁰</td>
<td>Have a for-profit or at least a self-sustaining business model plus one additional mission or purpose</td>
<td>(Hudon &amp; Perilleux, 2013)</td>
</tr>
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¹⁰ Examples include: Community Interest Company, Public-benefit Corporation, social purpose corporation, ESOP, Mutual Benefit Corporation, Collaboratives and Cooperatives
A new framework that can help to better develop the responsibilities and obligations that must be met to sustain an organization over time can provide insight and a broader understanding of what assets are, the value of assets, and the costs of their use. It can also avoid many traps (discovered in the study) that affect both academic method and practitioner heuristic approaches to decision-making. These eventually cause businesses to self-destruct and cause collateral damage to society if too few and too-narrowly focused metrics are applied to gauge success, generally because they are easily measured. This can be catastrophically compounded by turning those measures into goals or control

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11 Sometimes called 3P organizations for people, planet, profit.
12 There is no unique, generally acknowledged definition of TBL reporting. This terminology is adapted from an early TBL advocate, Shell, and their description.
13 Stakeholders here refers to any entity (individual or organization or environment) upon which the conduct of the company, whether directly or indirectly, has an impact. Complying with the stakeholder principle, the entity is obliged to consider stakeholder concerns instead of simply maximizing the shareholders’ (owners’) wealth.
mechanisms (some well-known forms of these mistakes include Goodhart’s law\textsuperscript{14}, Murphy’s law, Campbell’s law\textsuperscript{15}, McNamara’s fallacy\textsuperscript{16} and Lucas’ critique\textsuperscript{17}). Such metrics and presumed rationality focus attention so narrowly that any total perspective is lost and one ends up with aberrant success-selection criteria, as argued by Meyer and Kirby (Meyer & Kirby, 2012), with the business consequences suggested by Willmott (Willmott et al., 2016). A framework for reasoning about the emergent societal role of a business and a model that could anticipate the total consequences of decisions—including historical externalities—would help to maximize the total value of a firm (Magill, Quinzii, & Rochet, 2015).

Finally, the natures of the economy, society and their relationship coevolve—sometimes gradually, sometimes rapidly, sometimes continually, and sometimes with punctuated equilibrium. From tribal barter to agrarian markets to Roman and Greek social

\textsuperscript{14} “Any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes” (Goodhart, 1984). But this is generally reformulated as follows: “When a measure becomes a target, it ceases to be a good measure” or “any metric that is used to control a management process will become distorted and will also misguide the process” (Jones, 2014). I was exposed to Goodhart’s law during a forensic exercise on a company.

\textsuperscript{15} Campbell's law is a social-science version of Goodhart’s law: ”The more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor” (Wikipedia, “Campbell’s fallacy”).

\textsuperscript{16} “The first step is to measure whatever can be easily measured. This is OK as far as it goes. The second step is to disregard that which can't be easily measured or to give it an arbitrary quantitative value. This is artificial and misleading. The third step is to presume that what can't be measured easily really isn't important. This is blindness. The fourth step is to say that what can't be easily measured really doesn't exist. This is suicide.” (Wikipedia, McNamara fallacy)

\textsuperscript{17} “...states that it is simply not possible to guide economic policy using the metric relationships observed in historical data.” Formulated in 1976 by Robert Lucas, winner of the 1995 Nobel Prize in economics (Wikipedia, “Lucas’ critique”). (Lucas, 2008)
economies, feudalism, mercantilism, capitalism, socialism, communism, and all their varied forms, the rules of production, transaction, ownership, consumption and social legitimacy all evolved in differing directions along with the societies within which they operate. Even in the United States, every couple of decades, either by fiat (laws, regulations) or emergence (changes in society, technology, environments), the rules and best practices for business success in the economy changes in response to societal change, and society changes based upon business success. Changes to a society, such as Prohibition in the United States or hyperinflation in post-WW1 Germany, may shift what society considers a legitimate, if not necessarily legal, business. Having a systemic framework to anticipate and reason about such change would enable organizations to flex and adapt more rapidly, effectively, and efficiently to societal wants, needs, and demands and assure themselves they are going concerns.

1.2.3 Approach

A trans-disciplinary (Leavy, 2016) systems approach was taken to analyze and organize practitioner observations on emerging societal and economic expectations and behaviors for business created a conceptual model, enabling a framework for reasoning around that question of role. This was an iterative abductive, inductive, deductive process with each iteration compared to relevant theory and integrated across the subject domains. Techniques were adopted from Swanson and Chermack (R. A. Swanson & Chermack, 2013) for developing the model, to facilitate the potential application to practice, and to avoid the risk of having theory inhibit or even destroy good existing practice (Ghoshal, 2005). Weick’s disciplined imagination approach (Weick, 1989) for theory building involving creating structured problem statements, thought trials (gedankenexperiment) and
success criteria was used to test the model against other academic research on the issue, evidence of the model in practice, and a culturomics study across a base of social and industry literature.

Then using the conceptual model as a frame of reference, a comparison of stakeholder theory (R. Edward Freeman, 2010) and Shareholder Theory (M. Friedman, 2009) for sustainably governing and strategically managing an enterprise to understand and to meet its role in a society was conducted.

1.2.4 Outcome

What is the role of business in society? This question will probably never be fully answered, as it is constantly evolving and is subject to as much variety as there are businesses. However, this study finds that it is possible to construct a framework for research, analysis, discussion, proposition, experimentation, and change. It shows that such a framework could provide a foundation for tools allowing individual enterprises to discover, evaluate and adapt to their specific roles as they emerge and evolve. The framework is manifested in a conceptual model that provides the beginnings of a systemic theory of governance and strategic management.

To accomplish this, rather than asking what is the role of business in society, a different set of questions is appropriate: How does the role of business arise in society? How is this role manifested and communicated? How does this role adapt to the environment containing a business? How does this role evolve as business and society evolve? This study begins by addressing these questions.
This study shows a process that can be used to determine how to enumerate these expectations and effects by scanning for “memes\textsuperscript{18}” which represent the roles of a business in a society, identifying root causes of failing to meet them, identifying points of intervention for correction, and envisioning systemic approaches to manage business roles along the lines of a multi-dimensional, balanced scorecard. The study originates with observations from practice which are then synthesized into organized and structured questions that can be addressed via research—as opposed to addressing an identified gap in the knowledge base of any one discipline. These questions cross multiple academic disciplines requiring a trans-disciplinary approach which emphasizes the issues and problems identified by the specific theories, methods or concerns of the multiple disciplines.

The study proposes several principles that are derived from a synthesis of theories coming from multiple academic disciplines and practitioner observations. These are presented in the form of a conceptual model and reasoning framework for the development of a working hypothesis. The resulting conceptual model assumes, with significant support from the literature, that a society is a complex adaptive system. Furthermore, a society is comprised of many more complex adaptive systems, including an economy. These systems are in turn comprised of agents and agencies that use sets of rules to transact (exchange among each other) and transform (create, store, use, consume, destroy) values.

\textsuperscript{18} Memes and memetics are not generally in favor among the academic community at present. The term is useful for practice, and the research settles on equivalency of its rule trajectories, rule sets and memes.
There are two parts to the resulting framework. The first is an infrastructure of agents, agencies, and rules that describes the behavioral and operational infrastructure that underlies any human system—such as the differential-function systems of social-systems theory including the economy. The second is the concept of a market based upon roles as sets of rules. Markets emerge from the underlying infrastructure of a human system and function as rules engines for role association, role conflict, resource contribution and resource value discovery. Across both the infrastructure and markets, a fitness function of wellbeing, enabled by trust and modified by value, is the basis of activity.

Validating the model involved testing the practitioner observations against relevant literature, testing the model against relevant literature, testing the model against the practitioner observations and seeking model behavior is a culturomics search against the Google Books corpora. Evidence of artifacts of the model (indicated by italics) sought included rule trajectories (meme-like occurrences) and markets. Identifying movement of these among the systems across time is potentially evidence of rules set origination, retention and adoption. This study is focused on for-profit enterprises with some foundation in the United States society, though it should generalize beyond that in the future.

A key finding, as reasoned from the many synthesized theories, is that unintended business-societal consequences are a function of attempting to over-optimize one system of society (economic) and its agencies (specifically, for-profit businesses). The result is a sub-optimization of the overall system (the society). This finding has been further extended to include potential consequences of optimizing the bounded business at the expense of its ecosystem of stakeholders.
Other findings suggested the very nature of ownership of resources is evolving in contemporary society. This includes the concept of a shareholder and the emerging behavior of those who hold shares and how they value, acquire, hold, and dispose of them. Results of this process include new models of business, new lifecycles of companies, and the increased use and variety of multiple classes of shares and alternative forms of “ownership,” such as initial coin offerings (ICOs). Some researchers even question if a business should be owned.

A comparison has been made of this model against the dominant stakeholder and shareholder approaches to governance and strategic management. This analysis suggests the potential long-term failure of focusing on shareholders. Weaknesses in current stakeholder approaches have also been found. The model’s elevated-level, general theoretical approach has been narrowed to possible modifications and enhancements to stakeholder theory and to suggestions for tool construction around a multi-dimensionally balanced scorecard approach to governance and strategic management.

1.2.5 Summary

These results suggest that the conceptual model is directionally correct for understanding new emerging drivers and parameters of governance and strategic management with which meet the emerging roles of business in society. They offer many areas for additional research and constitute the beginning of a systemic model for governance and strategic management.

The research process was not as linear, as the above might suggest. This study required continuous innovation and redirection. It involved responding and adjusting to the paradigms of multiple disciplines, iterating across the many models that emerged, and
finding the creativity and flexibility to adapt to the emerging flaws and insights as they occurred. As the study progressed, it became clear that the issues being researched are “wicked problems” (Rittel & Webber, 1973).

This finding had implications for the study as it moved to consideration of practice. This study has just barely scratched the surface in modeling the process. Each individual enterprise and environment is a case of speciation or variation. There are no definitive operational boundaries in any instance due to the many interdependencies and overlaps. These interdependencies and overlaps mean that any changes or interventions that occur in one part of a model instance will likely cause changes in other areas and other instances of participants in a business’ ecosystem.

However, the resulting three-level approach and techniques from complex adaptive systems provide means for dealing with these problems. The model provides a guide for discovering and monitoring each business’ instance and suggests tools to help.

1.3 Why this study?

_The only answer to the endless chains of why, why, why is that the alternatives died._ (Dennett, 1995)

Though the issue being addressed is a wicked problem, the study is worthwhile. If it can provide the captain and bridge crew (board and executive management) with new ways of seeing and navigating a constantly changing sea in ever-changing weather, the continuing success of the ship is made more likely. By suggesting a conceptual model and framework for research, analysis, discussion, proposition, experimentation, and change around the role of business in society, this study can begin the process of discovering new
data, new ways of seeing data, new ways of making sense of data and new techniques and practices for navigating the enterprise. Personally, it is something I have been seeking for over 30 years of executive management. It has been an irritant, like a pebble in a shoe, that things just do not look nor act correctly in the business world. This study is the first real attempt to constructively address this dissatisfaction.

There are many reasons why a new model would benefit the governance and strategic management of any enterprise. These include supporting enterprise governance and strategic management in addressing and avoiding unintended consequences to society, providing better understanding of new economic environments and niches, improving the long-term sustainability of an organization as a going concern for meeting its obligations from a social-legitimacy perspective, and facilitating the better allocation of resources.

Governance establishes clear accountability and communication in an enterprise with respect to its responsibilities and obligations to society in exchange for permission to operate (legitimacy) and provision of the parameters (limits on and degrees of freedom to act) required to accomplish them. Strategic management is responsible for establishing goals, planning, organizing, measuring, assessing, and directing operational management as to where, how, when, and with whom to meet those responsibilities and obligations when executing the enterprise’s processes. Many such responsibilities and obligations are made explicit through law, charter and contract but may be wrong, out of date, or most likely lag the current state of society. Many more are implicit or external to law, charter, or contract.

Successful governance and strategic management require ascertaining all the societal roles of the enterprise including economic ones. They require incorporating the
resulting commitments, obligations, expectations, responsibilities, contributions, and permissions into the performance of the firm. Unanticipated consequences are the result of a failure to do this. Discovering a framework for how society establishes and assesses business legitimacy would reduce these failures. Practitioners should be able to anticipate and evolve their organizations in concert with society.

Academics would have a common epistemology, ontology and methodology for addressing governance and strategic-management issues. The beginning of this can be seen in the initial conceptual model resulting from this study. It is a more general model that is representative of multiple disciplines and that potentially offers consistent explanations of value exchange (tangible, intangible) across the many systems of society identified in the study. Consequently, it also starts to address shortfalls in other models (e.g., externalities, rational decision-making) by accounting for other perspectives of human wants, needs and resulting behavior in business situations. This also means that it is potentially more adaptable and flexible analyzing across time and environments as these systems of society morph and change.

Another issue from an academic perspective is how to move this discussion from a causality approach to the emergence paradigm that is being adopted in many fields. This is in pursuit of the concept attributed to Karl Popper: “[I]t will be impossible to achieve “an evolutionary theory of knowledge, without first amending fundamental attitudes toward causality to account for actions that are intermediate to pure stochasticity and strict determinism” (Svedin & Liljenstrom, 2005, p. 75). Because of the complexity paradigm in the research approach, the model supports progressive emergence of behavior via three (micro, meso, and macro) levels. It incorporates the ability to consider rational (or at least
procedural) decision-making in agencies and behavioral decision making in agents. It offers potential traceability (retrospective causality) from micro-level artifacts to macro-level effects. This means that evaluation and analysis for governance and strategic management are not restricted to assuming a generic stakeholder\textsuperscript{19} (e.g., employee, shareholder, funder, and supplier) or generic traits (e.g., rational decision-maker, profit-driven) but can account for patterns of interests.

This study is also meant to bring coherence to the systemic relationship among a business, its economy and other systems of a society. It seeks to address the economic rules and structure of production and transaction of an enterprise and the foundations of current governance and strategic management. It also seeks to address the rules and structure of how to originate, adopt, adapt and retain these rules. It also posits how to overload these rules with the expectations of society and other systems of society.

These three potentials mean that governance and strategic management might better anticipate and respond to how stakeholders—and consequentially a business’ responsibilities, obligations and freedom to act—evolve and change the behavior and performance of a firm to sustain its legitimacy and ongoing existence.

The end goal of this effort is to explore and potentially identify the foundations of a more holistic and organic process for identifying, describing and managing a business’ relationship with the society it operates in, thereby better informing a business as it makes its governance and strategic management decisions.

\footnote{Anyone or thing that affects a business and or is affected by a business.}
1.4 Key Concepts

“A wide range of social, collective phenomena can be made to emerge from the interactions of autonomous agents operating to simple local rules” (Epstein & Axtell, 1996)

Many places in this report—when introducing and explaining a concept or showing how a concept contributes to or is supported by the conceptual model—must refer to concepts that are introduced and explained later. To facilitate this, a simple introduction to the overall conceptual model and framework along with the key concepts is presented here. There are two views of the model developed from the research. One is the infrastructure of role formation. The other is the market structure that emerges from that infrastructure to convey legitimacy on the role.

The model assumes, with support presented later, that a society may be described as a complex adaptive system made up of 10 complex adaptive subsystems referred to as differential-function systems. It is made up of agents who originate, evolve and execute rules while creating, exchanging (transacting) and transforming value—agents which form agencies who do the same thing as agents with a depth, scale or difficulty that is not possible for a single agent. One exception is that only agents can originate rules. Agents may also form agencies with non-agents—usually a technology. For example, a pilot (agent) enters a plane (non-agent), and the two become an air-to-air combat agency (neither could do the job without the other). Agents must operate in at least one of the 10 systems and may operate in all. Value can include goods and services as economic values. Value
can also include resources\textsuperscript{20} or ideas in the form of economic, moral or ethical values. Rules are IF-THEN-ELSE constructs that can form into overlapping rule sets. These constructs guide the transformation and exchange of value (production rules), constrain or encourage these transformations and exchanges (framing rules), and supply organization and maintenance to the rules themselves (structural rules). Rule sets are overlapping collections of rules. Populations are collections of agents and agencies that have some rule set(s) that overlap. One of these overlapping rule sets are the rules, and rule sets\textsuperscript{21} are the role(s) of the agent or agency. Rule trajectories are ways in which rule sets propagate across agents, agencies, populations, societal subsystems, and a society. Rule sets are retained in knowledge bases.

Markets\textsuperscript{22} are an emergent property of the conceptual model’s infrastructure. Markets enable, facilitate and accelerate the exchange of value among agents and agencies. Agents and Agencies engage in markets to improve their wellbeing-fitness function. Value is the input to that fitness function. Agents and agencies exchange value to directly experience it (intrinsic or experiential value directly affecting wellbeing) or to supply a value-transformation process for later market engagement (for future wellbeing). Markets

\textsuperscript{20} Air, water, sunsets, and other items generally considered externalities or public goods by economics.

\textsuperscript{21} To simply the language going forward, \textit{rule} can be considered equivalent to \textit{rule set}.

\textsuperscript{22} As are the assumed 10 subsystems of a society, but deriving this is an effort reserved for later research.
operate through a five-part narrative schema (manipulation, competence, performance, action, sanction). The market process and wellbeing-fitness function\textsuperscript{23} is modified by trust.

1.5 Organization of this report

While generally pursuing a grounded-theory approach, this study begins with a heuristics model (Moustakas, 1990). For 30-plus years as a senior executive for multiple organizations, the researcher engaged peers across many companies in a discussion of the role of business in society, of the concept of a social contract of business, of changes in successful business models, and of best practices and heuristics that no longer worked and why. He also engaged in philosophical discussion about what business really do, why, and how. These are expressed in Chapter 2 as a collection of themes which result from narratives shared among practitioners. Common or important themes of these narratives serve as a starting point for defining the research problem.

Chapter 3 takes the themes identified from Chapter 2 and begins to test them against the academic literature to develop an academic perspective on the concepts and ideas from practice contained in the themes. It is less a traditional literature review and more a shopping list of potential concepts and constructs that are useful in defining the issues and problems derived from the practitioner themes and in constructing the conceptual model. It covers the origination of ideas in the model.

\textsuperscript{23} Because of the many dimensions involved, the terms fitness function (two-dimensional) and fitness landscape (three-dimensional) are used interchangeably to represent the n-dimensional concept and to ease the language.
The methodology of the study is covered in Chapter 4. The chapter is primarily a discussion of the decision process and of the approach used in constructing the model. Chapter 5 discusses how the model was constructed and presents the current state of the model. Chapter 6 is a presentation of how the model’s artifacts, processes and potential behaviors can be detected in existing practices in North America and how other academic approaches to the role of business questions are congruent with the model. The study uses a culturoomics approach to show conceptual model-like behavior in society at large. Chapter 7 walks through the conceptual model’s approach for concerns and issues brought up in the practitioner perceptions. It also discusses how the conceptual model can be applied to governance and strategic planning. Chapter 8 uses the model as a basis for comparing stakeholder and shareholder theories for governance and strategic management. Chapter 9 discusses the limitations of the study in its current state. Chapter 10 summarizes what has been learned and the conclusions reached in the study so far. Chapter 11 discusses potential future directions for the study.

CHAPTER 2 The practitioner Perspective and Problem

“In theory, there is no difference between theory and practice. But, in practice, there is.” - Yogi Berra

This research begins by offering a series of interacting practitioner observations concerning what was happening in the world of business rather than by identifying an observed knowledge gap in any one discipline. Each perception is suggestive of some form
of evolutionary change underway in the economy. These observations have been made over many years by me in my role as senior (C-Level) executive of large (multi-billion-dollar) international organizations and are accordingly a consequence of my experience as a serial entrepreneur. He has been in continuous conversation with peers about the role of business. These observations summarized into key themes.

These are observations from practice and therefore do not exhibit the depth of understanding or rigor expected from academic observations. They may be contradictory or incongruous, but they are useful if not provably correct or supported by evidence. Combining them and distilling an essence (even if it is not rigorous) that is entirely comprehensive and cogent provides a practical starting point for the study. Chapter 3 provides the opportunity to address academic concerns.

The research suggests that these observations supply some retrospective impetus for an evolutionary process underway in the economy. The conceptual model that emerges from analyzing these perceptions and their potential evolutionary impact in the context of multiple disciplines is meant to provide an understanding of how an economic model and the businesses considered within it co-evolve with a society. The idea is that the role of a business in a society is an expression of that co-evolution.

2.1 Introduction – Evolution in Society, the Economy and Business

‘Whether we like it or not, all reality is evolution, it is the only theory of complexity that we have. Today the theory of evolution is about as much open to doubt as the theory that the earth goes around the sun’. Richard Dawkins, The Selfish Gene
The “economy” and one of its emergent forms—capitalism, with its associated management technology—is arguably the second most significant invention of humanity after fire. Fire reduces the time needed to take in calories. It increases the nutritional content of the calories taken, thereby facilitating significant increases in brain size to offset other species’ superior strength, speed, and weaponry. It expands “daylight” and time for activities (such as tool building) and expands the species’ environmental and climatic operating ability. It is the Ur-technology that has enabled all other technologies.

In conversations with other practitioners, the concept of the economy changing is intellectually understood but not operationally. It does not occur to them that capitalism today is different from the capitalism of Adam Smith’s time or from that of the robber barons and industrialists, before or after the world wars, after the Cold War, and so on. Intellectually, they know of the industrial age and the information age and how they changed the operations of their businesses, but they do not necessarily know the nature and ultimate role their businesses play. They may know something about a thing called communism as a fish might know there is something called air. However, it is a rare fish that both knows and understands that there is fresh, brackish, and salt water in the same way that it is rare for a practitioner to know there are many different forms of capitalism. Even rarer is the fish who also entertains the concept that its water can change from fresh to brackish or even into a new form such as that formed by the impact acidic rain had on many lakes and ponds. Practitioners also fail to notice changes not called to their attention.

There are two problems here. One is that humans and society fail to detect or understand slow-moving, non-linear changes like population growth or ecological damage until a tipping point is reached. The recent financial crisis is a good example, as are credit-
card balances and people who wait until they are in their 50s to start saving for retirement.\textsuperscript{24} Jared Diamond has published many books (J. Diamond, 2005; J. M. Diamond & Ordunio, 2011) on the subject.

The second is identified by Thomas Kuhn (Kuhn, 1970) as the difficulty in shifting paradigms. A paradigm is a conceptual model and its assumptions about “reality” that allows individuals and societies to reason about problems in their environment. A fish with a freshwater paradigm has a set of facts unique to its environment and a unique set of rules for reasoning. This is also the benefit and curse of bounded rationality (Simon, 1997). Without “binding our rationality,” the amount of information which needs to be processed for even the simplest of decisions would be impossible to deal with; however, if we are unaware of alternative interpretations of the facts or alternative rules for processing them, the existing paradigm self-validates and becomes very hard to change. Operating from a consistent paradigm makes it possible for autopilot heuristics—described as the fast system of thinking by Kahneman (Kahneman, 2011)—to handle most decisions. Combined with the first issue, even when change is irrefutable, individuals and societies may not respond.

Capitalism today is an evolutionary consequence of individuals increasingly specializing their existence and the emergence of an economy. Primitive groups learned that some of their number were better than others at specific activities required for survival

\textsuperscript{24} Practitioners prefer faster examples. Suppose you are in a room with one cubic mile of volume (4,168,181,830,000 liters). Every minute, one drop of water (0.00005 liter) enters the room. The next minute two drops enter, then four, and so on with the number of drops doubling each time. The room will be filled in the fifty-fifth minute.
or were luckier in discovering resources or methods of survival. By letting them specialize and by exchanging the results, everyone’s wellbeing was improved. Over time, these simple communal exchanges evolved. They grew into small-scale barter among individuals and groups conducted across very short distances, then to markets (many coming together in one place to exchange) with improved access to information (e.g., availability, quality, rates of exchange). Markets, by facilitating more efficient access to “customers” made increased specialization and variation in offerings feasible and desirable. This allowed for expanding “surplus labor” (not immediately needed for self-survival) to create “surplus” goods and services for use by others, which in turn enabled more “surplus labor” and the formation of economic versus survival or subsistence activity. With markets came the expansion to trade (regular movement of goods over distances and time). Time and distance issues spawned the concept of contracts, thereby beginning the separation of physical exchanges from the agreement to exchange value. Along with this transactional advancement, the need for an agreed-upon store of value to simplify exchanges emerged. From minerals such as salt, gold, silver, and certain mineral crystals to fiat currency as we understand it today (and even cryptocurrencies), the concept of money took on its own value as a surrogate for all goods and services.

A consequence of the evolution of value production—that is, their role and the nature of their interactions with others (transactions) to exchange value—is that the flow of the economy and the rules for participating in it also changed. In the beginning, the
“economy” was ill-formed and disorderly\textsuperscript{25}. As agriculture progressed and civilizations began to appear, the first forms of what we would recognize as an economy emerged, but it was very different from the economy of today (Finley, 1999). In a simple form, these economies were driven by status (social and political concerns) rather than economic (factors of production)\textsuperscript{26} concerns. Reciprocity, a citizen’s responsibility to help other citizens with interest-free loans for example. Financial profit was not a primary economic driver, instead “profit” was recognized as increased social status instead of financial gain. The number of slaves owned is what was important—not the amount of work they could perform. The fundamental economic unit was the family. In effect, these were gift economies in which economic activity is embedded in society rather than distinct from it as today. Finley effectively argues that this economic embeddedness in the social system inhibited the development of production factors (land, labor, capital, technology and even extended trade)\textsuperscript{27}. This in turn made war and imperialism the only socially acceptable way to achieve growth and wealth—very different economic rules and best practices than what we have today.

\textsuperscript{25} Disorder is used here in the precise form, as described in the Cynefin framework discussed later.

\textsuperscript{26} One example from Finely is a study of mortgage stones (Greek – horoi), where proof was required that the mortgage was for consumption (wedding, funeral, etc.) rather than for production or investment.

\textsuperscript{27} Except for the growth of Rome eventually driving some unembedding of the economy from society, though such economic activity was primarily among foreigners.
The fall of the Roman Empire could be regarded as the economic equivalent of an asteroid destroying an ecosystem. Out of the loss of the “classical” economic system emerged something called feudalism. It was an economic system that also arose from the need to protect societies from marauding bands of tribes cut loose by the collapse of Rome. It was a much more integrated economic system with the factors of production (land, labor, and capital) tightly bound (a serf-based economy) and frozen by social status (royalty, nobility, knights, peasants). Being more of an obligation economy than a gift economy, there is little emphasis on growth or profit. Efforts are focused on meeting obligations (to the level above) and subsistence of the estate (land holding of the nobility). As society evolved (the Renaissance and Reformation), some communities began to pool their resources and purchase charters which gave the inhabitants of a town or village certain economic freedoms to buy and sell their own land or produce—in other words, to act collaboratively as land-owning nobles. The rules governing transactions and transformations of value are what define an economy.

This change has been ongoing throughout history. We have seen the emergence of new economies as societies have changed. Mercantilism arose for economic activity to directly support national power. The Spanish variety sought land for gold and silver. The British version sought control of the factors of production. Capitalism arose when people realized there is a difference between acquiring wealth through mercantilism and creating wealth by investing in the factors of production. Different varieties of capitalism (pure, laissez-faire, social, crony, right-wing socialism, and objectivism\textsuperscript{28}) have emerged in

\textsuperscript{28} Objectivism is generally associated with the writer, Ayn Rand.
different societal settings. Likewise, socialism and communism emerged in response to ideas, wants, and needs in other societies.

There are two key points to keep in mind. The first is the environment in which all this historical change took place no longer exists. Until recently, societies and their economies had to deal with the large distances separating them, thereby limiting the rate at which new ideas spread with the changes in society or economy they required. Compare this to the globalism experienced today. Societies and economies historically operated across much longer time periods such as seasons and at a much slower pace than today’s hyper-velocity stock-market trading, which means that there was less urgency to explore new ideas or to accommodate change. In the past, information was acquired, maintained and transported solely by that highly unreliable instrument, the human brain. A fortunate few had access to more “permanent” means of storage (e.g., tablets, scrolls, books). To compensate, societies created their knowledge bases by organizing themselves, either formally (e.g., via government, religion) or informally (via emergent specializations around crops or crafts) into hierarchies, with increasingly narrow and detailed information toward the bottom to facilitate action and summarized into increasingly broad and generic information toward the top to facilitate decision-making. The potential risk and weakness of this model can be seen when taken to its extreme, with increasingly more information about increasingly fewer subjects until the bottom knows everything about nothing and possesses increasingly less information about increasingly more subjects until the top knows nothing about everything. No wonder today’s world of ubiquitous access to information is considered progress and has had significant impact on societies, their economies and their participants. Finally, the concept of capital we use today is a recent
development, as can be seen from the discussion of ancient economies. Even when the concept of capital as investment for future production emerged, it suffered (until recently) from the constraints of time, distance and access to information described above. This is no longer the case due to capital’s democratization and to capabilities such as Kickstarter.

Second, the rules and behaviors we associate with the economic system of a society and its participants (e.g., businesses) are not set in stone and are subject to the same evolutionary pressures as society itself, including expectations, obligations, responsibilities, commitments, and contributions or the role a society has for its economy and economic participants (businesses). The economic system is an emergent property of the social system. There are no business schools or master planners pronouncing that this is how we will do business henceforth. Instead, there is the continuous origination of new ideas (the model will call these rules and rule sets) that are adopted by participants (the model will call these agents and agencies, and when rule sets are shared, populations) that are then adapted to specific circumstances, retained (the model will call these retained rule sets a knowledge base), and, if useful, transmitted to other participants for their potential adoption. This is effectively an evolutionary model with idea origination and adaptation representing variation in the knowledge base, with transmission providing heritability in the knowledge base, with ideas competing via their use by populations, and with differential survival occurring by being in the knowledge base of successful populations.

Today, this Darwinian crucible is hotter and faster than in the past and is accelerating at a rapidly increasing rate, becoming even hotter and faster. There is no longer time for a biological pace of evolution with generations of new participants slowly incorporating the new ideas into their activities and eventually into the economic system.
and businesses. It is not possible to wall off contact via physical barriers or restricted access of information to these new ideas and their potential to change the business. The competitive intensity of new businesses formed around the new ideas and their unavoidable ability to disrupt existing businesses extends the Darwinian crucible beyond the new ideas to include businesses themselves.

The ever-increasing speed of change in roles, the need to adapt quickly and agilely, and the ever-increasing risks and costs of not adapting means that it is a crucial responsibility of the firm to anticipate, detect, understand and respond to its evolving role. This study explores how to better understand all this change takes place and how it forms into new roles for business. It also seeks better ways to inform business of this understanding and the emerging roles.

To accomplish this, this study tries to form a potential model of governance and strategic management as the functions of the firm that deals with its society legitimized role(s). The starting point is a set of narratives (described as observations) that I have accumulated and synthesized over the last thirty years from my own experiences as a senior executive and from conversations with other executives. These are used as archetypes for the outcomes of the Darwinian process of role formation and evolution and then tested against existing models and theories that might explain or provide insight into the process. The resulting matches and gaps identified are used to construct a new conceptual model for governance and strategic management, which is then tested. This process is described in Chapter 4.
Figure 1: Researcher's heuristic narrative and archetype-development process
2.2 Governance and Strategic Management

However, if management was the focal point for the 20th century, corporate governance is set to be the primary focus for the 21st. (Tricker, 2015)

The practitioner view of corporate governance and strategic management is straightforward. The practitioner stories developed by me were developed in the context of governance and strategic management.

Corporate governance is a system of rules, practices, and processes. Its function is to control and direct a company. Corporate governance involves balancing the interests of a company's many stakeholders to ensure accountability, fairness, and transparency in a company's relationships with shareholders, management, customers, suppliers, financiers, government and the community.

Corporate governors are responsible for explicit and implicit contracts between the company and its stakeholders for distribution of responsibilities, rights, and rewards; procedures for reconciling conflicts of interest in accordance with their duties, privileges, and roles; and procedures for proper supervision, control, and information-flow to serve as a system of checks-and-balances.

In other words, governance is responsible for understanding the roles the business will perform and for providing collaborative guidance to strategic management concerning expected outcomes and limits of action. It is the bridge between society and the business. Its fundamental objective should be the sustainability of the business’ ability to deliver net value to society through its stakeholders in fair exchange for value received from them.
Strategic management is the continuous planning, monitoring, analysis and assessment of all that is necessary for an organization to meet its goals and objectives by direction of and within the limitations set by governance. Strategic management takes direction and guidelines from governance, establishes the programs needed to accomplish the roles described by governance, and directs their execution by operational management. While governance is the interface of the outside world into the enterprise, strategic management is the enterprise’s interface with the outside world. Strategic management assess the ability of the enterprise to perform the desired roles and organizes the enterprise to apply, modify or increase its abilities to meet them. It informs and collaborates with governance to ensure the integrity of the business’ behavior and actions in the context of its roles.

In other words, strategic management establishes how the business goes about performing its roles and when, where, how and with whom it will collaborate to meet the business’ expectations. It directs and monitors operational management in its execution of those plans and in its achievement of the business’ roles.

### 2.3 The First Observation – Unintended Consequences

*Hell is full of good intentions or desires. Attributed to Saint Bernard of Clairvaux (1091-1153)*

The first observation was that, after five decades in the workforce and three decades as a successful serial entrepreneur and senior large-enterprise executive, I continued to find it perplexing that capitalism is perceived to do as much or more damage as it does good. The reality is capitalism has increased average wellbeing (e.g., wealth, health, nutrition,
safety, living conditions, leisure time, and comfort), so that many today live better than the royalty of just a few hundred years ago. Nothing demonstrates this better than Hans Rosling’s TED talks\textsuperscript{29}. With many if not most of those years spent in systems—either computer or business—it was instinctual for me that this must be a systemic problem.

The socially perceived contemporary practice, priority and mission of businesses and their governance is the creation of shareholder wealth (Lazonick & O’sullivan, 2000) rather societal benefit. Modern capitalism, in its focused pursuit of shareholder wealth, has created and continues to create unintended consequences. It produces inequity such as unfair wealth distribution (Corning, 2011). It is at odds with the sustainability of the planetary ecosystem (Hawken, 2013). It disrupts the social ecosystem, generating distorted values and cultures (e.g., moral hazard, materialism, greed) (Storr, 2009). These problems create significant societal responses (Granovetter, 1985; Meyer & Kirby, 2012) and constraints on business. Shareholder wealth creation focus and its surrogates have created serious unintended consequences for businesses themselves (Willmott et al., 2016). Even shareholders may be losing, given current standards for traditional corporate accounting, thereby leading to unintended misrepresentation of enterprise value and erroneous management decisions around the application of assets (Hockerts, 2015; Sroufe & Ramos, 2015).

These unintended consequences are not just economic issues that are susceptible to the analysis of returns on investment or risk costing. Addressing them must reflect the

\textsuperscript{29} https://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve ever_seen
interactions of all the elements of society. A bad business decision can have significant
health implications for society (e.g., choice and variety of food, medicine, healthcare,
living environments, and sanitation). A poor legal resolution or regulation in response to
bad decisions can disrupt the economic activity of society (e.g., opportunity to advance,
freedom to choose). Failure to recognize a role opportunity and freedom to act granted by
society would constrain growth and social goods.

Businesses have undertaken attempts to address some of these problems by “doing
good things.” Corporate-social-responsibility and shared-value programs (Michael E.
Porter & Kramer, 2011), diversity programs, community-cleanup programs, employee-
happiness or employee-value-proposition programs (Andrew, 2005), and other programs
are examples of attempts to “compensate” for some of the unintended damage emerging
from business activities. Many times, these have become more public-relations efforts
rather than ways of generating value for society. Both Nike and Volkswagon have active
CSR programs. Recently, however, they were challenged by their use of child labor (Nike)
and for cheating on emissions (Volkswagon). Some are driven by the narrower
shareholder-benefit focus rather than by potential benefit to society (Du, Bhattacharya, &
Sen, 2010), and one could wonder how they would last if “better” investments were
available.

If companies continue to fail to act ethically and responsibly—despite all the
apparent CSR efforts, and despite CSR reports on their purported social values—then
something is missing in their understanding of their role and the legitimacy society grants
them. Whether intentional or unintentional, these failures suggest a need for a better way
of discovering, understanding, adapting and executing the role of business.
2.4 The Second Observation – Economic Friction

Technical innovation can eventually relax any supply constraint and so support perpetual economic growth at compound interest. Technology determines what counts as a valuable resource. For capital nothing is required but saving; and for saving nothing is required but income. Income we already have. The Road to Riches. (Jay, 2000)

The introduction of this chapter talked about the evolution of societies and their economies through history. As capitalism has progressed, historical economic and business practices which have evolved to deal with economic environmental frictions (such as time, space, information and access to capital) have become irrelevant as the economic environment evolves away from them. This has been like a technological asteroid that has disrupted the business ecosystem in the same way the Chicxulub asteroid destroyed the ecosystem of the dinosaurs. It is having a similar effect on the differential survival of businesses, which are shifting to speed, flexibility, agility and efficacy to drive innovation and transformation oversize, productivity and efficiency (see Figure 3). Likewise, this has resulted in increased competition for emerging and disappearing economic niches. This has increased variability in business models in industries and markets and even in related markets and industries.

Figure 2 is part of a presentation on foresight and the future given by me at many conferences and executive-development programs over the last three years. It has generated enumerable questions and conversations about the concept of a frictionless economy. Technology has enabled, facilitated and accelerated the emergence of new platforms (markets in the conceptual model) to exchange value in non-financial forms and financial
forms of value in faster, better ways—often without the need for third-party intermediation. And it has done this globally.

Figure 2: Researcher’s industry conference slide on the frictionless economy narrative

The biological metaphor for what is taking place might be ecosystem destruction. Current events show us that, while society has historically supplied a role for business that tolerates the focus on shareholder wealth creation, it does so much less now. In the past, capital was the engine needed most to find the minerals, build the mines, lay the railroads to transport the ore, and build the factories and the trucks to transport the goods to the consumers who drove the economy. Capital is still important—as is proven by the amount of time and effort spent by organizations on accounting and finance issues—but it not needed as much when value is created by pushing electrons around instead of atoms. Also, with many of the capital-driven needs being satiated, perhaps a formal accounting time has
come for all the non-monetized resources that previous economic growth consumed—air, water, land, people’s lives and aspirations through the mechanisms described earlier in Governance and Strategic Management.

Society is pushing back and creating new niches for economic activity and business populations while restricting or delegitimizing the old ones. In response, business seems to be evolving into these new niches more directly as a peer agency with the rest of society’s participants, with new roles, responsibilities, and obligations—as evidenced by the emerging forms and behaviors discussed in The Fifth Observation in Chapter 2. The ecology of these niches are different and the ecological success criteria of the former may not apply in the emerging forms. An example of this is the shifting emphasis on innovation and transformation over productivity and efficiency (Figure 3).

30 Traditional definitions of resources center around land, labor, capital, raw materials and recently technology (intellectual property). Any theory of business and its role in society will need to move beyond that and recognize that relationships, responsibilities, obligations and other barriers to traditional economic transactions are really resources that enable, facilitate and accelerate those transactions and other new forms of value exchange.
First, there was a reduction in the traditional frictions of economic activity – access to capital, information differentials between buyers and sellers, time from information origination to decision consumption and distance from sources of raw material or capability to consumption of finished goods or services. This reduction was enabled, facilitated and accelerated by new technologies. This process is abating the advantages of scale and the economic benefits of productivity and efficiency that are usually pursued with scale. Mastery of these economic frictions has been a primary source of profit for organizations. Instead, it appears that efficacy and the pursuit of continuous innovation will be the generators of profit in the future. This is suggested by the fact that the term *innovation* is replacing *efficiency* or *productivity* in societal use (see Figure 3).

Figure 4 shows a similar analysis done using the Lexis Nexis annual reports database which is assembled from SEC corporate reporting. It shows the relative use of the terms over a much shorter time period. These show the same relative pattern, innovation and transformation becoming proportionately more prevalent, but only marginally. The only overlap in the two datasets occur from 1995 to 2008.
While not an in-depth analysis and supports more research, it suggests three things. First is that business lags the social perception of these ideas. Second, electronic filing of annual reports, especially the management commentary is usual only for large companies who are slow to change. Third, small business and private companies are approximately 50% of US non-farm GDP and they generally do not report to the SEC. These small and private firms generate most of the growth in the economy\(^{31}\) and proportionally invest more than large public firms (Asker, Farre-Mensa, & Ljungqvist, 2015).

\(^{31}\) Most recent Fundera, SBA and NBSA statistics are here:

From the conceptual-model perspective, innovation as demonstrated here is what practitioners would refer to as a meme and what the model calls a rules trajectory. While not definitive it suggests the diffusion lag of ideas in large enterprises versus the general society. This would be an interesting future study given not only the potential large company lag, but adding in the 5 to 10-year lag of the Ngram data as discussed in Chapter 9. Linking that with the potential implication of the ecosystem practitioner narrative is that large companies become foundations for the ecosystems but the smaller more agile members provide the primary end customer value propositions and evidence of a major shift in the economy might be visible.

The loss of friction in information is dramatically demonstrated by the diminished information differential between automotive dealers and car buyers. In the past, the car dealer held most of the information—including costs, price, market value, reliability, performance, and even financing costs. A prospective buyer would need to exert enormous effort to even begin to approximate what the dealer knew—a significant disadvantage in negotiations. Now, 95% of car buyers do their initial shopping online, accessing reviews, ratings, “true value”, financing options and even their personal qualifications for those financing options. The subsequent reduction in transactional profit has caused dealers (and the manufacturers they represent) to become more innovative and creative in the value they offer (service, concierge, road breakdown, etc.). It has also enabled person-to-person sales (AutoTrader, Cars.com, eBay Motors, etc.) to increase by reducing information friction, time (searching for a car), and space (anywhere in the country) as well.

Business-to-business transactions are also being impacted by the loss of information friction. The amount, availability and ease of access has resulted in a new
procurement dynamic. Gartner reports that 50% of information technology purchases are decided before vendor outreach. McLean reports that 72% of commercial purchases are decided before vendor contact, and the Corporate Executive Board reports that 57% of the IT purchase cycle is completed before vendor engagement. Reduced information friction means that the buyer knows as much as the seller, perhaps even more.

No better example can be provided of the loss of friction in the acquisition of capital than by appealing to its democratization through facilities like Kickstarter, Indiegogo, Peoplefund.it, Smallknot, RocketHub, Gambitious, MedStartr, Spot.us, GigFunder, and others. These primarily “crowdfunding” sources, in combination with “micro-lending” organizations, have effectively reduced the friction necessary to capitalize, or provide energy for, business activity. They have been so successful, that the SEC and IRS are trying to bring them and their participants more closely into the formal, government-regulated economy. They also demonstrate the reduction in the other frictions (time, space, information) involved in gaining access to traditional funding via angels, venture capitalists, private equity, and banks.

Part of the evolution of any ecosystem, including an economy, is in the shifts among producers and consumers of energy. For the economic system, the recent preferred energy equivalence is capital. Energy is key to value transformation in any ecosystem—for example, in plants turning photons and carbon into carbon bonds forming glucose that can be used by another life form to perform some other transformation (moving seeds across a geography). There is an implicit or explicit transaction as that energy is exchanged among the ecosystem’s participants. A coevolution of energy producers and consumers is underway. Energy producers are shifting from banks and stock markets to private equity,
venture capital and democratized capital (e.g., Kickstarter, Indiegogo, Fundly, and others). Energy consumers increasingly become entrepreneurs and serial entrepreneurs (e.g., Elon Musk, Richard Branson) whose primary energy source has shifted to information (e.g., intellectual property), and large companies buy up startups in lieu of internal investment for their energy needs.

Thomas Friedman (T. L. Friedman, 2005) has done an excellent job describing not only the reduction of friction from time and distance but also the itemizing of many of its implications, both good and bad. Container ships, air freight, dynamic and self-adaptive supply chains linked with instantaneous order-and-fulfillment systems all come together to make a want now a met need tomorrow. The development, evolution and proliferation of 3D and 4D printing (and the recently developed 3D molecular printers) is all but eliminating time and distance as constraints on value creation and delivery for on-demand machines, spare parts or even toys.

An economy based upon moving electrons instead of atoms—even to the point that economic participants themselves can shop, manufacture, sell/exchange, and deliver value through their mobile devices without having to be mobile at all—is a different economy than that in which the current models of governance and strategic management were developed.

2.5 The Third Observation – Different Economy Models

“I have yet to see any problem, however complicated, which, when looked at in the right way, did not become more complicated.”

Poul Anderson as quoted by Koestler (Koestler, 1968)
This study explores how the role of business—as part of the economic subsystem—emerges in a society. As the developed conceptual model describes, a human system is comprised of agents, who form agencies, who combine to form populations based upon the non-exclusive overlaps in their rules and rule sets in their knowledge bases. Different views of the economy can likewise be described as populations with non-exclusive, overlapping agents and agencies.

Over time, while developing these narratives, some of them evolved into focused representations of what the practitioners were seeing or feeling around them that was different from what they expected. Not unlike characters in science-fiction stories, they took the world and changed a few assumptions about how it operated then looked at the consequences. A group of them represent changes as to how the economy runs, and they are presented here.

2.5.1 Introduction - An “Economic” Society

For the purposes of this research, the economy is meant to convey the collection of all activities that individuals engage in, by themselves or collectively, to create value. It is represented as one of the 10 differential-function systems of a society—although the “economic” activity may be going on in “markets” inside of each of the individual differential-function systems. As people form into groups, they form agencies or social institutions (organizations that exist beyond individual members such as businesses, governments, churches, schools, etc.) to help in this value generation. Social institutions (Miller, 2014) (Kendall, 2003) provide five major tasks across each of the 10 differential-function systems of a society, individually, and, via hierarchy, socially. One difference between the conceptual model’s perspective and that of Miller and Kendall is that the
conceptual model sees these functions emerging whereas they seem to implicitly assume a plan and organization.

The first is acquiring, maintaining (caring) and replacing members. In the conceptual model, this is a function of meso-rule trajectories and populations. The second is teaching new members or participants. People must learn how the group does things such as values\textsuperscript{32} and customs. The conceptual model posits this as a function of the macro-rule trajectory and its de-coordination, re-coordination and maintenance of a knowledge base (collection of embedded, integrated rule sets). The third is producing, distributing, and consuming goods (tangibles and intangibles, such as ideas) and services. The conceptual model assigns this function to the production rules. The fourth is providing order, as every society needs some type of order and structure. Structure and order are emergent properties in the conceptual model which are based upon self-organization and the hierarchies discussed in section 3.4. The fifth is providing and maintaining a sense of purpose—i.e., a sense of why the society and its social institutions exist. The conceptual model does not directly address this at this stage of its development. It is still primarily a complex, adaptive, systems-evolutionary model that is based upon emergence and as such has no way to

\textsuperscript{32} This paper distinguishes between value and values. Value is the worth or usefulness of something; values are principles or standards of behavior and standards of measuring value used to judge what is important, prioritize and allocate other value (resources). Values are represented by framing rules in the conceptual model. Within the model, value is a representation of worth or usefulness in increasing wellbeing.
represent the directionality of the system. In its place is the idea of the wellbeing fitness function and the drive of participants to improve their wellbeing.

2.5.2 A New Economy

Traditionally, the model of a successful organization is one that drives efficiency by minimizing transaction costs by standardizing, achieving scale, and reducing variance in outcomes. Companies that do these things are those that dominate the formal economy. Now success is achieved via accelerating the building of ideas and capabilities and then effectively applying that capability to create value for the customer as quickly as possible. In other words, today’s companies succeed by innovating; by creating, nurturing and growing an infrastructure of internal and external capability; and by being as flexible, adaptable, responsive and quick to the market as possible. These are attributes of participants in the new economy that is forming and consequences of the frictionless economy previously discussed that is being enabled by technology (J. Stikeleather, 2014c).

Studying innovation, it is perceptible that an inordinate amount of innovation and growth is occurring among start-ups and small companies. The start-up emphasis shifted from an Initial Public Offering (IPO) exit strategy to being acquired by large companies. One consequence of this is the rise of “unicorns” who grew past the optimal sell-off point. Large company innovation is becoming increasingly inorganic: Scan the horizon for new companies that might impact your industry, products and services, or customers and acquire them.

An emerging practitioner heuristic for a new economy is that, when small is preferable over large either scale is a disadvantage, or a previous scale advantage is so no longer or at least is subsidiary to the small business advantage of agility (speed, flexibility,
responsiveness and cycle) (try, fail, learn, try again). The large and integrated (from both production and administrative perspectives) companies of the past are disappearing or are becoming anchors to ecosystems of many more focused value creators. A biological analogy may be found in ponds in which many life forms interact and thrive.

This “simple\(^{33}\)” change in the economics of scale being redefined from efficiency of size to efficacy of network results in distribution of power, dynamic responsive emergent structures, self-interest served by interdependence, circular consumption\(^{34}\), and increased resilience for society. Technology is enabling a change that society wants, as is demonstrated by emergent organizations such as the New Economy Coalition\(^{35}\).

### 2.5.3 Serendipity Economy

A compounding issue for business is that value is evolving new meanings that are often not monetized with new attributes of speed, location, context and specificity for the delivered value dictating that the organization must respond to the speed at which opportunity appears else the opportunity disappears. This is confounded by the increasingly situational nature of how value is determined. The traditional economy and its behavior is changing into a serendipity-based economy\(^{36}\). The capabilities of the Internet of Things

\(^{33}\) Nothing in a complex adaptive system is simple.

\(^{34}\) The biological model of one organism’s waste is another organism’s resource

\(^{35}\) [https://neweconomy.net/about/history](https://neweconomy.net/about/history)

\(^{36}\) This should not be confused with the serendipity theorem of economics developed by Samuelson (Samuelson, 1975) around the optimum growth rate of a population and economic equilibrium (stability).
and the industrial Internet include being able to construct immediate real-time contexts on an individual request (or perhaps more importantly, on an anticipated request)—based upon where the customers (or fictitious entity such as a company) are, what they are doing, what they have been doing, what they planned on doing, who they are with, what time it is, when they need to be somewhere else, what is around them and their historical preferences and behaviors—such that the highest possible value can and must be created and delivered in that very instant to that very person (serendipity and individualization). This is summarized in Figure 5. This concept was expanded further and in more depth by one of my practitioners and fellow management-innovation eXchange hackathon coaches, Dan Rasmus (Rasmus, 2013).

The evolving economy also appears to be one of rents rather than of ownership, as discussed in Section 2.5.7 Shared or, which supports serendipity by eliminating the sunk-cost issue. In addition to a new generation of consumers forgoing car, home, and even bicycle ownership, businesses are increasingly “renting” (thrust as a service versus buying a jet engine, leasing airframes rather than purchasing, software as a service instead of as a license, the “Cloud” instead of a data center) as well. The same is true for government and other participants in what is described in Section 2.5.4 Social Economy.

These evolutions are very much technology enabled, facilitated and accelerated.\(^{37}\)

\(^{37}\) One of the side observations of practitioners’ is that technology does not really cause or drive change so much as it enables, facilitates and accelerates change that is already underway in some form. As William Gibson put it: “The future has arrived — it’s just not evenly distributed yet.”
Figure 5: Researcher's industry conference slide on the Serendipity Economy narrative

In the emerging serendipity economy and business landscape, Wall Street (a loose surrogate for owners, Chapter 7 discusses the changing nature of ownership) expects firms to be generating revenue, gaining new customers and increasing customer satisfaction—perhaps even elevating customers to the importance of shareholders. In this environment, CEOs are held responsible if they did not see new technologies coming or failed to grasp the possibilities that innovative technology offered. There are six reinforcing trends
enabling and facilitating the emergence of a serendipity economy that are emergent properties of the frictionless economy

- Traditional products are simply becoming windows into information-based, services-delivered value. For example, the value of a cell phone is based more on its app ecosystem than its function and features.

- Value is becoming highly individuated and a function of time, place, participants and other factors beyond the control of suppliers.

- The nature of competition is changing. With the evolution of cloud computing, even a small, little-funded organization in a remote location can deliver like a large enterprise. This also means that ever smaller niches can be cost-effectively addressed and that ever smaller and lower-priced value propositions can be delivered.

- Goods and services are becoming rapidly commoditized. Supply-and-demand curves for many product categories are approaching equilibrium, thereby causing decreasing margins. On top of this, the frictionless

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38 A future research candidate concerns how the frictionless economy is manifested in a meso-level rule-set trajectory that emerges as the serendipity economy at the macro level.

39 It is hard not to use traditional concepts such as equilibrium event, though, as this report suggests, these are dynamic, complex, adaptive rugged landscapes (Gill, 2010). Therefore, is no real equilibrium state possible. When equilibrium is used in this report, it refers to a momentary systems state at a unique point in time.
economy is making it increasingly easy for competitors or new entrants to enter the market at ever lower price points, even to the point of major categories forming around the concept of “freemium”.

- Barriers to entry have been destroyed. Emerging business models, organizational structures and enabling technologies to have accelerated the appearance of unanticipated competitors with fresh value propositions.
- The nature of the workforce and management is shifting. Today, the emphasis is on value creation with a focus on originality, adaptability, innovation, engagement, collaboration and efficacy. This can be seen in Figure 3.

This new business landscape is creating an opportunity for new forms of business models and models of business. In the process, it is changing the roles and relationships of all the stakeholders of an enterprise. For example, much discussion around the gig economy (T. Brown, 2009) shows that it is a manifestation of the serendipity economy from the perspective of work and employment. It also demonstrates the co-evolution that is going on with both workers and employers and is improving their wellbeing through its emergence.

40 Dynamic flexibility and adaptability in life-work balance; dynamic flexibility and adaptability in resource costs.
2.5.4 Social Economy

The concept of the social economy has been discussed since at least the 1920s (H. Dalton & Cassel, 1924)\textsuperscript{41}. It generally addresses organizations that apply some ideas of social justice to the acquisition, transformation and allocation of value. It is sometimes called the third sector of an economy, as it exists between the private or business sector of an economy and the public sector of government. When discussed, it generally includes voluntary, non-profit, and co-operative organizations. They arise when there is a need that the evolving conceptual model would call a role to be performed that is not being met by the enterprises (agencies) of the private or public sectors. From an economic sense, it covers the private/public spectrum from mutual organizations like credit unions and some insurers, to co-operatives like farmer’s markets, to philanthropies who fund or service to reach a goal, to charities who fund or service to a need. It is also treated in a political sense (and sometimes called political economics) around justice, prosperity, inclusion, redistribution, and fairness in production and allocation of a society’s wealth. As described in social economic theory. a social economy has a unique role in creating a strong, sustainable, prosperous, and inclusive society (Wagner, 2010).

From a practitioner perspective, the concepts of public, social, and private economies are becoming less useful. For example, public-sector government entities

\textsuperscript{41} Cited as the earliest reference found.
increasingly use\(^{42}\) (precluding use for other purposes), consume (or destroy\(^{43}\)), and occasionally create value no differently than private enterprises do in the process of creating social value. Likewise, within the social sector, there is the rise of philanthrocapitalism (Bishop & Green, 2010). Philanthrocapitalism creates organizations that function as philanthropies that become self-funding over time through profit generation or that produce “excess” profits to fund more traditional giving models or other philanthrocapitalist startups. From a business perspective, the differences are incidental. All create, exchange and transform value. Increasingly, they compete head to head in those processes. All have both positive and negative unintended consequences and side effects that cross among them. For example, the social mobility value of the interstate system is primary; the economic market value of enabling, facilitating and accelerating truck transportation of goods is secondary. Or consider a careful and rigorous FDA drug-review process that has the primary purpose to protect but the secondary effect of making that process so expensive that many treatments for small populations are never pursued.

From the practitioner perspective, it is one very broad landscape of enterprises of various shapes and forms that are trying to improve the wellbeing of society. The implementation models of these enterprises comprise a continuum that ranges from profit

\(^{42}\) How value is changed over time: exchange, storage, use, consumption.

Destruction is described later.

\(^{43}\) Consumption in terms of the research implies a process of value transformation from one form into value of another form which, in the process, increases wellbeing for some element of a society.
generating, reciprocity enabling, or redistribution approaches for creating value and improving wellbeing. The needs or opportunities for wellbeing improvement emerge from a society in terms of beliefs and guides (what the conceptual model would call framing and structural rules) that establish how (production rules) and to what extent (a market of value) a society will attempt to meet its needs. The conceptual model combines these into roles that agents and agencies can then take on. The issue for practice is that role acquisition seems inefficient and confused now. Many enterprises are hybrids across public, social, and private models without clarity in their roles and questioned\textsuperscript{44} legitimacy of those roles. This perspective can also be seen in academia (Frank & Oana, 2005).

Many traditional organizations, such as different types of cooperatives, associations, foundations, and mutuals are part of the social economy. Many of the new models of business (discussed in Section 2.7 and Chapter 6) use new legal forms and an entrepreneurial approach to respond to social and environmental challenges and are developing quickly around the world (Codagnone & Martens, 2016). They are also often part of the informal economy (Section 2.5.8).

In earlier days, it was clear who were social agents and who were economic agents. Social agents were associated with family, religion, education and the government.

\textsuperscript{44} Milton Friedman would question all corporate-social-responsibility programs:

\textit{“There is one and only one social responsibility of business--to use it resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud.”}
Examples of social-actor associations today include mass media, sports, science, medicine, and the military (responsibilities taken on beyond defense). Business governance and strategic management has not kept up with this shifting of legitimate roles in society—neither in the obligations and expectations of business nor in the permissions of other forms of enterprise to compete with them. A goal of this study is to discover a better way to detect and reason about such roles.

2.5.5 Reputation Economy

As discussed in the introductory chapter, increasingly “irrational” economic decisions to engage with a business are being made based upon whether that business does good or is good—“good” being in the eye of the beholder. For example, while there was no economically rational reason not to buy Nike products (as they fulfilled an economic need), people reacted and chose not to engage with Nike when its use of “child sweatshops” was discovered. This is not a unique situation (Peretti & Micheletti, 2011).

The reputation economy is an emergent outcome of the loss of economic friction, the dynamism of the serendipity economy, and the expansion of the sharing economy. Some “new45” very dynamic, flexible and adaptable business models that are emerging—such as the Chinese Shanzai—are highly reputation dependent. It depends upon exchangers having or discovering sufficient information about each other to decide to transact on an individual basis beyond simply price.

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45 It can be argued that the earliest forms of trade were based upon the traders’ reputations. This is how criminal enterprises or black markets have always operated.
Uber and Airbnb are two examples of reputation-facilitated markets with their transparent rating systems. Reputation and its availability was a major contributor to the success of eBay, and now to organizations such as Angie’s List and HomeAdvisor. It is also a model for commercial and consumer users. Tongal\textsuperscript{46}, TopCoder\textsuperscript{47}, and Amazon Turk\textsuperscript{48} are examples.

The reputation-economy narrative is generally discussed in terms of individual’s reputations being their most important asset in the gig economy. But it is equally if not more important to businesses. The free flow of information, both accurate and inaccurate, globally means that a role failure by an enterprise, no matter how small or local, is instantly knowable by everyone who is or might want to be engaged with an enterprise. Even the best crisis management cannot avoid long periods of costly reputation rebuilding. This was recently effectively demonstrated by United Airlines\textsuperscript{49}, where a reasonable internal economic policy was not in concert with social expectations (I buy a seat, it is my seat) and exacerbated with very poor execution that calls attention to the policy. United seems to have a problem with internet memes, if you recall the series of internet videos “United

\textsuperscript{46} https://tongal.com/
\textsuperscript{47} https://www.topcoder.com/
\textsuperscript{48} https://www.mturk.com/mturk/
*Breaks Guitars*50.” On the other hand, some airlines increased their reputation assets by capping airline fares out of hurricane-threatened geographies.

A telling element of some of the broad structural changes taking place is in the accolades, praise and fame accorded executives for their good works more than for their contributions to the balance sheet and income statement. Likewise, the infamy and even job loss placed upon even financially successful executives who fail at their “corporate social responsibility”51. Traditional organizational models of incorporation and governance are ill-equipped for this.

Some companies are recognizing this and have begun supply-push campaigns to be proactive with their reputations from an environmental perspective. Many have initiated corporate-social-responsibility programs. The term *sustainability*52 is often used to represent approaches that address from one (usually the environment) to all the stakeholders of an organization. Some are joining and adhering to standards from reporting bodies (statutory and voluntary), such as Sustainability Accounting Standards Board.

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50 https://www.fastcompany.com/1320152/broken-guitar-has-united-playing-blues-tune-180-million


52 In searching for commonality, the research settled on “sustainable” to represent decisions and actions that should not diminish the alternatives open to future decision makers. In some situations, *sustainable* is used to represent “full cost accounting” [United Nations and International Council for Local Environmental Initiatives (ICLEI) standard for metropolitan and public accounting – 2007].
(SASB\textsuperscript{53}), International Integrated Reporting Council (IIRC\textsuperscript{54}), Global Reporting Initiative (GRI\textsuperscript{55}), or industry associations as a part of their reputation management.

Yet governance and strategic management generally continue to treat reputation in industrial-age rather than information-age ways. Reputation risk assessment, if it happens, is static and focuses on the financial assets of a firm. This study can start the process of improving this by offering a better understanding of the role, its boundaries, how it comes to be and the potential impacts of failing to meet it. It is not just not fulfilling a role (mistakes, unintended consequences) but also how a role is fulfilled that impacts reputation and the resulting trust and willingness of others to engage it.

2.5.6 Second economy or non-human economy

*Second economy* is a term first used (in this context, it is sometimes used to refer to the informal economy) by Brian Arthur of McKinsey. It is now coming into common use in practice to reflect a market economy without human participation. It is described by Arthur (W Brian Arthur, 2011) as follows:

\begin{quote}
[A]cross economies in the developed world, processes in the physical economy are being entered into the digital economy, where they are “speaking to” other processes in the digital economy, in a
\end{quote}

\begin{flushleft}
\textsuperscript{53} http://www.sasb.org/ \\
\textsuperscript{54} (previously the International Integrated Reporting Committee)
\end{flushleft}

http://integratedreporting.org/

\textsuperscript{55} https://www.globalreporting.org/Pages/default.aspx
constant conversation among multiple servers and multiple semi-intelligent nodes that are updating things, querying things, checking things off, readjusting things, and eventually connecting back with processes and humans in the physical economy. So, we can say that another economy—a second economy—of all of these digitized business processes conversing, executing, and triggering further actions is silently forming alongside the physical economy.

 [...] It is vast, silent, connected, unseen, and autonomous (meaning that human beings may design it but are not directly involved in running it). It is remotely executing and global, always on, and endlessly configurable. It is concurrent—a great computer expression—which means that everything happens in parallel. It is self-configuring, meaning it constantly reconfigures itself on the fly, and increasingly it is also self-organizing, self-architecting, and self-healing.

The concept first began appearing in practitioner perspectives around 2010 and 2011. That was the year of Stuxnet. Wikileaks released U.S. diplomatic cables, Cloud became “real” to corporations with easier access to tools like Hadoop and the rise of Salesforce.com, the commercial value of Google’s mathematical indexing of the web was surpassed by the social indexing enabled by the “Like” button (even as search itself became real-time), and tablets came to the forefront (putting the keyboard at risk). According to
USA Today, 2010 was the year that technology replaced talking\textsuperscript{56}, Watson won Jeopardy, and RoboEarth\textsuperscript{57} was announced as a world-wide web and cloud just for robots so they could share what they learned without the need for human intervention.

While each of these developments is individually eye-opening, what they have in common is the incredible amount of work and information sharing and the large number of transactions and decisions that are going on without human intervention because of them. In tech terminology, the Internet was surpassed by the Web which in turn is beginning to be surpassed by the Cloud. In business terminology, we are seeing an increasing amount of economic activity and decision-making taking place without human intervention; humans are being surpassed by the algorithms. According to Investopedia, 60 to 70\% of stock trades were done by algorithms or high-frequency trading robots, culminating in the “flash crash” of May 6, 2010 (Kirilenko, Kyle, Samadi, & Tuzun, 2011).

I am a big fan of Asimov’s Foundation Series of books, which he eventually linked with his Robot Series. A subtheme is that the robots take control to protect humanity, but they hide this fact from them. Computers are already better than humans for many jobs, and they evolve and improve faster than the human species does. Business and scientific leaders (including Elon Musk and Stephen Hawking) have voiced concern of potentially worse things.

\textsuperscript{56} http://usatoday30.usatoday.com/yourlife/parenting-family/2010-12-30-1AYEAR30.CV_N.htm

\textsuperscript{57} http://roboearth.ethz.ch/
The minimal impact of the second economy is job loss. Autonomous vehicles alone are projected to cost 300,000 jobs a year per Goldman Sachs\textsuperscript{58}.

In the future, practitioners expect growth in a new form of stakeholder, beneficiaries, perhaps some evolution of “pensioner”. This is likely to emerge as increasing automation and cognitive systems technologies appear in the economy with middle-class job destruction such that not everyone can have a job. Finland, for example, is experimenting with a universal basic income\textsuperscript{59}. Given the general inefficiency of government, most practitioners feel that a more businesslike approach might emerge in North America, not unlike pensions, to compensate for job loss\textsuperscript{60}.

There is a second issue that comes from the fact that cognitive and artificially intelligent systems are assuming more and more decision-making. How do they incorporate what the conceptual model refers to as framing rules (values, constraints and permissions on actions) and structural rules (societal norms, situational adaptation and learning), and how do they avoid the previously discussed traps and fallacies of inappropriate measurements (Goodhart, et.al.)? These systems “learn” in two ways. One is by observation and pattern recognition of actions and their relationships to outcomes. Another

\textsuperscript{58} https://www.cnbc.com/2017/05/22/goldman-sachs-analysis-of-autonomous-vehicle-job-loss.html

\textsuperscript{59} https://futurism.com/what-we-can-learn-from-finlands-basic-income-experiment/

\textsuperscript{60} One interesting idea discussed is that individuals would “own” the robots and collect the “wages” of the robots.
is by human intervention and “teaching” through programming or rules, parameters, or input adjustment. One concern of mine and a motivation of this study is that it is doubtful that we want AIs observing our current practice, as it is problematic, suffers from shareholder myopia, and is out of date—having emerged over a 100 years ago in a very different environment. The other concern is how can we “teach” something we do not well understand.

A third issue recognizes how much better AI can be at what we do today in pursuit of the perceived role of our businesses and how this might impact the conceptual model. Already the algorithms are countering and filtering the free flow of information emerging from the previously discussed frictionless economy to increase shareholder value by binding customers via their preferences. Simply examine social-media feeds and their potential impact on the conceptual model. As populations (rule sharers) are increasingly pushed information customized to their existing knowledge bases, there is an inherent risk of confirmation bias (the efficacy and correctness of the existing rule sets). This would increase the impedance to rule trajectories, disrupt the model, and potentially introduce stasis into the society.

This study recognizes a future need to better acknowledge and provide some rigor around what constitutes the second economy and how to incorporate its ideas as part of the conceptual model. A future objective might be to provide input concerning role identification and incorporation into the AI platforms. One current result is the incorporation of the idea of an agency that can combine agent and “machine”.

2.5.7 Shared or sharing economy

The poster child for the “shared or sharing economy” (Villano, 2014), which is built around the sharing of human and physical resources, is perhaps Uber—though car sharing came very popular in Europe in the 1980s (Shaheen, Sperling, & Wagner, 1999). The rise of the frictionless economy and its reduction of information costs described earlier is the enabler of the sharing economy as it exists today. This enables peer-to-peer transactions that can compete against more formal business activities. It also enables the shared (collaborative) creation, use, consumption and exchange of value by both agents and agencies in the conceptual model. It is often based upon value in excess of the capacity or capability of an agent or agency.

Historically, such sharing was not uncommon. Consider the village commons for crops and flocks, or communal buildings for community activities, or communal efforts such as reciprocal barn raisings. The recent manifestation is unique with the introduction of facile exchange among strangers, a coevolution with the reputation economy. It also reinforces the importance of trust in any value exchange (market).

This collaborative model can be seen in marketplaces that recirculate goods such as eBay and Craigslist. It is enabled by capabilities like PayPal. It can also be seen in marketplaces that increase the utilization of assets or resources such as Uber, Zipcar or Airbnb or that exchange service availability such as TaskRabbit. It can even be seen in marketplaces that increase social engagements such as EatWith and charity such as GivingWorks. It enables and facilitates the trend toward not owning tangible or intangible assets but renting them instead. It is an example of how the reduction of economic frictions, particularly information, has enabled increased competition by allowing smaller
specialized supplies (and Uber driver) to provide increasingly specialized services (UberX, UberXL, UberSelect, UberPOOL, UberBloack, UberSUV) to increasingly focused niches (specific area of town).

The platforms that these sharing-economy models use have given rise to full-blown businesses—such as Airbnb hosts acquiring and posting an increasing number of properties (called multi-homing) and creating a full-time income stream while directly competing in the hospitality industry.

Beyond the direct economic impacts, the sharing economy points out society’s shifting (or reprioritization) expectations for business. For example, these businesses are “preferred” because they are perceived to support access over ownership, are better for the environment, offer richer experiences (think Uber versus a taxi), tend to be supportive of communities, and increase overall wellbeing or what Codagnone and Martens call social capital (Codagnone & Martens, 2016). These factors speak to the social and environmental expectations of society.

Economically, they offer beneficial competitive pressure on profit-maximizing corporations and innovation for new products and services. They also add value by applying underutilized assets. And because they are highly reputation based, they do not need regulatory control overhead. These speak to utilitarian expectations of society.

Currently, there is a very polarized debate around the sharing economy. There is the social perception that the sharing economy is more sustainable and does not suffer from the frictions that the monetization of value exchange introduces (false comparisons, taxation, moral hazard, and value fungibility). Meanwhile the business perspective questions the lack of regulations, standards, reporting, consumer protection, employee
rights (is an Uber driver an employee, owner-operator, or contractor), liability provisions and other overheads. I believe it is indicative of a lack of role clarity and understanding by business and society reinforcing the need for the conceptual model.

2.5.8 Informal Economy

The informal economy, also sometimes referred to as a shadow economy, generally does not show up in traditional economic measures such as GDP. Some of what constitutes the second economy and the sharing economy is also part of the informal economy: It is economic activity that is not reported to the government, sometimes unsanctioned (illegal, part of the drug world, black market, games, alternate illegal currency, etc.) or treated as remnants of pre-industrialized economies (e.g., farmers’ markets) that are of no import. It reflects things like “flash businesses”, Ronin computer programmers, maker-movement MacGyvers, part-time workers, illegal immigrant workers and “getting paid under the table” occupations, household workers, and even carpools. Cooking dinner for a family is technically an economic activity that is not reported to the government and is therefore an element of the informal economy.

Overall, this represents very real and substantial set of commercial activities that are taking place all around the world, and it is growing—as is demonstrated by the Shanzai (J. Stikeleather, 2014) in China. While often associated with developing nations, it has been shown to be growing in developed nations (Schneider & Kearney, 2013) as well. Its legitimate growth—with legitimacy being described as a socially if not a legally sanctioned role—is fueled by regulation and taxes (Schneider & Enste, 2003) and is being accelerated by the frictionless economy. The rise of blockchain technology and its ability to eliminate
third-party intermediaries and the risk of being officially noted (e.g., banks and “know-your-customer” regulations) is expected to accelerate growth (Chan, 2016).

The actors in this economy are individuals, micro-businesses, and networks that are self-reliant, decentralized, trust-based, and reminiscent of the reputation economy. It serves as an incubator for many new businesses (Sauka & Schneider, 2016). It also contains participants who may not be aware of its existence. Whether we go to an arts-and-crafts fair, carpool, barter yard work for pool service with a neighbor, start a micro-business, or exchange assembling an IKEA product for help with a spreadsheet, we all participate. Robert Neuwirth (Neuwirth, 2012) estimates that this hidden economy is worth over $10 trillion, probably employs two-thirds of the world’s population and may generate more social value than all the world’s governments, charities and NGOs combined. The International Monetary Fund estimates that it is between 35-44 percent of GDP in developing nations, 14-16 percent in the OECD, and 21-30 percent in transition countries (Schneider & Enste, 2003). Schneider estimated the U.S. shadow economy was 7.2% in 2007 (Schneider, 2012), though the financial crisis seems to have increased it to 18 or 19% (Feige & Cebula, 2011).

The informal enterprises operating in the informal economy are able to respond quickly to opportunities, needs, and market conditions because of their flexibility and general lack of structure. This makes them perfect for the serendipity economy. Historically, their weaknesses have included a lack of scalability, lack of access to capital, information disadvantages, and the inability to set and deliver expectations for consistency across their value chain. This is all changing in the frictionless economy.
The informal economy gives a different perspective on the issue of what are the legitimate roles of a business from the viewpoint of society and all its subsystems. The informal economy forces on the point that the conceptual model would have to differentiate between legal roles (as emerged in the legal differential-function system) and legitimate roles (as emerged from society).

2.6 The Fourth Observation – Changing Expectations

A major influence that is exerting pressure on traditional enterprise business and on organizational, management, operating, and investment models is the changing nature of how a society views and determines value and the resulting expectations that it places upon its participants—especially traditional economic ones.

The expectations and motivations of customers both commercial and consumer have changed to reflect the new values and requirements of the enterprise. Shareholders and their agents, executives, have little control over it. As Justice says (Justice, 2006), “Management does not have legitimacy to define society’s expectations of business.” This has been a serious problem with corporate-social-responsibility programs, in which the businesses themselves define their focus and limits.

Governments\footnote{The developed conceptual model treats governments as agencies that emerge from the political differential-function system.} that permit and regulate business are evolving their expectations (and demands)—not to mention the communities in which enterprises operate and draw their resources from and into which they trade their value. Through government, a society increasingly holds that a business is directly responsible for all its impacts, for preventing
any social harm they may cause—even to accountable owners, directors and managers. This is a highlight of the United Nations Guiding Principles on Business and Human Rights\textsuperscript{62}, which was reached through a consensus agreement in 2011.

This shifting focus on “social value” was highlight by Meyer and Kirby (Meyer and Kirby, 2012) in a \textit{Harvard Business Review} paper wherein the obsessive and almost singular focus of enterprises in providing ROA/ROE was compared with the concept of “runaway” selection—a notion which comes from the field of evolutionary biology.

This implies a coming (if it is not already upon us) disruption of existing measures of value and its creation of efficiency along with a reemphasis that the overall objective of commerce in society is to better people’s welfare. An example of this can be found in the fact that the Bhutan government created the Centre for Bhutan Studies and tasked it with developing a national happiness account in lieu of GDP or Kahneman’s national wellbeing accounts (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004).

Today, within the previously discussed sharing economy, we have highly paid individuals contributing their own time to create highly sophisticated products (open source, maker’s movement (Gobble, 2013)) to give them away for free because they enjoy doing so. We have customers paying exorbitant prices for products that are equivalent to or even inferior to others simply because they are “green” or support some social cause. We have highly profitable (Hudon & Perilleux, 2013) organizations creating even “higher” value by delivering micro-financing and education. We also see an increased interest in

\textsuperscript{62}http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf
trying to monetize “social” value. For example, consider carbon credits, the cost of a life, new forms of insurance, sustainability awards and circular-economy regulations to get these new forms to fit within traditional analytic and decision-making paradigms.

New generations of employees have very different expectations of their work environment and employers (E. S. Ng, Schweitzer, & Lyons, 2010). A recent article in Forbes by Micah Solomon (Solomon, 2016) finds that the change in expectations does not include only Millennials, but is happening across the generations. This finding includes the perspective of shared responsibility among employers and society; a focus on work/life balance; and a desire to work with high organizational ethics and social responsibility. My panel discussion at Techonomy 2013, “The Clash of the Generations”, drew the same conclusions.

Some populations of investors have developed new “irrational” paradigms for evaluating their capital contributions to businesses (Chen & Kelly, 2015; Israelsen, 2006), and society is expecting more than just profits from its businesses (Michael E. Porter & Kramer, 2011; Rupp, Wright, Aryee, & Luo, 2015). Societies many “non-economic” systems, sometimes collaboratively and sometimes independently, are also exerting influence on the conduct of business. There are growing legal interventions which aim to regulate who must be served and government interventions concerning what may or may not be done with private property. Consider also religious calls for changes to business, the

63 What economists have called externalities.

64 The reader is reminded that economic activity (value creation, transformation and exchange) goes on inside every differential-function system.
media’s tone when reporting on businesses, and science’s increasing stridency in calling out business and environmental issues.

As discussed in Sections 2.5 and 2.7, there has been, for a while—as Japanese Kanban models grew as a global best practice—a rapidly increasing move toward dynamic, on-demand, non-contractual ecosystems of suppliers (Fernie, 2014) based upon trust (Dowell, Morrison, & Heffernan, 2015). Huang and Wilkinson (Huang & Wilkinson, 2013) frame this evolution in terms of a complex adaptive system of relationships based on trust. Concepts such customer relationship management and collaborative planning and forecasting, have shifted the relationship between suppliers, producers, and customers away from contracts and transactions to collaborative gain-sharing relationships. The relationships among all participants in the economy subsystem of the society and all the stakeholders of a business have become less driven by traditional economic factors of value production and what is done and more driven by how and why it is done. This relates to the discussion in Section 2.5.5.

Though this section is entitled “Changing Expectations”, the reality is that it may concern more of a changing of priorities. The need in recent history for wealth and capital creation to increase overall societal wellbeing may have emphasized shareholders expectations over those of other stakeholders, but this has not always been the case. Adam Smith “discussed extensively the prevalence and important social role of such values as

65 There may be a contract, but it will be a general agreement to do business rather than in depth terms and conditions.
sympathy, generosity, public-spiritedness and other affiliative concerns” (Bell, 2011). With easing capital constraints and increasing levels of satisficing in society, the reprioritization of existing and emerging new expectations of society is likely the crux of coming issues for governance and strategic management. Practice suggests that governance will require multiple constituencies and their institutional representatives—such as governments, NGO’s, special interest groups, and customers, suppliers, employees and others—working together globally and transparently on the expectations of business. This collaboration will require business to better detect and learn about the emergence, existence and evolution of all the elements and expectations of the ecosystem it impacts and benefits and the risks it may impose on them. One goal of this study is to help meet these requirements.

Another element in changing expectations is related to the changing nature of the stakeholders—more specifically, shareholders. The nature of ownership and the resulting expectations of owners has changed. This is discussed in Chapter 7.

2.7 The Fifth Observation – New Models of Business and Ecosystems

One of the more interesting practitioner narratives began with a question: What would your business look like if you had no recourse to the legal system, no way to enforce contracts, no way to protect intellectual property, no protection for or against employees? The list is long and scary.

66 Bell was referencing an article by Sen (Sen, 2004).

67 The developed model will refer to these abstractly as populations.

68 The developed model will refer to these as agencies.
But there have been and are many successful enterprises that have lived in such an environment. This has been the case for most of history, with commerce depending on courts and judges and juries deciding what is right and what are the reputations of the parties rather than what is legal. Contracts were at best handshakes. Commerce was reputation based—a characteristic which seems to be returning as discussed in Section 2.5.5. It is the way of the informal economy described in Section 2.5.8.

There are also many “successful” enterprises that operate in such an environment today. Most criminal activities such as drug cartels fit this description. More interesting are quasi-legal enterprises such as the Shanzai businesses in China. While some elements of this ecosystem are questionable, such as the production of name-brand knockoffs, they have demonstrated an amazing ability to generate value and improve wellbeing. When presented with an opportunity, they quickly and efficiently (no lawyers or procurement people involved) begin to parcel out the work among themselves by expertise, capability and availability. They effectively create a flash business that emerges and forms to pursue the opportunity, then dissolve once the work is delivered. It is a sort of gig economy for manufacturing. The Shanzai coevolve rapidly and they suggest that elements of innovation, entrepreneurship and creativity may override institutional (law, policy) and governance concerns as currently understood (Keane & Elaine Jing, 2012), (Dong, 2014); (Sheng & Yongjiang, 2010) resulting in low costs, short lead times, acceptable quality, and functional innovation. All of the Shanzai and other practitioners of their model are part of ecosystems

69 One outcome of the study is that society can legitimize a role for a business that might not be legal.
that involve more traditional organizations, so care must be taken to note that there is no one right way to conduct commerce (Baumol, Litan, & Schramm, 2007).

For the organizations of most practitioners of *Shanzai*, underground and illegal economy models are not an option. But this does not mean they cannot be learned from. Figure 6 is from a long-running workshop held internationally to help companies figure out how to achieve the performance and outcomes of models like the *Shanzai* starting from where they are today.

It is part of an exercise called the nine questions. The goal was to help organizations figure out how to transform in such a way that they would be more agile, more responsive, more effective and more efficient.

The first step is to look at everything you do and ask, “does this create value for the customer?” How does accounting create value for the customer, finance, IT, marketing, sales? What policies and practices are in place that do not advance customer value—or worse, detract from it? An ancillary question that emerges from this introspection is this: What are we not doing to create customer value that we should be doing? Once you have ascertained this, do you still need to do it, and if you do, can you get someone else to do it for you?

The second step is to question whether you should be doing something, even if it does create value for the customer. Is there someone else—assuming it still needs to be done—who can do it better than you? The goal is the highest possible customer satisfaction, so you want to provide the highest possible value. You should engage those who can do the job better for you. According to the serendipity economy and reputation economy, being first in the evoked set of a potential customer as the best source of value is more
important than performing efficiently or at the lowest cost. Quality and responsiveness beat cost.

The third question explores whether there are things required of you as a condition of being in business that you must do. These are generally legal and regulatory requirements—though one outcome of this study would be to include the societal role elements that legitimize the business. Both are things that must be done, are not really under the control of management, and have consequences if they are not done or are not done properly. Here again, the workshops found that most companies do not think about their ability to get others to perform some of these regulatory required functions for them.

Figure 6: Researcher’s industry workshop slide on new business models
Once the list of things the workshop participants thought they should be doing was in hand, three more questions were asked. Is your view of the need to do it the way you are doing it a function of received wisdom? Did you learn that you needed to do this from business school? From industry seminars? From a book? If not received wisdom, is it a tradition? Have you always done it this way? Do the actual “physics” of the business require you to do it the way you are currently doing it? The answer to all these questions along with some analysis moves the analysis to the last three steps. What should you start doing that you are not currently doing? What should you stop doing? And what should you begin doing differently?

The outcome of these workshops was a new model for business that was called the software-defined enterprise. This term has since been usurped by the information-technology industry to describe the necessary technological infrastructure needed to implement the business concepts developed for it. The IT meaning of the term is to have an information technology infrastructure that can be reconfigured on the fly to support any needed capability on demand. There are many associated concepts such as software-defined data center, software-defined infrastructure, software-defined network, software-defined storage. In another case of technology enabling, facilitating and accelerating a change that had potential to take place, all of this is now being put in place to support the business version of a software-defined enterprise.

The workshops did not analyze the entire company but introduced a process to the participants. Feedback from participants who began to apply it more broadly supplied much of these practitioner narratives.
Figure 7 shows a slide used at an industry conference to explain the concept of the software-defined business (to distinguish it from the technological term). The idea is that a business should begin to look like a mobile app. The app has a relationship with a service company that has a relationship with the customer. It can run on whatever device the customer chooses to run it on. It uses whatever network is available to the customer. It takes advantage of whatever computing capability is available on that network. It uses other organization’s apps and applications to provide enhancements like Google Maps to help the customer locate something. It is probably using a mix of database suppliers to support some of its capabilities—like a collection of databases of product barcodes to support an integrated barcode reader. All of which is totally invisible to the customer.
Figure 7: Researcher’s conference slide on the emerging economic environment and the software-defined business, books displayed (Collins & Porras, 2003) and (Lawler, Worley, & Porras, 2011)

Then the customer gets on an international flight, appears in another country multiple time-zones away, and everything seamlessly and invisibly reconfigures, and the customer picks up where he or she left off without a clue of all that happened behind the scenes.

As indicated by the exploding Rubik’s Cube in Figure 7 the model of business in the future will be a federation of businesses that quickly respond to opportunities by each doing what they do best based upon capabilities and availability and with as little bureaucratic friction as possible (J. Stikeleather, 2014a). Such businesses are on-demand,
virtual, asset-light, fluid organizations that collaborate in federations of value creation. Federations such as these are high-level agreements to pursue common interests, reduce differences and operate on relationships and trust at the activity levels. In some cases, there are no traditional contracts and little case-by-case discussion of billing and everyone settles later. It looks a lot like the Shanzai.

The new model of business operates in a frictionless, serendipitous, social, reputation-based, and sharing economy whose participants, from the conceptual model, may be agents or agencies, with agencies comprised of agents, other agencies and cognitive\(^1\) machines. This environment—this model of business—is an ecosystem (Moore, 1997). This ecosystem model of business is being accelerated and is being provided with increasing stability and reliability to support itself and the spontaneous (flash) businesses it generates and new economic forms like these encountered in the third observation through technologies like blockchain (Davidson, De Filippi, & Potts, 2016).

Figure 8 is my industry and academic presentation slide on ecosystems.

Much of this has been anticipated by the behavior of the entrepreneurial ecosystem of Silicon Valley. Again, William Gibson said this: “The future has arrived — it’s just not evenly distributed yet.” The lessons from this are that these ecosystems are high-trust networks: Everyone is a customer and a supplier to everyone else. I may supply you with technology, you may supply me with customers. Reputation is the critical asset and the ecosystem’s reputation is no better than that of its worst participants. All are interdependent.

\(^1\) Able to perceive something and act accordingly.
What this narrative shows is that the importance and primacy of shareholders may or may not have been reduced, but all other stakeholders of a business and their associated ecosystems have increased in importance to the firm. The key is not size, scale, technology, tactics or strategy—though each provides a transient advantage for a short time. Instead, adaptable, agile management sustains competitive advantage above all by enabling, facilitating and accelerating innovation and customer responsiveness. It becomes less an application of capital and more an application of relationships and meeting the expectations of those relationships.

In their review of the business and management literature (Codagnone & Martens, 2016), Codagnone and Martens observe that “the emphasis is on new business models expected to create new industries, revitalize traditional ones, create high-quality jobs, and lead to a sustainable circular economy… that is about radical transparency, openness and
collaboration, wisdom of crowds, do-it-yourself versus traditional bureaucratic models.”

This can be seen in interesting emergent evolutionary responses (such as corporate-social-responsibility programs or socially responsible investing) and new forms of business models, behavior and governance discussed in Chapter 6.

A new term has emerged, collaborative capitalism, coined by I-DEV International in 2009. It names an “economic model, policy, approach or development strategy by which an individual’s, investor’s, business’, or country’s economic interests are best served through a pro-active strategy that seeks to improve the well-being, economic purchasing power, and capabilities of other individuals, corporations or countries.”

2.8 The Sixth Observation – The Transaction Continuum

Not so much a narrative as a reoccurring theme across all the narratives is the idea of transaction, interactions, and relationships. The common theme in the narratives is the movement from just completing transactions to building and maintaining relations with all parties who effect or are affected by the business.

Transactions are easy. Walk into the store or browse the web, get the item you want, check out and be on your way. No muss, no fuss. This is the way businesses today and in the past preferred to operate. There may be a lot of ink and air spent on the “voice of the customer” and other nods toward building some kind of relationship, but the reality is a focus on what can be gotten from potential customers, not on what customers want for themselves.

Interactions get a little closer to relationships. They are encountered when the customer just will not accept a transaction model: They want more than a simple transaction, though the business is not ready for a relationship. They generally involve
negotiations, contracts and spelled-out commitments. They also generally spill more of that ink and air to make sure the innocent are punished if anything goes wrong than they do building on all of the positive things that can come of the interaction. If any relationship is built, it is probably done by the legal teams.

In the past, transactions and interactions were one-offs, perhaps with some re-occurrence, but they were still processed as though it was the first time. The experience of buying your 1000th loaf of bread (transaction) is not different from that of buying your first, nor is the fifth car purchased (interaction) from the same dealer.

These narratives point to a different mode of operation: relationships. Even simple transactions like buying a loaf of bread now incur obligations by the business. It is not just an exchange of money, but of personal information (the “loyalty card” is meant to extract more for the business) including financial information (bank card, accounts, PIN numbers, and their history of purchases). To the business, the transaction has now taken on a significant liability; for the customer, it involves significant exposure. Do they trust each other? This requires a relationship.

A business operating in a serendipity (where opportunity is momentary and fleeting) frictionless (where the cost for a customer to change is minimal) and reputation (where everyone knows the last bad thing you did) economy will live and die by its relationships. Relationships can expand business through networking effect. They can counter misinformation. They can reduce transaction costs (lawyers and procurement, low to no resource inventory). Perhaps most importantly, from a systems perspective, an ecosystem of relationships is significantly less fragile and is better able to adapt to change
than a vertically, hierarchically organized business. All of these characteristics are critical in the emerging economic and social environment.

Lack of relationships can do the exact opposite.

Relationships do not arise out of a satisfactory transaction. It does not come out of meeting the contractual obligations agreed to during an interaction. It is not generated by messages from marketing. It does not come about by customer service fixing a problem, though not doing any one of these can destroy or diminish a relationship just as doing them can habituate a relationship.

Relationships come from trust. Trust is built two ways. One is to fully and completely understand the roles you and those you collaborate with have in a potential relationship and then performing them completely. The second is to perform those roles in such a way that the total experience of the relationship is cohesive and complete. There is a lot of normative guidance for trust. Honesty, integrity, transparency, fairness, and authenticity are just a few. But these are relative to the roles the business is performing. This study is a step in better understanding that.

2.9 Validity

The first test of these narratives is to see if they were typical among a broad swath of practitioners. They formed over time, as they were shared repetitively with large audiences as parts of presentations or talks given internationally over many years at industry conferences, workshops or public roundtables. Examples of conferences at which these ideas were developed include CIO 100, Front-end of Innovation, Back-end of Innovation, Spark-growth Leaders, Open Group, CEED Global (Center for Education and Economic Development), Society for Information Management SIMposium, the
International Society for Professional Innovation Management, Human-capital Institute, SECR (Software-engineering Conference in Russia), Techonomy, C-SPAN and others. The content of the practitioner-perspective narratives was also incorporated into lectures and talks given at MIT, Harvard, North Carolina State University, Texas Christian University, Trinity College Dublin, Facultes Universitaires Notre-Dame de la Pax, Universite de Mons-Hainaut, Bahrain Institute of Banking and Finance, University of Petroleum and Mining (Saudi Arabia), the University of Tampa and the University of South Florida. They were incorporated into numerous books (Fingar, Read, & Stikeleather, 1996; J. Stikeleather & Fingar, 2012; Weinzimer, 2016, p. Afterword), articles, and blogs including HBR (Harvard Business Review), MIX (Management Innovation eXchange), Innovation Leader, Innovation Excellence, BPI Network (Business Performance Innovation Network) and others. The material was also shared at private conferences put on by Forrester, Frost and Sullivan, Gartner, Argyle, and Evanta, and with private groups and organizations such as the United States National Research Labs.

The feedback I received is that these ideas ring true with participant experiences or produce “Aha!” moments. Participants and readers offered modifications or enhancements and their own narratives or examples. These contributed to the ongoing development and evolution of the practitioner perceptions presented here.

As part of this research effort, the narratives were tested and further evolved to be coherent, consistent, and cogent, both internally and among themselves. The narratives were also reviewed against the academic literature and supporting references were provided in their discussions. As these observations were tested against the academic,
practice and even popular literature, the significance of the issue of the future of enterprise governance beyond financial and legal concerns became evident.

2.10 Summary

In general, the business-practitioner observations can be categorized as changes in the economic environment driven, implicitly or explicitly, by changes in the social environment and the ways business adapts to address them. These changes include changes in the relationship of the factors of production (such as land, labor, capital), and, as I point out, legitimacy to operate. There are changes in the relationships among all the parties involved in business value creation: customers, suppliers, employees, management and suppliers of capital. There are breakdown changes in the nature of capital and how it is used and measured. Underlying all of this is the progress of technology which eliminates distance, elapsed time, and restrictions to the access and flow of information.

These changes observed by the practitioners shift the emphasis of governance and the strategic management of enterprises. Historically, they have focused on what the systems theorists would call the scarcest resource, capital, and its source of supply, the shareholder, and they have optimized accordingly. It may have reached the point of being overly emphasized to the sub-optimization and the wellbeing of society, and its legitimacy is being challenged. There is a need to expand the focus of governance and strategic management from what is legally and financially correct to what society wants the roles of the business to be.

Drucker’s defined purpose of a firm is to create a customer. Instead, business has historically focused on efficiency by minimizing transaction costs (the costs not directly tied to creating value for customers) by standardizing, achieving scale, and reducing
variance, as discussed in Section 2.4. Today and into the future, success will be achieved through new enterprise roles that accelerate ideas and capabilities by building organically, inorganically or cooperatively and then effectively applying those capabilities to create value for the customer as quickly as possible—in other words, through innovation with agility, as discussed in Section 2.7.

This suggests that perhaps a new punctuation in the economy’s equilibrium may be upon us—what Thomas Kuhn (Kuhn, 1970) referred to as a paradigm shift. A biological perspective is a useful analogy for supporting these evolutionary observations: Society may be thought of as a biosphere (all ecosystems), the economy as one of many biomes (an ecosystem with similar component characteristics – desert, ocean, forest), markets as ecosystems (highly interdependent communities), businesses and their stakeholders as communities (intermixed populations of different species), the roles people and businesses take on as populations (same species) and individuals and groups as organisms. Such a model reinforces the ever-increasing interdependence among all participants and is reflected in the developed conceptual model. The conceptual model offers a framework for detecting and reasoning about a business’ role and how to act and behave in its ecosystem.

The evolutionary response to these changes has been society’s pursuit of regulation and protest and business’ pursuit of corporate social responsibility and new forms of business. With these comes the need for new models of governance and strategic management, which, in turn, need frameworks from which to measure, analyze and manage to support them. It could be argued that the new forms might not even be necessary; a better framework for ascertaining and responding to a society’s expectations might have been sufficient. The conceptual model suggests that this is true.
A key summary extracted from these narratives is that the business of business can no longer be “just business”. There is change in the nature of the interactions of businesses with all elements of a society and an emerging responsibility for the well-being of both society and the individuals who compose it. This means there must be change in business as well.

Beyond distributing value, how an enterprise consumes and creates value has become equally important. Even small businesses today operate in a complex global economy that connects ever-expanding arrays of suppliers and sellers with customers. Government, society, employees, consumers and other non-owners are increasingly influencing and placing demands on these value chains. A diverse and growing number of stakeholders demands transparent reporting and accountability around all the activities of a firm and its total ecosystem. This study helps move this along.
CHAPTER 3 The Academic Perspective and Contributions

The contention of this paper is that we are entering a third age in the management of knowledge. Furthermore, that the conceptual changes required for both academics and management are substantial, effectively bounding or restricting over a hundred years of management science in a similar way to the bounding of Newtonian science by the discoveries and conceptual insights of quantum mechanics et al in the middle of the last century. (Snowden, 2003)

3.1 Introduction

Like the subject considered here—the role of a business in a society—this research is also a complex adaptive system. Such is the nature of wicked problems (Rittel & Webber, 1973). We start with incomplete observations, develop the most probable explanations of those observations, test the explanations against theory, practice and society which in turn provide new observations along with added dimensions to the original observations which lead to the emergence of new explanations, and so on. This is consistent with Snowden’s Cynefin (Kurtz & Snowden, 2003) framework for understanding complex adaptive systems: Probe the system, sense how the system responds, then act accordingly. It is also consistent with the approach to theory building proposed by Swanson and Chermack (R. A. Swanson & Chermack, 2013): Introduce a new concept, test it against existing theory, marry it with observations and thought experiments, adjust the concepts, and iterate.

The process begins by observing the big picture of business and society. This is an abductive process of taking a collection of practitioner perceptions and synthesizing them into a simpler set of common observations around the potential relationship changes taking
place between society and business. This is not unlike a medical diagnosis: General observations and hypotheses must be formed, rigor must be shown around details and intermediate analysis steps must be deferred for later to not silence intuition and creativity.

This abductive process continues by testing these observations against intuitive sources for theory. There is the intuition that the issue would be the outcome or consequence of systemic processes and is therefore grounded in systems theory. It was also intuitively clear that society, business and the roles involved change over time, thereby suggesting that evolutionary theory could contribute. It was clear that this would not result in an absolute process or linear causality, but would instead involve probabilities and possibilities and therefore complexity. When considering an evolved property such as the role of business in a society, a mechanism for dealing with a creative, dynamic, constantly changing yet orderly environment is needed. If evolution like that found in biology was involved, then some level of complex adaptive-systems theory—which is what evolution demonstrates—would contribute. Since the issue is the role of business in society, it was rational to assume that sociology and business theories would be involved.

Additionally, an initial survey of similar problems and potential approaches or solutions began. The discovery of “wicked problems” (V. A. Brown, Harris, & Russell, 2010; Rittel & Webber, 1973) and realizing its applicability to developing a societal legitimate role for business provided new ideas. Pursuing methods to address wicked problems introduces the methods and pitfalls of trans-disciplinary research (Leavy, 2016), which were instructive, as multiple domains of knowledge were being used in the research.

While non-traditional, this smorgasbord of corpora approach has the benefit of seeing the issue from many different angles simultaneously. Highly rational actions based
upon economic and business theories with economically successful outcomes could turn into abysmal results when viewed through another societal lens, through another discipline’s value framework, or even through the continuity of a business itself. Examples include the tragedy of the commons, damage to employee health from working conditions, addictions (such as the current prescription-opiate crisis), short-term financial decisions at long-term business sustainability costs, and even hostile takeovers.

The result of all of this are contributions to the development of the conceptual framework by the different domains of knowledge described below. Figure 9 graphically shows where contributions came from. Each domain is assigned a separate color and how they were synthesized or added is represented in green.

Research can be like a complex adaptive system, it is only retrospectively that a researcher can provide a linear description of his process. One description of the research starts with systems theory, which was built on top of by complexity, which led to evolutionary principles, which found analogy between the organs of an organism and the differential functional systems of a society, which paralleled social-systems theory. Another description could just as easily and accurately have begun with the neoclassical economic perspective of achieving equilibrium among rational decision makers who are maximizing their utility, identifying patterns not accounted for by equilibrium approaches which led to behavioral economics, thereby suggesting sociological ideas, in turn suggesting probabilistic emergent behavior, leading to complexity and complexity economics and then to similarities with evolution which suggests evolutionary economics, social-systems theory, complex adaptive-systems theory, and evolutionary economics. Or, it could have begun by adopting a micro, meso, macro model of systems representation,
which then became the foundation for the conceptual model. The point is, the process of creating and evolving the resulting conceptual model was not as directional and was much more messy and random (emergent) than this chapter might suggest. Also, like a complex adaptive system, the outcome of this and what contributed to it can only be seen retrospectively and is highly path and initial-conditions dependent. The unfortunate consequence is that a large research report is needed to show how comparing stakeholder and shareholder theories as guides for governance and strategic management required a framework upon which to base the comparison before they could be compared.

Figure 9 provides a graphic representation of the sources of ideas that went into this study and the conceptual model. Each is discussed below with respect to their considerations in the research. There are contributions, contradictions, ideas for future research, and ideas for how to improve that line of thought.

Discussions of stakeholder and shareholder theories are held until their analysis in Chapter 8.
3.2 Considerations from Information Theory – Personal Perspective

It is therefore quite possible that we are not too far from the limits which can be achieved in artificial automata without really fundamental insights into a theory of information, although one should be very careful with such statements because they can sound awfully silly in five years. – John von Neumann, 1949

Seventy years later, von Neumann’s comment still holds.

Very early on in the study there was an initial reliance on information theory (Cover & Thomas, 2012; Shannon, 1993). This might be due to a little researcher bias, as Claude Shannon is a personal example of what I would like to be since reading Grammatical Man (Campbell, 1982) early in my career. Early ideas for the study centered around the unintended consequences of business, where market failures and the root cause of market failures can be described as information failures in the signal-to-noise ratio in the market,
channel selection and capacity, encoding and decoding errors, information entropy and similar ideas.

As said earlier, I was also a science-fiction fan with Asimov’s *Foundation* Series high on my list. In the back of my mind, I always thought there was the potential to create the psycho-history developed by Hari Seldon: the great mathematician of the series. This Hari-Seldon envy was later exacerbated by the discovery of the work of Keith Devlin around a mathematical theory of meaning (Devlin, 1995). This suggests that, in addition to the information-theory issues described above for the market failures, there might also be a need to account for the ability to absorb the information from the markets, process it, and reason about it differently than is currently done. This suggests a need to model the flow of information and how market actors draw inference from that flow.

As the study progressed, it was clear that the issue would initially need to be addressed at much more of a conceptual level. At this level, the problem was more a systems problem than an information problem. It is hard to evaluate a channels’ information capacity if one does not know what channels are necessary. The study progressed away from information theory. Some precepts are still there. Devlin used set theory extensively, and the conceptual model’s rule sets are related. His idea of rule execution is situational, which is consistent with the framing and structural rules governing production rules, and his infons are like rule trajectories. Likewise, Shannon’s concepts probably still hold, but at a level invisible to the current state of the conceptual model.

However, the reality is that systems, complexity, sociology, economics and business provide simpler and easier (and much less mathematical) concepts that did a better job conveying the ideas of the conceptual model. While there is no longer a need to call
upon information theory in the current stage of conceptual model development, it is called out here and throughout this research report because it was the starting point for the iterative exploratory journey. It may likely be reintroduced as the study progresses toward more specificity.

3.3 Considerations from Systems Theory

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If a factory is torn down but the rationality which produced it is left standing then that rationality will simply produce another factory. If a revolution destroys a government, but the systematic patterns of thought that produced that government are left intact, then those patterns will repeat themselves... There’s so much talk about the system. And, so little understanding. (Pirsig, 1984)

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Part of my background (computer science, information systems, artificial intelligence) ensured that general systems theory (Rousseau, Billingham, Wilby, & Blachfellner, 2016; Von Bertalanffy & Rapoport, 1956) would at least be one of the jumping-off points and a fundamental paradigm for this inquiry. The parallel developments in information, complexity, evolution, sociology, economics and business are used here proved fascinating. This was foreshadowed by Bertalanffy when he noted the need for general principles for integrating different domains of knowledge:

Thus, in principle] there exist models, principles and laws that apply to generalized systems, or their subclasses, irrespective of their particular kind, or the nature of their component elements, and the relations or “forces” between them. It seems legitimate to ask for a theory, not of systems of a more or less special kind, but of universal principles applying to systems in general. In this way we come to
postulate a new discipline, called General System Theory. Its subject matter is the formulation and derivation of those principles which are valid for “systems” in general. A first consequence of the existence of general systems properties is the appearance of structural similarities or isomorphies in different fields. (Bertalanffy, 2009)

As “soft science” developments introduce complexity, they mirror the evolution of the “hard sciences” to more probabilistic and retrospectively deterministic models such as quantum theory. As might be expected, I was not the first to notice this. Stane Božičnik and Matjaž Mulej (Božičnik & Mulej, 2009) also noticed it, along with problems concerning the increasing specialization of knowledge obscuring the underlying systemic elements of the phenomena being described. They suggested that systems theory provides a mechanism for establishing a holistic view of the world (society, in this case) and the paradigms for developing the model. They also describe the need to move from determinism (rational decision maker, classical and neoclassical economics, agency theory, and shareholder theory from my perspective) to what they call realistic indeterminism, accomplished by the integration of multiple perspectives enabled by a more complete sharing of information (stakeholder-like approaches). As a means of integration, they suggest “the introduction of the ‘Universal Dialectical Systems Theory’ (UDST) as a common denominator of the values and methods of the required holistic observation, perception, thinking, emotional and spiritual life, decision-making, and action by interdisciplinary creative cooperation and information...”72 The conceptual model

72 Quoted from their introduction.
simplified this concept into rules and rule sets and distributed their trajectories across societal differential-function systems.

Because systems theory is itself an interdisciplinary study used by all the disciplines which contribute to the nature of business role formation in a society, it functioned as an anchor paradigm as the study progressed. It constantly reinforced the fact that every element being studied or proposed in the study is comprised of interrelated and interdependent components and expanding ideas such as those posited by differential-function systems theory and its need for a autopoietic signaling mechanism among the functions. It established the need for a dynamic non-equilibrium (versus a static-equilibrium) model, the need to account for system-wide propagation of change, and the synergistic (more than the sum of its parts) effects of component interaction.

Key concepts from systems theory that were incorporated into the conceptual model include the idea of a system itself, interrelated and interdependent parts, their organization, and the dynamics of their interaction; homeostasis and the propensity to maintain the status quo versus equilibrium; adaptation when homeostasis is not possible; inputs, outputs, flows (information in this iteration of the conceptual model) and control loops; function or purpose. Homeostasis and adaptation are ways to think about the model’s value-trust-wellbeing-fitness function. Also, the sub-optimization principle from systems theory and the optimization of sub-systems which results in the sub-optimization of the overall system provided the initial insight into how to address the unintended consequences observed by the practitioners.
Meadows\textsuperscript{73} (Meadows & Wright, 2009) speaks to the need for a model of a complex (non-linear) system to provide for resilience, self-organization and hierarchy. Taleb (Taleb, 2012) discusses the importance of showing (or designing in) system resilience in terms of being “anti-fragile” to reinforce the consequence of fragility or brittleness of not doing so and the counter-intuitive risks of stability or equilibrium in a system. Meadows also talks about the need for meta-resilience, the ability of a system to learn, create, design and evolve (social-systems theory talks about the same thing in the concept of cognition). This synthesizes in the conceptual model as structural rules.

The conceptual model’s structural rules also meet Meadows’ requirement for complex systems to be able to self-organize. As she states and the model reflects, as opposed to deterministic or mechanistic (simple or complicated systems under the Cynefin framework) (Kurtz & Snowden, 2003) approaches, a few rules can facilitate extremely diverse, adaptive and capable structures, thereby enabling the equally diverse, adaptive and functional features of a system.

Meadows discusses the concept of hierarchy (systems of systems) in complex systems. She writes: “If subsystems can largely take care of themselves, regulate themselves, maintain themselves, and yet serve the needs of the larger system, while the larger system coordinates and enhances the functioning of the subsystems, a stable, resilient, and efficient structure results” (Meadows & Wright, 2009, p. 82). In the same section, she shows that complex systems can only arise from simple (and by inference, complicated and other complex) systems if there are stable intermediate forms. Both ideas

\textsuperscript{73} Also the source of the Pirsig quote at the beginning of this section.
reinforce the meso layer in the conceptual model, the differential-function systems approach of organizing a society, and the idea that agents and agencies form institutions\textsuperscript{74} and other social artifacts.

Limits are another idea drawn from systems. The most important input into a system at any given time is the one which is the most limiting. This would explain the importance and priority given shareholders by the fact that capital is the most limiting input for most businesses. Neoclassical economics formed in this environment; therefore, the emphasis is on the limiting inputs and factors of production, with capital being first (nothing begins until there is an investor). As the economy has grown relative to the other nine differential-function systems discussed under contributions of social-systems theory, the limits have shifted and have thereby evolved society’s role for business.

Systems theory also addresses how to change a system such as a society and its subsystems to produce more of what is wanted (value that increases wellbeing) and less of that which is undesirable (value that reduces wellbeing). Holland talks about finding points in a system where significant impacts can be had on its behavior (J. H. Holland, 2006). Meadows also introduces the points of intervention to change the behavior of a system. These are shown in Table 2. These are leverage points where small changes can have large effects, positive or negative, on the behavior of the system. These suggest areas to

\textsuperscript{74} Institution is a term used in the literature to represent non-economic equivalents to businesses. Business is to the economic system as government is to the political system, as courts are to the legal system, and as houses of worship are to the religion system. The model simplifies these into agencies.
investigate the potential root causes of the practitioner’s unintended consequences and areas of change to help the system described by the conceptual model better adapt to the changes identified by the practitioners.

These leverage points and how they apply to the conceptual model are discussed later in Chapter 5. Two of them are implicit in the study itself: shifting the paradigm and transcending paradigms.

First, the developed conceptual model is a new paradigm for thinking about the relationship between a business and a society. The mission of this research, now and in the future, is to accomplish what Kuhn called a paradigm shift (Kuhn, 1970) by building the conceptual model that forces a holistic perspective on the business-society relationship. It tries to show systemically how a society comes to an agreement about the nature of its economy and the businesses that compose it, how that agreement forms the role(s) of a business (commitments, obligations, expectations, responsibilities, contributions, and freedom to act) and how that information flows (markets) among the systems and participants in that society. If the conceptual model is an analytical-process paradigm of how these roles come to be, then the resulting rules, rule sets and knowledge bases that result from the process become the paradigms of a society. These are the unstated assumptions and beliefs of a society about how the world does or ought to work. Sometimes these become institutionalized via laws, regulations, moral codes, ideologies, curricula and in other ways by the systems of a society. But many are not and even if they are, the codification process is slower, less efficient and less effective than the emergence and evolution of the rules, rule sets and their trajectories in a society the codes are based upon. The consequence of this temporal-impedance mismatch is seen in the meme, “It may be
legal, but it ain’t right,” and is discussed in terms of corporate practices—as permitted by governance and strategic management—that are within the letter of the law but that reduce, intentionally or unintentionally, a society’s overall wellbeing (Passas & Goodwin, 2010) from a legal perspective and from a curriculum perspective (Ghoshal, 2005).

Second, and more importantly, is the transcending or meta-paradigm that the conceptual model is but one way of looking at this issue. Its goal is to expand the perspective of the process of role emergence. But once applied, it carries the risk of itself limiting the understanding of the system. As Meadows says, no paradigm is “true”; the existence of paradigms is itself a paradigm, and if no paradigm is right, choose the best one to serve the purpose. The study suggests that the developed conceptual model does serve the study’s purpose.

### Table 2: Meadows' points of intervention in a system

<table>
<thead>
<tr>
<th>Relative Impact</th>
<th>Intervention Point</th>
<th>Examples</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transcending Paradigm</td>
<td>Everything in this report could be wrong</td>
<td>Innovation</td>
</tr>
<tr>
<td>2</td>
<td>Paradigm</td>
<td>Growth is good, money is a surrogate for value</td>
<td>Define the system</td>
</tr>
<tr>
<td>3</td>
<td>Goals</td>
<td>Transformation of inputs to outputs, return on investment, stability</td>
<td>Outside intervention</td>
</tr>
<tr>
<td>4</td>
<td>Self-organization</td>
<td>The Internet’s ability to reconfigure itself</td>
<td>Self-intervention in any or all ways below</td>
</tr>
<tr>
<td>5</td>
<td>Rules</td>
<td>Incentives, punishments, constraints, boundaries, degrees of freedom</td>
<td>Unintended consequences</td>
</tr>
<tr>
<td>6</td>
<td>Information Flows</td>
<td>Tragedy of the Commons</td>
<td>Missing, Invisible, Slow or Incorrect =&gt; malfunction</td>
</tr>
<tr>
<td>7</td>
<td>Reinforcing (positive) Feedback Loops</td>
<td>Epidemics, network effects, housing bubble</td>
<td>Growth, collapse</td>
</tr>
<tr>
<td>8</td>
<td>Balancing (negative) Feedback Loops</td>
<td>Thermostat, market price</td>
<td>Equilibrium, value balance</td>
</tr>
<tr>
<td>9</td>
<td>Delays</td>
<td>Probe, sense, respond</td>
<td>Under-reaction, overreaction, oscillations</td>
</tr>
</tbody>
</table>
### 3.4 Considerations from Complexity and Complex Adaptive Systems

"We are confronted by the appearance of social institutions (language, religion, law, markets, firms ...) unintentionally created, vital for the welfare of society, which are not the result of reasoned planning" (Menger, 1871)

Complex adaptive systems are dynamic systems that adapt and change as their environments change (from autopoiesis discussed later, an environmental signal is either incorporated, rejected or mutated into a rearrangement of the system’s components and processes). Most complex systems are made up of complex systems and comprise other complex systems, so this is really coevolution: There is no separation between the system and its environment, as they change each other. Another way of thinking about this is that it is like an ecosystem. It was in this context that the conceptual model was developed. The emergence and evolution of a business’ roles in society is expressed in terms of co-evolution with all the differential-function systems of a society and their participants rather than in terms of an adaptation to a separate and distinct environment such as the economy.

The group of complex systems theorists and practitioners at the Santa Fe Institute (SFI) offer the following definition of complexity:

*Complexity refers to the condition of the universe which is integrated and yet too rich and varied for us to understand in simple*
common ... ways. We can understand many parts of the universe in these ways, but the larger more intricately related phenomena can only be understood by principles and patterns—not in detail.

Complex adaptive systems are not predictable. Causality is completely retrospective. Small changes in initial conditions or history may result in significantly different behaviors and outcomes. Events that would be considered almost impossible with a normal distribution merely have a low probability in a complex system, as they tend to follow a power-law or log-linear distribution\(^7\). Being non-linear, they are subject to tipping points and sudden transitions, swinging from stability to instability very quickly. This means that small events can have very large effects. They exhibit spontaneous emergent behavior from the interactions of individual elements that cannot be achieved by simply aggregating the individual components behavior. They have evolutionary dynamics with variation, selection, and multiplication resulting in dynamic non-equilibrium. That is, the system pursues equilibrium but never achieves it. They are self-organizing.

It is this self-organization of a business—a business within an economy and an economy within a society—that begins to suggest a path for understanding how the legitimate roles of a business form and evolve.

Recent research has shown that phenomena consisting of many constraints and conflicting demands—i.e., a business—can be studied and evaluated by models and methods derived from a complexity-science perspective. A complex adaptive system is a

75 The source of “black swans”: low-probability events with outsize consequences.
special kind of complex system, as it has the property of adaptation, which means that it can actively alter its system configuration and influence its current and future survival. One method is by emergence, which could be described as the outcome of collective behavior: i.e., interactions among agents (e.g., all the stakeholders of a business) performing something individually or together which creates patterns or behaviors these agents themselves cannot produce alone. Self-organization is a form of emergence.

Self-organization and other forms of emergence is the antipathy of order and stability: the goals of typical business and economic models. It inherently requires some level of disorder or randomness to be part of the system. Complexity theorists use the term *entropy* to describe this fluctuation between order and chaos. Interestingly, the same business people who argue that this is the advantage of markets over government command and control revert to command and control inside of their own systems (businesses), using hierarchy to try to achieve stability, which works until it doesn’t. Hierarchies are fragile networks of distributive, peer-to-peer, nonlinear interactions are “anti-fragile” (Taleb, 2012).

The density of these interactions, in terms of connectivity and frequency as opposed to proximity, accelerate the evolutionary effect of self-organization (the ability to reorganize and change when conditions change). The study and resulting conceptual model proposes that the effects of the frictionless economy (discussed under practitioner

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76 Though the hope is that neither extreme is reached, the way to chaos leads to either total sameness (a locked-up system) Wolfram Class-1 behavior or total chaos (a useless system) of Wolfram Class-3 behavior (Wolfram, 2002).
perceptions and enabling technologies) have increased social density, thereby accelerating the rule trajectories of the conceptual model, thereby increasing the embeddedness (Granovetter, 1985) of laws, regulations and protests in reaction to the perception that business is not fulfilling its role in society.

These same technologies have also accelerated the evolution of business’s roles by enabling faster, more efficient, and more effective feedback loops to the conceptual model’s proposed system and to the practitioner perceptions of serendipity and the transaction continuum. The more often and more intensely agents and agencies interact at the micro level, and the more easily rule trajectories move into populations, the more quickly they will synchronize, meaning they have overlaps in their knowledge bases of rule sets, and the more rapidly the emergent macro effects such as regulations or protests appear.

Another concept indirectly adopted and adapted for the conceptual model is attractors. The multitude of feedback loops being enabled by society create an attractor space. An attractor space is a collection is a collection of system states toward which any agent or agency in the system would be drawn. These attractors are the wellbeing fitness-landscape peaks described later. Complexity shows that the microelements of a system influence macro-level behavior (through the intervening meso layer), but also that the macro level in turn can influence the micro level. Attractors are one of the ways this takes place. For example, the recent U.S. elections have shown a bifurcated nation along many lines—most recently, rural and urban. One could argue that cities may have become an attractor for certain kinds of work or business opportunities due to their infrastructure whereas rural areas may have become attractors due to tribal (close families and
communities) and lifestyle environments. As agents are drawn to or exist at each attractor’s state space due to some of its elements or parameters, differential success (from evolution) would have them eventually adopt other elements of the state space, such as a political perspective.

Complex adaptive systems are dynamic and non-directional. Causality can only be seen retrospectively. Use of phrases like “agents are drawn to attractors” risks misunderstanding. What is happening is as agents move around the wellbeing state space, they are more likely to remain at an attractor they arrive at. There may be differentially selected rules that have the agents respond in some way to signals in the environment around the attractor, like plants turning toward the sun, but no intention is required for the system to work. At any point, new, differentially selected survival rules could have the opposite effect. The study suggests that this is the case for the rule sets for shareholder wealth creation.

As stated earlier, self-organization emerges out of the entropy, the movement between structure and randomness, of the system. This balance means that, at any time, it has some structure and some randomness to regenerate and randomly discovering new patterns. Through trial, error and competition with other patterns they might replace the old patterns and better adapt to the environment and move along the fitness landscape, perhaps toward an attractor. It is a simultaneously creative and destructive process. It is a modeling representation of the macro concepts of Schumpeter’s “creative destruction” (Schumpeter, 2013). The conceptual model captures this in the idea that markets are competitive landscapes for memes/rule trajectories in terms of their contributed value to wellbeing for the agents and agencies, and the overall system.
Lastly, complexity offers up the idea that self-organization is possible because a complex system has multiple levels, called integrative levels, that explain why linear and aggregation models do not replicate complex behavior. It is these integrative levels that prevent forward causality, enable attraction, provide dynamism and support non-equilibrium without system dissolution. The three levels of the cognitive model are drawn from this.

Complex adaptive-systems theory is a relatively new field. The Santa Fe Institute in New Mexico is the leading institution that studies it. Complexity emerges from the interconnectivity of elements within a system and between a system and its environment. Complex adaptive systems are dynamic systems that are able to adapt in and evolve with a changing environment, thereby implying that there is no separation between a system and its environment. It is a study of systems closely linked with other related systems to make up an ecosystem. Behavior and outcomes are examined in terms of co-evolution with all other related systems, rather than in terms of adaptation to a separate and distinct environment, as business is studied today. This is an excellent description of the interrelationships among the functional systems of society as incorporated in the conceptual model.

The behavior of the new forms of business that are emerging, the trends and forces acting upon existing forms and changing their ways, the changing nature and population of all their potential stakeholders suggest that any new model of role emergence and evolution must be able to account for complexity. Therefore, it is only logical that complex adaptive-systems theory has played an integral role in the development of a model of business-role formation and evolution.
3.4.1 Attributes of complex adaptive systems in the conceptual model

There are some specific attributes of complex adaptive systems that have been incorporated into the evolving conceptual model of the origin and evolution of legitimacy (via roles) granted by a society to a business.

- Control is distributed. Coherence is accomplished through the dynamic relationships of the agents rather than by some central authority, though hierarchy may emerge. This means that behavior is not directly predictable from knowledge of individual agents.

- Everything is connected. Complexity arises because all the elements of a system are interrelated, interconnected and interacting. This implies that small changes in one part of the system are easily amplified and propagated across the entire system. This connectivity spans from the individual agents, to agencies, to populations, to the differential-function systems to the society.

- Continuous coevolution. The conceptual model does not have an equilibrium state. Anything that changes in the system triggers other components of the system to change, which in turn can trigger the original component to change yet again, *ad infinitum*.

- Behavior is nonlinear. Changing rules anywhere in the system will not be correlated with observed outcomes. Small changes may have large impacts (source of adaptability) and vice versa (the source of resilience).

- Behavior and structure is emergent. Outcomes are not predictable from historical observation of the system. Outcomes are path dependent.
(causality can only be observed retrospectively) and are sensitive to initial conditions (identical interactions from different starting states can have radically different outcomes).

3.4.2 Cynefin

One of the challenges encountered in developing a model of business-role generation by society is not related to rational, scientific, economic, “business as we know it” issues but to the integration of softer, less rational, unpredictable human components. Within the complex adaptive-systems world there is a framework designed to assist with this. Cynefin (pronounced kun-EV-in) is a Welsh word, which is commonly translated into English as habitat or place. The term was chosen by the Welsh scholar Dave Snowden to describe the evolutionary nature of complex systems, including their inherent uncertainty: "The Cynefin framework" (Kurtz & Snowden, 2003).

Figure 10 is the usual four-quadrant (plus two extremes) representation of the framework.
It is a framework for describing behavior, inputs, and outcomes across simple, complicated, complex, and chaotic systems. It is a good framework for understanding or at least analyzing business decisions that will have consequences across all the systems of society. It draws on research into complexity, complex adaptive-systems theory, cognitive science, anthropology, narrative patterns, and evolutionary psychology. According to its description in Wikipedia, “It explores the relationship between man, experience, and context; and proposes new approaches to communication, decision-making, policy-making, and knowledge management in complex social environments.” It was originally developed by Snowden to support knowledge management, cultural change and
community dynamics—exactly what an integrated model of business and society would benefit from incorporating.

Cynefin has recently come to the forefront of business decision-making (Browning & Boude, 2005; Gorzeń-Mitka & Okręglicka, 2014; David J. Snowden & Mary E. Boone, 2007). These concepts are not currently incorporated into the conceptual model for business-societal role development, and the report’s suggestion for potential tooling to support governance and strategic management are not discussed in detail. They were useful in guiding the building of the conceptual model, and they will be incorporated into a suggested governance and strategic-management process as the study progresses further.

As the practitioner perceptions suggest, the emergence and evolution of new roles for business will likely involve a rapid, dynamic, generative, evolutionary process accelerating volatility, uncertainty, complexity, and ambiguity around what a business does, how it does it, and why. An evolutionary framework such as Cynefin (used to support governance and strategic management analysis and decision-making) will be necessary to reason well about the new roles of business and the decisions and actions required for it. It is expected that the Cynefin approach will be useful in all elements of developing the governance and strategic-management decision-making framework and in dealing with the emergence of “value” expectations and the contributions of stakeholders and other differential-function systems. It is anticipated that the traditional governance of legal and contractual checklists will shift to a probe-sense-and-respond model.
3.4.3 Fitness Landscapes and Agent-Based Modeling

Complex adaptive systems are representative of Dr. Gill’s “rugged landscapes” (Gill, 2010) in informing science. Complex adaptive-systems theory posits that elements in a system can change based on their interactions with one another, over time, and with the environment. Changes in the input characteristics or rules are not correlated in a linear fashion with outcomes. Interaction of the individual elements creates a global property or pattern—something that could not have been predicted from understanding each individual agent. This is called emergence. Complex adaptive systems demonstrate that it is possible for order to emerge from disorder through a process of spontaneous self-organization. Complex adaptive systems can adapt in and evolve with their environments. Because their environments tend also to be complex adaptive systems made up of other complex adaptive systems, what is happening is more coevolution than run-of-the-mill adaptation. Coevolution tends to be faster and more intense than traditional change and adaptation (see previous discussion of the Red Queen Effect). Everything under consideration in this study is part of a complex adaptive system: the economy, the society, the markets, the agents, the agencies.

Complex adaptive systems are not directional; however, they do have goals of a sort. They persist by their agents successfully surviving over time. This survival is the goal, though how to survive is not known in advance. What happens is that attributes change in such a way that, later in time, they continue to change and exist. This agent perseverance over time or the perseverance of some of the agent’s attributes in the system over time is called fitness. In biology, fitness is an organism’s genetic contribution to the next generation of organisms. The contribution continuum is called a fitness function. Kauffman
introduced the concept of a fitness landscape to represent the aggregate fitness functions (which tend to be linear), outcomes given inputs, and the resulting non-linear tradeoffs of different states (Kauffman, 1993).

Fitness landscapes, in the case of the conceptual model it is wellbeing, represents all the possible states that the entity under consideration can be in. For an agent, the fitness landscape might be comprised of all the fitness functions for all the differential-function systems. Their total-wellbeing landscape is a function of all these functions and the interactions of their inputs and outputs (value in one may add or subtract from in another, or do nothing).

Agents, agencies, populations, systems and the society traverse their respective fitness surfaces for higher fitness (wellbeing, in the conceptual model). The traversal happens when they transact or transform value, which is the input to the assorted fitness functions, who then, through their own processing and interactions with other functions, establish a new state of wellbeing. Complex adaptive systems are not directional. Movement across the fitness landscape is not intentional in the way a human uses the word intentional. Transaction or transformation rules are executed without predictable result (causality is only retrospective). If the change in value is such that wellbeing is decreased, then those rules are less likely to be executed in the future. If wellbeing is increased then

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77 This is a simplification. The “real” fitness function of an agent associated with a differential-function system is likely to be a fitness landscape itself. Care must be used with the terms function and landscape, as they do not mean either two-dimensional lines or three-dimensional surfaces but are multi-dimensional.
those rules are more likely to be executed. Over time, successful wellbeing-generating rules will winnow out less successful ones. If the fitness landscape changes\textsuperscript{78} those rules which successfully navigate the landscapes topology might no longer do so and could fade away (Richter, 2014). It is this process that allows incredibly complex behavior be winnowed down to just a few production rules. For example, flocking behavior in birds and schooling behavior in fish can be\textsuperscript{79} generated by only three rules:

- Separation/repulsion – maintain a distance from neighbors
- Alignment - steer towards average heading of neighbors
- Cohesion/attraction - steer towards average position of neighbors

Agent-based modeling is a method of simulating complex systems. It features autonomous agents and agencies which are given rules to use to make decisions. The resulting interactions can then give rise to an emergent pattern that might not be predictable by considering each of the agents in isolation. In these types of systems, cause and effect can only be seen \textit{post eventus}, and there is little to no predictive power, though one can construct some level of probabilistic estimation. More traditional modeling techniques either aggregate the agents and agencies into averages or treat them as passive in the

\textsuperscript{78} The landscape does not have to change. The entity may have just reached a spot in the landscape where the topology is so different that what worked in the past quits working.

\textsuperscript{79} These rules driving behavior models—much like the later discussion of memetics though more generally accepted—suffer from a lack of physicality and therefore are propositional, like early concepts of the atom.
process being modeled. This allows the discovery of the system dynamics and non-linearity. Role trajectories are anticipated to demonstrate epidemiological behavior based on the current conceptual model. It will also allow for testing of role trajectories and their impact when their carrier is each of the different stakeholder archetypes and the population of those archetypes identified by (Miles, 2015). It will also be interesting to test the thesis that technology is increasing the density of agents and agencies and that it results in faster role evolution, either through faster origination and adoption or faster differential survival or both.

The next major step in the development of the conceptual model is to more formally establish a wellbeing fitness function that could be incorporated into an agent-based model. Having such a fitness function would provide a way to test other business theories against role driven agents for various populations of stakeholders. Being able to model the systemic change caused by the differential-function systems acting and interacting at once will provide insight into the consequences of prioritizing one population such as shareholders over others. Agent-based modeling allows the agents to function independently but coevolve in aggregate, adapting and changing according to the environment they operate in and to the changes set up in the model (Mitleton-Kelly, 2003). Such complexity confounds traditional management and organizational models and their simulations, which are dependent upon “simple” or at worst “complicated” systems to work successfully (Anish & Gupta, 2010).

As the conceptual model evolves as this research progresses over time, the hope is to apply agent-based modeling (Niazi & Hussain, 2013) to represent stakeholder interests and interactions to test the behavior of the model (business within economy) and the
responses of other functional systems. Another interesting pursuit would be to apply the “combinatorial” evolution principle developed by Brian Arthur (Arthur, 2009) and simulated by him and Wolfgang Polak (Arthur, 2015) against the conceptual model. Combinatorial evolution works differently than the Darwinian accumulation of changes due to variation and selection. Combinatorial evolution builds itself out of itself through combinations of existing componentry. There is an appeal that the conceptual model’s knowledge-base evolution might be as much a constructive additive process as a selection process. In fact, the model’s framing and structural rules behave in a constructive manner.

Lastly, we require a reminder that the conceptual model encompasses multiple fitness landscapes with multiple fitness functions. There is one for the society and one for each of the differential-function systems and their agencies. Each population, agency, and agent will have their own instance of a wellbeing landscape. Richter (Richter, 2014) offers several cautions about fitness landscapes. It is important to remember that landscape itself is a meme and that the actual fitness landscapes are likely to have many more dimensions than three. Additionally, landscapes are not static. By coevolution, the environment changes in concert (but unpredictably) with changes in the participants.

### 3.4.4 Cellular Automata

Cellular automata is considered here for completeness, as the notion contributed starting points for some of the system modeling. It is a discrete (unit ticks of parameters instead of continuous values) complexity-modeling approach used in many sciences to model real-world systems. Originally discovered by Stanislaw Ulam and John von Neumann in the 1940s, it became popularized with the advent of personal computers and the release of Conway’s *Game of Life* (Gardner, 1970). Wolfram’s study of elementary
(one-dimensional) cellular automata (Wolfram, 2002) provides an exhaustive list of 256 rules (that can be derived from 88 unique rules) and four system classifications (Class 1 ends in homogeneity or stasis, Class 2 generates stable and sometimes oscillating structures, Class 3 is chaotic, Class 4 is complex with dynamic patterns and stable local structures) that are not unlike the Cynefin framework. The Wolfram framework was useful in reasoning about how the conceptual model should behave.

3.5 Considerations of Social-systems theory

[R]ationality has a social dimension to it; what is rational in a situation depends not just on what I do or choose, but also on how others react to me and to my choices.  

80 (Pressman, 2004, p. 490)

Sociology and social-systems theories provide other mechanisms to address the issues emerging from the practitioner perceptions. Sociologists (like complexity researchers and evolutionary economists) have begun to use three levels of analysis. Micro-level analysis looks at the smallest (individual agent or agency) level of interactions and behavior. This is consistent with microeconomics and management, which are focused on the behavior of individuals and firms when making choices. The meso level introduces the concept of a population. This is a concept not found in traditional economics except in a demographic sense, and then it is found only in a macro representation. It is at the meso-population level that framing rules emerge in rule sets and influence both the micro and

80 A review and commentary on Putnam’s “The Collapse of the Fact/Value Dichotomy” (Putnam, 2002).
macro levels of a society. The macro level represents the “whole” of the issue under study (e.g., an economy, a company, a society). These three levels provide a framework for identifying the contributions social-systems theories make to the conceptual model and framework. Social-systems theories also provide a framework to integrate externalities with economic decision-making via differential-function systems, thereby providing definition, context and potential valuation approaches of externalities. Lastly, social-system theories provide a framework for reasoning about a more encompassing form of “rationality,” as suggested by Pressman and developed in Neuroeconomics (Chandan, 2016).

As with all science, progress is made as new ideas emerge or are built upon old ideas, are tested against old ideas and sometimes supplant them but more often live beside them, each providing a perspective that yields understanding of the subject under study. This seems especially true of the social-systems theories. Each of the models described below has contributed to the development of the conceptual model—often synergistically and at different levels of the emerging system view (micro, meso, and macro). They were systemic, which means that they were integrative and vertical as opposed to bounded and horizontally focused in their domain. They describe processes that are creating, sharing, learning, organizing, and managing knowledge that did not require intervention (hierarchy and control).

81 Remember that these are sliding levels. A micro level for one analysis might be a macro level for another.
These processes eventually facilitate the emergence of a society. Over time, single cells begin to incorporate elements of their environments into their structure (first-order autopoiesis\textsuperscript{82}). Later, cells begin to coordinate cellular behavior by sensing the chemicals in the environment—including ones they themselves put there—and they become multicellular organisms (second-order autopoiesis). Advance this process forward to where more complex internal behavior is coordinated into an even more complex, emergent external behavior (a murmur of swallows or a school of fish), and you have the beginning of a society (third-order autopoiesis). Each micro agent follows three simple meso rules (move toward the center, match speed, and avoid collision), thereby generating incredibly complex macro behavior.

As implied in the previous paragraph, as agents (systems) acquire more capability (functional differential subsystems), they can utilize more sensing across more sensing paths. Birds have sight, hearing, taste, pressure, magnetic flux, etc. Even simple systems (ants exchanging chemical signals from queen to worker) can build extremely complex societies.

3.5.1 General Systems Theory and Sociology

\textit{What does complex systems science have that General Systems Theory did not? The answer I suspect, is remarkably simple: computing power. (Goertzel, 2013)}

\textsuperscript{82} Discussed in the next section.
General systems theory, as discussed earlier, goes back to von Bertalanffy, as described earlier. It was adopted by sociology (Ball, 1978) to avoid problems of reification (spreadsheet is the business), reductionism (humans as a factor of production), metaphysical dualism (economic value versus societal values or best practice versus implementation), linear thought (focusing on averages (De Langhe, Puntoni, & Larrick, 2017)), equilibrium and homeostasis (don’t rock the boat). General systems theory led sociology to also adopt component systems theory (an external view of a system) and autopoiesis theory (an internal view discussed later) from biology and apply it to address the non-linear and emergent behavior they were uncovering in society. Component systems form Habermas’ discourse/lifeworld paradigm of society, while autopoiesis is part of Luhmann’s systems theory (complex, adaptive model). Their debate is covered later.

Component systems theory is somewhat mechanical in that is has increasingly complex systems forming themselves from simpler underlying systems. The difference between component systems theory and autopoiesis is that component systems theory assumes/ascribes a purpose and direction to evolution. It is different from a purely mechanical (engineering) representation in that it does not place bounds on the system.

Soft systems theory and critical systems theory were developed to avoid a requirement for purpose (component systems) or the lack of purpose (autopoiesis). Soft systems theory was developed to deal with situations/systems in which purpose is obscured but there is an ill-defined sense of something wrong. Russel Ackoff, one of the developers of operational research, “is remembered for coining the technical word ‘messes’ to describe

83 I am giving examples from business rather than sociology.
the domain of soft systems” (Bausch, 2001, p. 18). It is basically considered an approach to inquiry. This research project has indirectly and retrospectively been followed soft systems, as described by Checkland and Scholes (Checkland & Scholes, 1990).

Critical systems theory suggests that society may be a system. But the things about it that are not systemic are important. This was first expressed in soft systems theory, according to which society is not a hard system as would be found in nature (the evolutionary autopoiesis driven approach in the conceptual model) but has more vagueness and needs to account for ethical, heuristic and epistemological elements of consensual decision-making to be explanatory. Critical systems theory suggests that these ethical issues could be addressed in terms of power imbalances (shades of agency theory). The conceptual model suggests that these power imbalances could be better represented as idea-market transactions based upon value commitments (to be surrendered, to be taken) to improve wellbeing and as consequences of initial conditions and the path dependency of a complex adaptive system.

3.5.2 Representation versus communication

A major theme in the social-systems literature is the development of communication abstraction and the emergence of language. Language accelerates the evolutionary processes of genetic evolution and expands the concept of proximity and temporal adjacency – from right here, right now to wherever you can “hear” it. This enables larger populations of agents to be spread over a longer distance and provides a competitive advantage for a rule trajectory. This is the density effect, network not spatial, that was discussed above under complexity. Language enables societies.
Cognition is a precursor to language, and there are two potential models of cognition. One is cognitivist: Imagine a computer examining every possible chess move on a board and picking the best option, like IBM’s Deep Blue. The other is connectionist: Imagine many personal computers organizing themselves to search for extraterrestrials via simple heuristic rules, like the Search for Extra-Terrestrial Intelligence (SETI) project. It is the second that is consistent with the conceptual model as it is developed here and that seems to best reflect reality. It is also the path that takes “knowing is doing” and gets to language.

No single theory “predicts” language, as it is an emergent behavior; however, by combining the idea of cognitive enactment (knowing is doing) and ideas around “representations” (a wolf howls, other wolves see a grizzly bear, over time that howl comes to represent danger and maybe with more autopoietic exchanges it specifically represents a bear), a path for language and the ability of larger groups (societies) to form can emerge. This coevolution of signals (cognition) then results in, to quote Bausch,

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84 Note that the actual development path of language, from primitive cells responding to the environment to complex patterns of neurons in vertebrates, is not germane to the conceptual model except that it is an ongoing progression of what is discussed here, and retrospective causality and path dependency suggests that it would not happen the same way twice.
The individual ontogenies\textsuperscript{85} of all the participating organisms occur fundamentally as part of the network of co-ontogenies that they bring about in constituting third order unities. (Bausch, 2001)

Bausch is basically saying that individuals recognize (cognition) that everyone’s wellbeing (primarily, the ability to reproduce) is improved by the existence of the group (society).

With this realization, many of the necessary conditions for more advanced and larger societies appear. For example, this explains why there is no contradiction between selfishness and altruism. The animals on watch at the edge of the herd are altruistically exposing themselves for the good of the co-ontogeny and are at the same time fulfilling their autopoietic individuality.

Representation begins to appear when agents (as systems) acquire more capability and begin to transform cognitive engagement to imitation. This begins sharing behavior through an entire society. While this is a primitive precursor to language, we still see it in our species today—for example, in the spread of American culture via Hollywood. Imitation also begins to allow a lot of behavior to be “chunked” onto a single initial stimulus.

This imitation rapidly becomes signaling. When your dog wants out, he is not talking to you; he is repeating a behavior that has worked in the past. You and your dog have co-evolved. That signal now can also function as a representation.

\textsuperscript{85} Origin of an organism and how it develops.
With cognition comes recognizing a distinction between an entity and its environment. It is the first step toward a phenomenology and the complications of an observer and the observed and the differential of the observation from “reality,” as phenomena are the immediate experience of reality rather than physical reality itself. A system can be self-aware and know phenomena from experience (inter-systemic, business responding to economic signals); it can be cognitive and can reconstruct the phenomena by describing the experience (do this, then this happens, business developing ROI, RONA, etc.); or it can have its phenomena described by an outside observer (extra-systemic, the intent of the conceptual model).

From a biological perspective, the history of an organism’s saltational evolution is also its cognition, or awareness of phenomena, and incorporation of those cognitions into its structure. Again, according to Bausch,

_Cognition, in this very general sense is defined as: “an effective action, an action that will enable a living being to continue its existence in a definite environment as it brings forth its world. Nothing more, nothing less. Every increase in an organism’s “perceptual” ability enables it to enact couplings with additional perturbations. (Bausch, 2001, p. 37)_

The combination of perceptual ability (eyes, ears, touch) and internal-communications ability (nervous systems) have greatly accelerated the evolution part of the conceptual model. Metaphorically, the differential-function systems have been using primitive or singular senses to detect signals in their environment, society, and between
themselves. Business has a significant preference for only economic signals and misses those from other systems.

From an evolutionary perspective, language is not just communication but is a system of representation for sorting and manipulating all the information (stimuli from the environment) and then acting upon it (cognitive enactment) within the limits (5+/−2) of the (in our case) autopoietic agent (system). These representations can be of two forms: maps (past component structures from an autopoietic theory perspective) and paths (how those structures rearranged in the past in response to external stimuli/information). This combination of map and paths comprises an agent/aggregation/aggregation-of-aggregations view of reality, or what the social-systems theorists refer to as a primary representational system (PRS). It is a cognitive map that enables belief systems (the rules and rule sets in the conceptual model) and virtual worlds (the knowledge bases of societies, agencies and agents in the conceptual model).

Representations are basically this: Given a stimulus (usually a series of stimuli), perform an action (more generally a series of actions in response to the “anticipated” series of stimuli). The conceptual model’s rules are a predicate-calculus IF-THEN-ELSE version of this. What if there are many different initial stimuli that could be serviced by the same representation? Social-system theories and evolution tend to parsimony, agents group them together in what the linguists call categories (primitive forms of taxonomy). Many of these stimuli are social: objects (other entities/agents usually) in relationships (context) that are amenable to categorization. The conceptual model represents this as populations related by commonality in rule sets. Social relationships are both catalysts (initiate rearrangements of internal structure) and objects of category formation among primates. As they become
more social, these categories begin to dominate the primary representation system and, as previously described in co-evolutionary theories, these new categories facilitate more complex social interactions, which in turn create new more complex categories, and so on. These representations become the categories themselves (abstract concepts versus concrete stimulus-response) in what the social-systems theorists call secondary representation systems. In the conceptual model, these become framing rules (values, *oughts*, and *shoulds*) and structural rules (norms and heuristics) and the foundations of a complex society.

### 3.5.3 Norms – Lifeworld versus Systems Theory

As groups become larger and increasingly organized, agent-to-agent communication decreases in impact and individual primary representational systems begin to defer to secondary representational systems. For completeness, it must be said that this progression to a society is debated.

Differences in how a society arises from representational systems is captured in the “debate” between Habermas with his theory of communicative action and Luhmann with his linking of assorted social-systems theories with evolution (Bausch, 2001, pp. 65-71). The debate centers around the idea (which is incorporated into the conceptual model) that all social processes can be explained in primarily systemic terms, as proposed by Luhmann. Consider also the idea that social processes can be totally explained without resorting to systems thinking by using consensual bartering and decision-making, as proposed by Habermas. The issue became intense as implied in the fact that one position has a certain irrelevance for human agency (no free-will is a potential outcome of complex adaptive systems).
Many theorists other than Habermas and Luhmann were engaged, but theirs were the main ideas in conflict.

Summarizing the debate, Bausch writes that Habermas has moved increasingly to the systems side of the question. Habermas talks about a “Lifeworld,” which is a combination of an individual’s representation systems that are aggregated with others as conversations resulting in decisions taking place. This combination results in the meanings, norms and values of a society. Later, Habermas incorporated Luhmann’s point of view by adding money (value) and bureaucracy (structure), which, in combination with his communicating agents, effectively created a social evolutionary system (Bausch, 2001, pp. 73-96).

One element of Habermas that may apply as the developing conceptual model becomes more detailed and more supportive of specific instances, is his conditions for communication:

- Communicants engage each other in some understood relationship (a claim of legitimacy for the communication).
- Communicants claim that their assertions are true (a claim of truth).
- Communicants profess truthfulness in their intentions (a claim of truthfulness).

This shows a potential to extend Fukuyama’s argument (Fukuyama, 1995) that trust is the foundation for any economic activity (value exchange for wellbeing improvement) to all the differential-function systems and to define trust as a communication channel among agencies participating in a narrative schema/meme market. The conceptual model treats communication (as Habermas sees it) as a value exchange (of ideas). The exchange is a function of production (transaction) rules that are governed by structural rules.
(Habermas’ conditions for communication) and the resulting sanction (from the canonical narrative schema discussed in Section 3.8.2) modifying framing and structural rules for future communications.

Another, broader way to look at the Habermas-and-Luhmann debate is that it was the highlight of a long-running conflict between functionalism and critical theory. Functionalism describes societies as natural and biological and follows nature’s propensity to divide labor. The major progress of functionalism is differentiation theory, which posits the following:

- Differentiation is the master trend of societal evolution.
- It is directed by social needs.
- It increases adaptability, generality, and inclusivity of society.

This has culminated in functional differential-systems theory, which became a foundation of the conceptual model of the emergence and evolution of the roles of a business in a society.

3.5.4 Differential-function systems

Social-systems theories posit that a society develops differentiation (specialization) to deal with its increasing complexity. This differentiation continues (evolves) until a subsystem emerges as an internal “representation” of some element of the environment. This also increases the complexity of society (coevolution). As more subsystems emerge, the society becomes increasingly complex and potentially more adaptable and resilient with accelerated evolution. There are multiple forms of differentiation. There is segmentary differentiation which is where the system is divided based upon the need to repeat identical tasks over and over. Stratifactory is splitting the system into hierarchies with each level
performing a distinct function. Lastly, center-periphery differentiation provides linkages between segmentary and stratifactory functions. The conceptual model is built by assuming a functional differentiation, which not unlike a modern organization has all functions organized into specific units like accounting, HR and IT.

Historically and continuing into popular culture is the tendency to limit the functions to economics (business) and politics (government) and lump everything else into culture. Given the goal of the conceptual model, a finer-grained resolution than culture was needed, as was a more coherent understanding of culture’s interaction with the economy and the polity.

The beauty of Roth’s 10 functionally differentiated systems\(^{86}\) of society (Roth & Schutz, 2015) is in its synthesis of all the theories discussed here and its incorporation of the potential use of other frameworks (note that “power” is the medium of the political system and its map to critical systems theory, for example). It is a simplification of many other proposed collections of functionally differential systems of society via the application of attributes of a functionally differential system.

Why the perception that business and economics are different from culture? A look at Figures 12, 13, and 14 shows that it reflects their dominance in the current public discourse. It also reflects the fact that, in the past, religion was more important than both. Society and its subsystems, being complex adaptive systems, coevolve over time. At

\(^{86}\) I use the term *differential-function systems* as it seems to be easier and more precise language. Also, in tracing its development, differentiation is initiated before a functional system emerges.
different points in time, different systems will have different import and exhibit different influences on each other and society. Therefore, it is misleading to talk about a society being economized or monetized, politicized or even anesthetized (as in the current over influence of artists and fame), as it can result in inordinate investment in a system and inappropriate weight being given to its contributions. All the systems are always in play and are influencing each other, and showing this is a goal of the conceptual model.

This answer reflects the interactions of all the systems of society. A bad business decision can have significant health implications; a bad legal resolution can disrupt business. The table adapted from Roth (2014) suggests the principle of sub-optimization from general systems theory (Adams and Mun, 2005). Increasing optimization in the economic system and the businesses within it might result in an overall sub-optimization of society and its other systems, as manifested in unintended consequences.

<table>
<thead>
<tr>
<th>System</th>
<th>Code</th>
<th>Medium</th>
<th>Program</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political system</td>
<td>government/opposition inferior/superior</td>
<td>power</td>
<td>ideology</td>
<td>Limitation</td>
</tr>
<tr>
<td>Economy</td>
<td>payment/non-payment</td>
<td>money</td>
<td>price</td>
<td>Distribution</td>
</tr>
<tr>
<td>Science</td>
<td>true/untrue</td>
<td>truth</td>
<td>theory</td>
<td>Verification</td>
</tr>
<tr>
<td>Art</td>
<td>innovative/imitative</td>
<td>style</td>
<td>fashion</td>
<td>Creation</td>
</tr>
<tr>
<td>Religion</td>
<td>immanent/transcendent</td>
<td>faith</td>
<td>confession</td>
<td>revelation</td>
</tr>
<tr>
<td>Legal</td>
<td>lawful/unlawful</td>
<td>norm</td>
<td>law</td>
<td>standardization</td>
</tr>
<tr>
<td>Sport</td>
<td>success/failure</td>
<td>achieve-ment</td>
<td>goal</td>
<td>mobilization</td>
</tr>
<tr>
<td>Health</td>
<td>ill/healthy</td>
<td>illness</td>
<td>diagnosis</td>
<td>restoration</td>
</tr>
<tr>
<td>Education</td>
<td>peaceable/unlikeable</td>
<td>vita</td>
<td>curriculum</td>
<td>formation</td>
</tr>
<tr>
<td>Mass media</td>
<td>informative/non-informative</td>
<td>medium</td>
<td>topic</td>
<td>multiplication</td>
</tr>
</tbody>
</table>

These differential-function systems are a foundation of the conceptual model, which is developed to determine how roles for a business form in a society and how that role formation process can be used to evaluate shareholder and stakeholder theories for
governance and strategic management. The conceptual model treats each system as equal, though this will change over time as they coevolve with society and each other (Wolfram Class 4 behavior). Being autopoietic (discussed below), they evolve their internal structures in response to signals received from the others (political passes a law, legal enforces, economic conforms to Sarbanes Oxley). The conceptual model suggests that markets for ideas, expressed as rules and rule sets, exist within and among these systems (and populations and agencies) and that those markets provide signals by establishing the relative value of the ideas and by monitoring the effect value exchanges have on the wellbeing of the society, systems, populations, agencies and agents.

### 3.5.5 Considerations of Autopoiesis and Evolution from Biology

For purposes of the study, autopoiesis and Darwinian evolution are considered complementary processes in action in the conceptual model. The conceptual model treats its systems, society, the differential-function systems that compose society, and the agents and agencies (such as businesses) and populations that emerge from them as autopoietic systems. It treats the rules, rulesets and emergent rule trajectories as “memes”\(^{87}\) in those systems which, in the metaphor of genes in a species, compete in markets. These “memes” exhibit variation as they are applied by agents, agencies and populations. They are heritable, though in a more Lamarckian than Darwinian sense, as they are either passed to other agents, agencies and populations because of the success they have in generating wellbeing or they disappear. Their success in generating wellbeing comes from competition in the markets in getting agents and agencies to adopt, adapt, and retain them

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\(^{87}\) As discussed in section 3.10 A Note on Memetics.
for continued use. This results in the differential survival of these “memes”. Both autopoiesis and evolution are at work in the conceptual model.

Some researchers have a different perspective: one that sees autopoiesis as a challenger to Darwinian evolution and as a consequence is resisted by mainstream Darwinism (Escobar, 2012). The issues are specific to biology (definition of life, evolutionary bootstrapping, necessary conditions, parsimony, and testability) and do not affect the conceptual model. These issues did not appear in the social-systems literature either.

The concept of autopoiesis is central to the ideas of functional social-systems theories. It was built upon the ideas of the Chilean biologists, Humberto Maturana and Francisco Varela. The term *autopoiesis*\(^{88}\) means both self-production and self-reproduction. Autopoiesis theory is important, as it allows the generation of cognition (awareness and response to the environment) without presupposing cognition. It also deals with the circularity problem (Which came first, the chicken or the egg?) in coevolutionary reciprocal environments such as ecosystems.

Characteristics of an autopoietic system are the following: 1) it has an observable boundary that distinguishes it and isolates its internal organization from interaction with anything external to the boundary; 2) it has an internal production process (it creates, stores, uses, consumes, and destroys something); 3) it has components and component-producing processes in relationships (internal closed network) that distinguish it from others (i.e., it has identity); 4) the components are arranged in space and time (dynamically organized);

\(^{88}\) The opposite concept is allopoietic systems.
5) the system is closed relative to its processes (no direct outside influence); 6) they are autonomous.

For example, when a cut heals in your skin, you are being autopoietic. A signal, the cut, triggers a totally internally driven set of operations needed to repair the cut. When a surgeon stitches you up, you are now allopoietic. Another term for this is that such systems are operatively closed with no external operations on internal elements and no internal operations on external elements. What does take place is signaling, wherein operations, internal or external, are initiated by a response to an internal or external signal. Economically, you can consider transactions signals and more overt activities such as press releases, news and other one-way information flows. Operations would basically be value transformations. This means that they are also open systems (sometimes termed interactional openness) and are in contact with their environments. Going back to the concept’s biological roots, a living cell exchanges matter and energy with its environment but produces/reproduces all its own compositional elements: proteins, lipids, etc.

While I have used the term *signals*, the strict conception is that, in its operations, the autopoietic system does not receive inputs from the environment but senses perturbations (or irritations), which might then then trigger internal operations within the system. This is important, as a signal suggests that the external environment knows what internal processes it is initiating. But this is not true – which process or whether one is initiated. External events *may* trigger internal processes but they cannot determine those processes.

Autopoietic theory suggests that autopoietic organisms (and organizations) are separate from their environments and maintain that separation. At the same time, as
complex adaptive systems in most cases, they issue and respond to signals in their environment. They are metastable—they endure, though their component parts may change. They are autonomous. This morphs (abstracts) evolution into the adaptations entities make to preserve their autopoiesis (anthropomorphized into maintaining self/identity) from random events of thermodynamics, mutation, information, replication, selection, etc.

Autopoietic theory introduces the concept of saltatory\(^89\) evolution. It is a mechanism whereby individuals begin forming groups. Two or more entities\(^90\) are in proximity\(^91\) of each other wherein one acts (encodes a signal) and others react (decodes the signal, adjusts to the environmental change caused by the first’s action). Each entity is adjusting to maintain its autopoiesis. If such activity is regularly recurring, then a stable “structural coupling” occurs, in effect creating a new entity (e.g., individual cells interacting, eventually resulting in a multicellular organism). Imagine this continuing \textit{ad infinitum}.

Introduce environmental changes, such as new entities, which push the original entities far from equilibrium\(^92\), requiring multiple simultaneous reactions to happen.

\(^{89}\) A somewhat archaic word referring to dancing comprised of leaps between poses versus gradual transitions.

\(^{90}\) Can be anything from a single cell to a nation state and beyond.

\(^{91}\) Not confined to spatial use, could be memetic and other forms of distance.

\(^{92}\) Remember that these systems are dynamic, so there is no equilibrium, only peaks on fitness functions.
regularly and evolution through variation, competition, and differential survival accelerates. To reestablish equilibrium will likely require even more complex structural coupling (e.g., metabolism) with even more information (learning). This introduces the more macro concept of co-evolution (critical to maintaining macro-level systems equilibrium) and evolution as a learning mechanism.

An autopoietic system has a closed organization (it is self-maintaining in an environment) and an open adaptive structure that adapts to its interactions with the environment constrained by the closed organization. A key concept of autopoietic systems is that rearrangement is also a form of reproduction. When an external stimuli (signal) is received by a system, it responds by incorporating, rejecting, or mutating the signal and by rearranging its components and processes.

The simultaneous interactional openness and operative closure of the autopoietic system is considered a necessary condition for cognitive processes. Cognition can be classified as a self-referential, autopoietic process. While the concept is common in evolution and complex systems, it was adapted to social systems by Niklas Luhmann. Simply put, a social system is a system that reproduces its elements based on its own elements, generally in response to a signal from its environment. Luhmann (2000) describes this as “trigger-causality” as opposed to “performance-causality”.

Autopoietic systems theory separates the reproduction of the system from the elements and structures being reproduced and used in that reproduction. A surviving autopoietic system is constantly producing such elements. Again, with a biologic example, a plant that has stopped producing cells is considered dead (no longer surviving). It is alive if some cells are being produced (root, leaf, stem, etc.).
On the other hand, the continued reproduction of the system is dependent upon which cells in what proportions are being produced. That proportion is the structure of the system and is a product of self-organization, as discussed with respect to complex adaptive systems.

*Autopoiesis* refers to the production/reproduction of internal compositional elements while *self-organization* refers to the determination of the system’s structures used for that production.

Lastly, co-evolution can occur among autopoietic systems and their environments or via structural coupling (also niche dependency). Environmental events might trigger internal processes which are determined by the internal structures (if at all). Evolutionary success (variation, selection, and mutation) suggest that, over time, the surviving systems would have internal structures that are “well adjusted” to the external environment and the irritations it supplies. For example, the vision systems of nocturnal and diurnal animals are very different but are well coupled to their respective environments.

The conceptual model as developed has all elements (agents, agencies, and differential-function systems) as autopoietic.

### 3.6 Considerations of Economic Theory

*Nonlinearities mean that our most useful tools for generalizing observations into theory – trend analysis, determination of equilibria, sample means, and so on – are badly blunted. (Holland, 1995, p. 5)*

There can be no discussion of the role of business without a discussion of economics. As discussed later, even establishing a definition of the “problem” underlying
the practitioner observations relies upon the economic concepts of Pareto optimality, Nash equilibrium, and the balance of economic forces such as supply and demand. The economy is not only one of the ten differential functional systems of society that are integral to the conceptual model and described later, it is the one in which business has responsibility for societal value production. However, traditional economic theory presents two problems for research into the role of a business in a society: externalities and rationality in the pursuit of self-interest.

For example, Pressman (Pressman, 2004) discusses the interrelationship of the concepts of economic events reaching equilibrium when no further transactions can take place without the reduction of at least one participant’s wellbeing (Pareto optimality) with the economic assumptions of individual self-interest and rationality. But we have Keynes arguing that economic behavior (such as societal role performance of a business) should only be measured at the macro level precluding individual agent or agency gains and losses. Behavioral economics argues that agents and agencies, individually or in groups, are not rational. Neuroeconomics suggests that they are rational, but based upon objective and subjective value assessments using differing evaluative frameworks and cognitive abilities (Kasemsap, 2016).

93 Depending upon your point of view, as explained by Rothschild (Kurt Rothschild, 1996, p. 533), “… I do not intend to offer the 2,765th interpretation of what ‘Keynes really meant,’ but, rather, attempt to give a short overview of what (some) economists meant that Keynes meant.”

94 Assuming normal cognitive functions.
Secondly, we have the issue of externalities, defined by Meade (Meade, 1973, p. 15) as, “An external economy (diseconomy) is an event which confers an appreciable benefit (inflicts an appreciable damage) on some person or persons who were not fully consenting parties in reaching the decision or decisions which led directly or indirectly to the event in question.” This derives from reducing economic decision-making to parameters that are easy to measure (establish a value for)\(^9\). The major consequence of this and the focus on self-interest is described by the “Tragedy of the Commons” (Cochran, 2015).

There is also a third issue with traditional economic approaches—a more systemic issue. This is the widespread use of only two levels of analysis: micro and macro. As described elsewhere, complex adaptive systems (such as a society and an economy in a society) require three levels, the addition of a meso level of analysis to support emergence from the micro level such as populations and communities of agents and agencies, and their resulting behavior at the macro level. Concepts like “roles” appear in the meso level, providing numerous agents and agencies an aggregation based upon common rules, activities and functions. It is the mechanism that allows single actors to have outside impact at the macro level; it is how the macro level influences individual actors. A meso level

\(^9\) Sometimes called the McNamara fallacy in decision making (Handy, 1995, p. 221): 1) measure what can be easily measured; 2) disregard what cannot or assign it an arbitrary value; 3) presume if it cannot be measured that it is irrelevant or 4) that it does not exist.
explains the difficulty of projective causality, the ease of retrospective causality, the
importance of initial conditions, and the resulting path dependency of macro events.

Even with these issues (discovered as the study progressed), economics provided
much of the progress in building the conceptual model when its insights were combined
with complexity and sociological perspectives.

3.6.1 The starting point

Starting with familiarity from undergraduate and master programs of basic, or
neoclassical economics (the most commonly understood concepts in practice) the study
pursued economic approaches to address the issues brought up in the practitioner
perspectives. The initial literature search sought an approach for resolving conflict in a
society’s perspective of value and business. The concept was to show how ideas arise in
areas of society outside of economic and business areas (externalities) to grow and
influence other areas of society—particularly the economic and the business enterprises in
the economic system.

It would be of specific importance to the governance of such enterprises, as
governance is responsible for the relationship of an enterprise and the rest of society. The
relationship is a function of externalities that are often not effectively integrated into
business decision-making and, as suggested, it is the source of unintended business
consequences and impacts on society.

This led to the crux of the argument around the practitioner perceptions of
unintended consequences. The unintended consequences of business activity and behavior
can be attributed to market failures. These market failures are the result of the many
elements of society and their acting agents failing to achieve Pareto optimality in the
allocation of resources (not just factors of production but also ideas) and created value in their exchanges for wellbeing across the many dimensions of society. This inability to achieve an optimal wellbeing is the result of an inefficient and ineffective information flow among the participants. From information theory, inefficient and ineffective information flow is generally a function of channels used; noise in the channels; or an incomplete, inconsistent, incompatible or un-shared ontology, epistemology, semantics or syntax. These can be exacerbated by errors in encoding, decoding, and feedback. The result of this would-be loss of context across the social-system boundaries and incomplete messaging.

This is a failure of the broader societal market (resource allocation to best effect) among the many subsystems for value (of whatever form) creation and overall societal wellbeing. One insight is that a marketplace can deal with ideas as easily as with goods and services. The value exchange need not be goods for goods; it instead could group membership value in exchange for support for the group. This evolved as the basis in the conceptual model for markets being the medium for rule trajectories. In the conceptual model, a market can be a discussion of fairness in the tax code between two friends or a town hall on health care. Markets function within and across all the differential-function systems.

Again, this market failure arises from an inability to achieve a state in which any new possible resource allocation cannot make any one participant better off (improved wellbeing) without making others less well off. Economists refer to this as Pareto optimality, suggesting the total social market for value is Pareto inefficient. This inefficiency arises from insufficient knowledge among the market participants of each other and of value in the market. Economists (and game theorists) call this a lack of Nash
equilibria. It means the societal market participants are oblivious to, or at least misunderstanding or miscommunicating, each other’s well-being (fitness function optimization strategies) and value assessments. This is the result of ineffective and inefficient information flow (channels, noise, semantics, ontologies). Many business-foundational theories are either incomplete (stakeholder) or dysfunctional in their assumptions or narrowness in addressing the problem. This is compounded by the increasing volatility, uncertainty, complexity and ambiguity of societal wants and needs of business, as seen in the practitioner perceptions.

This was a good start in defining the problem of the mismatch of business and social perceptions of the roles of business. These ideas were derived from the exchange of goods and services, and the intent was to extend them to ideas—such as to roles and their associated expectations and obligations. Do the mathematics of economics that do so well describing how prices (relative value assessments in the conceptual model) facilitate efficient allocation of resources (value in the conceptual model) around goods and services work the same way for ideas?

There were still issues that would need to be addressed. In the real world, economic concepts like marginal utility and optimal expectations did not work consistently, and there was not a clear understanding of utility and expectation in the context of an idea.

There did not appear to be a good foundation for understanding how an economy\textsuperscript{96} forms, grows, adapts and changes (Arthur, 2015). Part of the reason for this is that so much

\textsuperscript{96} The conceptual-model point of view treats everything except agents as emergent. For example, economies can form up with multiple markets, dynamically
of economics is dependent upon the concept of equilibrium and ignores time. Again, according to Arthur, “At equilibrium an outcome simply persists so time largely disappears; or, in dynamic models, it becomes a parameter that can be slid back and forth reversibly to denote the current outcome” (Arthur, 2015, p. 23).

There was also the issue that there was a requirement for a generic decision maker (all the same preferences all the time) that can limit decision inputs and is perfectly rational. This was not compatible with what was emerging from social-systems theory.

3.6.2 Behavioral Economics – Introducing Real Humans

Kahneman (Kahneman, 2011); (Ariely, 2008), and Ariely’s Coursera course, “A Beginner’s Guide to Irrational Behavior,” significantly influenced the evolving framework for addressing the formation and evolution of the roles of a business could not be dependent upon rational decision-making. Every person is different (no generic decision maker), preferences constantly change (need for evolution), maximization is a one-dimensional concept (which therefore requires many potential inputs to be “externalities”), humans are not rational or consistent in their choices (Tversky & Kahneman, 1981), and decisions are a function of the person’s context and the available information and the person’s ability to use that information (Simon, 1997).

forming among emergent populations and then dissolve. With a complex system, all the components can rearrange, and yet the system perseveres. For example, think of Beanie Baby collectors as a sub-economy of “the” economy.

97 What the complexity theorists would call path dependency.
Social-systems theory suggests that there needs to be an economic way to handle peoples’ relative valuation of ideas, goods, services, experiences, and states of being other than monetization (how does one monetize priceless) in a traditional market. Also, traditional economic approaches focus on a wealth-fitness function that seems inadequate and highly dependent on monetization. This seemed like a McNamara fallacy discussed earlier, and there are many markets, in the sharing economy discussion that are not monetized.

Monetization also seems to exacerbate the time issue mentioned earlier. Even though time value of money is a “rational” consideration, putting everything in money terms tends to support short-term versus long-term decisions by neglecting tradeoffs (externalities) or over-weighting current state (the sunk-cost fallacy). Frederick demonstrates the existence of this time discounting effect (Frederick, Loewenstein, & O'Donoghue, 2002). Monetization also seems to ignore the fact that there is value in deals (exchanges) themselves. Sometimes value exchanges that are perfectly rational on a monetary basis are not made simply because they do not feel right. This was reinforced by Thaler (Thaler & Sunstein, 2009). Some of this issue is addressed via new models of business such as dual- and triple-bottom-line organizations (Glavas & Mish, 2014; Hasler, 2014; Hudon & Perilleux, 2013; Schmit, 2013).

\[98\] By this point, the research iterations had shifted the meaning of economic from production, consumption and exchange of wealth to the exchange or transformation of value in support of a wellbeing-fitness function.
The way monetization is treated in traditional economics seems to rely upon a two-stage process of a direct relationship of an intrinsic value to a fungible value (money). While useful for transactions in the practitioner-perception/transaction continuum, monetization becomes problematic with interactions (which probably explains the use of lawyers) and of minimal use when considering relationships. From what was learned from complexity and social-system theory, to be useful for the conceptual model, monetization would likely be a three-stage process.

That the need for the evolving conceptual model for societal formation and the evolution of a business’ roles would clearly be accountable to behavioral economics principles while taking an economic approach is summed up by Alain Samson:

"According to BE, people are not always self-interested, benefits maximizing, and costs minimizing individuals with stable preferences—our thinking is subject to insufficient knowledge, feedback, and processing capability, which often involves uncertainty and is affected by the context in which we make decisions. Most of our choices are not the result of careful deliberation. We are influenced by readily available information in memory, automatically generated affect, and salient information in the environment. We also live in the moment, in that we tend to resist change, are poor predictors of future behavior, subject to distorted memory, and affected by physiological and emotional states. Finally, we are social animals with social preferences, such as those expressed in trust, reciprocity and fairness;"
we are susceptible to social norms and a need for self-consistency.

(Samson, 2014)

As an observational note, the behavioral economics literature seems to be moving toward more of a trans-disciplinary flavor (Leavy, 2016) by taking problem-centric approaches and relying on multiple domains (e.g., psychology, cognition, cybernetics, sociology, anthropology, and evolution) rather than establishing and reinforcing its own formal epistemology, ontology and methodology. There is also recognition of the “wickedness” (V. A. Brown et al., 2010) of the problems it is addressing. Consider, for example, the rationality versus intuition reliance differences (among many others) in western and eastern cultures.

3.6.3 Complexity and Evolutionary Economics – Introducing Systems

The essential point to grasp is that in dealing with capitalism we are dealing with an evolutionary process. (Schumpeter, 2013)

Traditional economic thought has assumed value judgment away by restricting choice making to rational actors seeking self-interest maximization so that it can make economics more like a hard science. This has removed values, relationships and societal imperatives from consideration in decision-making. Things which could not be seen or were external to the immediate decision were not incorporated into the decision-making. Also, it was assumed that normative statements of what ought to be the outcome of decisions could not be ascertained from positivist statements of what is. From the viewpoint of physics, this was a very Newtonian way to describe the economic versus physical universe.
This approach became increasingly problematic, as it became clear that economic actors are not “rational”. In response, Keynesian thought suggests that only macroeconomic measurements of economic behavior at the aggregate level are rational versus the more traditional neoclassical level of individuals (Togati, 2001). This led to the differentiation of microeconomics and macroeconomics to separate and reduce the impact of “irrational” individuals to preserve the overall rationality and potential equilibrium of the economic system. Again, in terms of physics, this was an evolution to relativistic or Einsteinian thought.

Underlying both approaches is an attempt to map economic behavior and the performance of the economic system onto mathematical models, which, before the introduction of agent-based models and tools, required the assumption of rational decision makers. This enforced an Aristotelian distinction of positive (what is) and normative (what should be) patterns in research. The resulting issue is that economists were unable to deal with any notion of value that could not be directly objectified—usually by being monetized.

Economists were not alone. In the early twentieth century, hard scientists maintained that statements of fact must be verifiable or falsifiable by direct experience and measurement. As pointed out by Hillary Putnam (Putnam, 2002), this forced a dichotomy between “facts” that can be rationally established or falsified and empirically measured and wholly subjective statements of value that can neither be rationally argued for or against or empirically measured. For economists, this meant that a rational self-interested actor would use only factual judgments in economic decision-making.
There were additional implicit assumptions in play by economists that needed to be challenged. These included the following assumptions: 1) that the rational decision maker had all the information needed to make a rational, self-interested decision; 2) that rational decision makers do not learn from previous experiences (the same facts rationally applied result in the same decision regardless of past outcomes); and, that rational decision makers are not influenced by the environment external to the decision (other people, style and fashion, religion, education and politics among other things).

Fundamentally, classical and neoclassical economics are mathematical exercises for describing how people with perfect information rationally allocate or exchange the resources that are available to them. The idea is that people will always strive to achieve a personal equilibrium of costs against benefits in a rational manner. It also assumes that such reasoning is bounded—that is, that only analytical self-centered reasoning immediate profit maximization is the basis for fitness to the exclusion of all other forms of value. It also assumes that every reasoner reasons in the same way.

As discussed earlier, in behavioral economics and neuroeconomics, economics has seen the reintroduction of human cognition and behavior to address their impact on *Homo-Economicus* (rational actor) behavior and inherent preferences beyond simply being able to rationally deduce optimal behavior from incentives and disincentives (self-interest maximization). In many ways, this parallels the behavior of the hard sciences that economics sought to emulate. Quantum and string theories moved physics away from the

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99 Even delayed gratification is a function of net present value if it is considered.
forms of classical physics (static rational causality, equilibrium and prediction) to those of
dynamic probability, possibilities, emergence and retrospective causality.

This history of hard-science envy in economics provides a map of the evolution of
this study in terms of the evolution of physics, though biology has been a major contributor
to this study. In the same way that the concepts of evolution and autopoiesis began to
influence social-systems theory, they have also begun to influence economics. It is this
idea that structure—such as the organization of a biological entity (cell, organ, system,
organism)—can increase in complexity until it becomes capable of learning. It learns by
responding to changes in the environment by adjusting its structure, then assimilate
successful forms of those reactions permanently into their structure. The result is adaptation
to an even higher order (ecosystem, planet) ever-changing structure.

This provides a model for how economics can begin to explain the formation,
evolution and dissolution of markets (among other things), which was described as an issue
earlier. Evolution and autopoiesis are common themes running among complex adaptive-
systems theory, social-systems theory, the general theory of economic evolution, and the
foundation for the emergent conceptual model.

3.6.4 Evolutionary Economics as a base

From the evolutionary perspective, one cannot directly sum
micro into macro. Instead, we conceive of an economic system as a set
of meso units, where each meso consists of a rule and its population of
actualizations. The proper analytical structure of evolutionary
economics is in terms of micro–meso–macro. Micro refers to the
individual carriers of rules and the systems they organize, and macro
consists of the population structure of systems of meso. Micro structure
is between the elements of the meso, and macro structure is between
meso elements.... (Dopfer, Foster, & Potts, 2004)
While classical and neoclassical approaches provide a foundation for discovering, identifying and rationalizing the problem of determining the societally legitimate role of a business, explanatory and modeling limitations were encountered when it came to construct a conceptual model that would support further research and provide a basis for comparing stakeholder and shareholder theories. These are effectively mechanical, algorithmic approaches; therefore, they are relatively closed and limited (for example, the dismissal of externalities) compared to the real world. Bell (Bell, 2011) discusses this in terms of the need for a consistent and static set of evaluative criteria (values) and consistent application of utility maximization as the final goal of any decision. Such models do not consider relationships among system entities and their impact on the overall system. She suggests that this eliminates the ability to entertain and explain potential internal conflicts, other than competition, that might arise from the environment (for example, value from the other differential-function systems) or the internal emergent structure of the economic differential-function system (as it evolves over time).

The key is to frame a mechanism that is much less mechanical and more supportive of emergence, creativity (variation), and dynamism (complex, interdependent, and interrelated) and is supportive of non-directional (retrospective causality, initial condition influence and path sensitivity) behavior, yet provides order, if not mathematical rigor. This means including historical “externalities” into the decision-making process. Unlike Bell, I do not believe these are unobservable factors, “such as values, ethics, expectations, motivations, culture, and the impact of relationships and cooperation on economic decision-making” (Bell, 2011, p. 641). Instead, the I apply the concepts of societal differential-function systems as the sources of these “externalities” and abstracts their
specifics to rules and rule sets applied in choice decisions (mediated by transactional or transformational rule sets, in turn mediated by framing and structural rule sets) by individuals (agents or agencies) that then evolve (the rule sets) based upon their success (benefits accrued to the agent or agency executing them) in optimizing a wellbeing-fitness function for a society, even at individual cost (e.g., altruism). By doing so, these rules and rule sets become visible by their trajectories across the differential-function systems—not unlike the observability of subatomic particle tracks in a cloud chamber. I would argue that these rule trajectories are Adam Smith’s “invisible hand” (A. Smith & Skinner, 1999), thereby reflecting the moral and natural bounds of economic-decision makers and confirming his intuition that economic systems are natural evolutionary phenomena which are dynamic and constantly changing.

Assumptions that are common among the economic approaches reviewed are centered around the concept of groups of “free agents” and the aggregate effect of their combined choices. Any choice-making entity is always seeking to either maintain or advance its state of existence with a decision to act (or not act when action is proposed). Any choice-making entity is always seeking to optimize the investments (time, effort, capital, assets, reputation, etc.) in terms of how much contribution to make (efficiency) in exchange for the resulting benefit (efficacy) of improvement in state. Even if a decision and associated actions are determined to be efficient, effective and state positive, research has shown (Clay, Ravaux, de Waal, & Zuberbühler, 2016) that the returns on investment must be “fair”—including advancing the interests of society and the individual—otherwise state is diminished (de Waal, 2014). Therefore, all choices are an appraisal of how an
exchange of “value” will move the decision maker and the other agents and agencies across a fitness landscape, as described by Gill (Gill, 2010).

To do this, the conceptual model settled on a fitness landscape of wellbeing to represent this, as described in Section 3.4.3.

Often business is thought of only in terms of the corporation; but a systemic view of business would include everything from individuals, partnerships, affiliations, all the way up to global mega corporations. Likewise, a society, as a complex adaptive system, is made up of agents and agencies. Agents can form into groups to generate collective behavior. Agencies are also groups of agents but exhibit uniform desires and beliefs and behave as a single agent. Institutions are collections of desires and beliefs that act as a single agent that is potentially independent of its constituent agents. Their size can range from two agents to the entire society. They have roles, responsibilities, obligations, entitlements, power and identities (List & Pettit, 2011).

Fundamentally, the conceptual model must represent, or at least point to, how an individual, group (collection of individuals with a shared attribute), enterprise (collection of individuals and or groups with a unique purpose/mission/goal) or society (collection of individuals, groups and enterprises with a goal of co-existence and principled interaction) makes choices (give up one form of value for another) regardless of the form of value (e.g., time, effort, capital, assets, reputation) or outcome given there are always alternatives available. Is there a general model of implicit and explicit decision-making underneath the many existing business theories? What are the components of such a model?

The model would have to have the potential to be extended and refined while being consistent, from the macro level of society, the economic system and businesses; to a meso
level of populations; and lower to a micro level of specific decision-making by independent agents and agencies. It would have to incorporate micro-, meso-, and macro-level approaches (House, Rousseau, & Thomas-Hunt, 1995; Klein & Kozlowski, 2000; Svedin & Liljenstrom, 2005), to address the constituents of value for free agents and their choice processes, how different value states combine and morph into group value states and then processes for value exchange decisions and successive interactions of choice making among the agents and agencies. All three levels are needed for a complex system such as a business’ interaction with society (Aguinis, Boyd, Pierce, & Short, 2011).

Economic, and consequentially business evolution is a process of internal transformation of the rules governing the system. Such change takes place at the micro (system agent) level, thereby causing changes at the macro (system, subsystem) level. But they cannot be directly mapped due to the non-linearity of the effects, therefore requiring a meso intervening level. In the conceptual model, economic rules are, necessarily, embedded in a broader environment of rules. These rules originate in the other differential-function systems of society. The economic rule-system is entangled in a broader context of these rule-systems and the economic rules, as they emerge compete with these rules from the other systems according to how well they help society, the subsystems, the agents and their emergent forms traverse the wellbeing-fitness landscape.

Sometimes evolution produces similar outcomes in very distantly related organisms even though different evolutionary paths were taken, even though the path-dependency characteristic of a complex adaptive system (such as life) would make the probability very low. This is called parallel evolution, and when it happens, it is the outcome of common environmental factors. If it happens with species of life in similar environments via genes,
then it could happen with species of ideas via memes when they emerge in similar environments.

Assuming the general correctness of social-systems theory’s differential-function systems, the economy is one of many systems in a society competing to sustain itself in a common environment made up of those same systems competing against each other. Social-systems theory shows a similarity and an emerging common ancestry of the epistemologies, ontologies and methods of understanding across many of these systems in the fundamentals of evolution, complexity and complex adaptive systems. Economics being the study of one of these differential-function systems of a society, the social systems theories should apply to economics as well.

Economic thought itself has begun to recognize the role of complexity in understanding economic activity and it consequences (Arthur, 2015). Introducing complexity leads to the emergence of Darwinian models to account for adaptation and change. This has generated a radically different view of the economy with significant implications for understanding how the economy operates—maybe even to the equivalence of quantum and string theories to physics. It is evolutionary economics.

Some history is needed to appreciate the significance of this development. Tony Lawson was interviewed in 2009 (Lawson, 2009). He suggested that economists are not studying what the economy really is, and therefore did not really understand it. What economists do is study the economy as if it is something—generally a physical system

100 A reminder is necessary here of the much attributed “meme” that all generalizations are wrong, including this one.
like in the hard sciences (e.g., energy = utility, entropy = utility maximization, space-time = markets, equilibrium = equilibrium)—by modelling what they think it is, generally using the tools of hard science rather than studying what it really is: a very messy human system.

Simultaneous with Lawson’s challenge, three economists—John Foster, Jason Potts and Kurt Dopfer—were starting\(^\text{101}\) to describe the economy as what it is: complex rather than mechanistic, networked rather than linear, with macro behavior emerging from micro behavior as one system, and driven by independent agents (people) making choices based upon a heuristic (good enough rules\(^\text{102}\) learned over time) who exhibit behavior that is often not rational. The result was a general theory of economic evolution proposed by Dopfer and Potts (Dopfer & Potts, 2015), though the idea of applying evolution to economics probably originated in 1982 with Nelson and Winter (Nelson & Winter, 2009) and presaged by Schumpeter (Andersen, 2009).

Early elements of the conceptual model as it developed were superseded by the introduction of ideas from evolutionary economics. For example, the early reliance on memes was replaced with rule trajectories of rulesets. Instead, of rules (from complex

\[^{101}\] In fairness, one of the most brilliant papers (Simon, 1991) I ever read was discovered late in the study. It anticipated this line of thinking, but I am not sure it influenced it, as its citations seem to be in management and organization literature rather than in economics.

\[^{102}\] There is not consensus around rules with them being replaced elements of psychology (similar to Habermas’ LifeWorld) and/or social position (critical systems theory).
adaptive systems) populating a knowledge base, the idea of rule types forming into rulesets (complexes in evolutionary economics) was incorporated. On the other hand, the conceptual model simplified rule complexes—which were structured based upon rule classes, which the conceptual model does not use. It appears that the rule classes were introduced to handle non-economic concerns—which the conceptual model handles by extending markets into the other differential function systems. Evolutionary economics treats markets as a meta (generic) rule complexes—that represents all the differential-function systems as single emergent temporal function of society or combination of systems (for example the intersection of economy, religion, politics and law that emerged in the gay wedding-cake debate). The conceptual model has kept the rule classes as a placeholder in case a future need for them appears. For similar reasons, evolutionary economics’ rule types (constitutive, mechanism, operations) are subsets of the conceptual model’s rule types (framing, structural, and production), which allows the model to be equally facile with ideas as goods and services and therefore extendable to all the differential-function systems. The conceptual model added the concept of rule functions to support the differences between transforming value (create, store, use, consume, destroy) and transacting value (exchange). The conceptual model uses value (form being irrelevant) as an input into fitness functions (unique but interrelated, interdependent, with many interconnections, by agent, agency, system, and society) that modify wellbeing. Evolutionary economics, if it addresses value, uses it bimodally (it is or is not produced) or ordinally (there is more or there is less). A meta fitness function such as the conceptual model’s value-trust-wellbeing form does not appear in evolutionary economics, though
fitness functions are used in computational models to simulate an instance of what the conceptual framework would call a market (examples can be seen (Foster & Hölzl, 2004).

### 3.7 Considerations of Business Theory

The most probable assumption is that no currently working business theory will be valid in 10 years hence. (Peter F. Drucker, 1993)

Business theory has contributed to the conceptual model either directly or as challenges to it, presenting alternative perspectives. A useful new model of business and its role in society should be able to account for or derive many of the other basic management and organizational decision-and-choice making theories, such as those outlined by Miles (J. A. Miles, 2012). As the study progressed, less of it was coming from the corpus of business and more of it was originating from complexity, sociology and eventually economics. Why this should be, was becoming a meta-research project within the research.

One issue was the researcher’s background as a practitioner. When examining a business theory for incorporation into the model, the “been there done that” inevitably kicked in and the credibility of the theory was challenged. It was not that the theories or models were wrong; it was familiarity with their limits and all the things they were not considering. It was externalities and simplifying assumptions—not unlike the elegant mathematical solutions to complicated problems encountered in undergraduate physics courses until the real-world supplies something as simple as friction. It was these externalities that the study was seeking to address.
Another issue was strong familiarity with the subject of the theories. Pursuing them in the literature brought a realization that the study was becoming increasingly narrow, focused and niched by assuming more and more away. Knowing the mouth parts of the pine-bark beetle does not tell you much about the forest\textsuperscript{103}. It was hard, if not impossible to find overarching themes or useful paradigms that could bridge management, organizational behavior, finance, accounting, and marketing, much less other disciplines.

Part of the problem is that I had to work harder to incorporate ideas from other disciplines into the research. They were new ideas being viewed with fresh eyes. There were fewer assumptions about what was meant by them. There were no years of studying a subject and being part of Kuhn’s generation that needs to die off before accepting new ideas, viewpoints and paradigms (Kuhn, 1970). But with the new ideas came questioning of the old ideas.

The study has discovered that many of the underlying assumptions in business theories are probably wrong. Very little decision making is rational. Very few decision makers are wealth maximizers. Very few decision makers have all the information they need, all the cognitive ability required, and unlimited time to make decisions. Forecasting the future to frame business decisions using elegantly developed models of return at best makes people feel better about their decisions. And all those models rely on objective facts that are probably neither objective nor facts (Putnam, 2002) and expected values that most likely will not really be experienced (Peters & Gell-Mann, 2016). Lastly, some of the evidence gathered to test the conceptual model as it was developed challenged assumptions

\textsuperscript{103} Though as the sections on complexity show, it can have a significant impact.
around ownership, wealth creation, and the purpose of business. It all recalled an old Drucker article (Peter F Drucker, 2017), only instead of addressing a theory of “the” business, we are in need of a theory “of” business.

That said, none of this distracts from the usefulness of the theories discussed below. Day to day, they still work fine. Einstein’s general theory of relativity did nothing to reduce the value of Newtonian physics in building a bridge. Unless there is a black hole nearby, the billiard balls will work as advertised. However, the research suggests that a black hole is approaching. Newton cannot help building a spaceship to approach the speed of light. He never accounted for time dilation, length contraction or how gravity “really\textsuperscript{104}” operates. Technology has speeded up time, provided an instantaneous and infinite density of populations of stakeholders who the business needs in some form, and has combined it with increased access and availability of information so that particles behave like waves and waves appear as particles.

As this study goes forward, and as others address “wicked” problems, apply trans-disciplinary research and build integrative models as this conceptual model tries to, perhaps an evolutionary theory of business will begin to appear as evolutionary economics has. Until then, it is important to link to, incorporate, enhance and expand the existing base of knowledge.

\textsuperscript{104} Until quantum or string theory (or something else) links to relativity, we really don’t know.
3.7.1 Introduction

A fundamental choice between oppositional assumptions must be made before examining potentially emerging characteristics of a new model of business and associated governance. This is the meta question of property or fictitious person. There have been decades of political and social debate (Glavas & Mish, 2014) on whether corporations should be treated as fictional entities who exist strictly to create wealth for their owners (as supposed by shareholder theory) or as fictional persons who should incur equivalent obligations and rewards to and from society, as do all its other agents as suggested by stakeholder theory. This study suggests and pursues the latter hypothesis.

It is also challenging to determine what literature applies. The end goal is to be able to comment on the suitability of shareholder and stakeholder theories to guide the governance and strategic management of firms. The study aims to provide a generally applicable commentary; but one of the first discoveries is that institutional context significantly impacts the applicability of theory (Goh & Rasli, 2014). The second is that much of the literature centers around internal issues and predefined roles often ensconced in law (Tricker, 2015) while acknowledging that this must change105.

A general survey of the business literature around governance, strategic management, and research related to stakeholder and shareholder was conducted. These results were then compared to the practitioner perceptions and what was found most

105 More in response to events like Enron, MCI and Sarbanes-Oxley than in terms of the model may need rethinking.
relevant was included in the development and though testing of the conceptual model as it evolved. Some are identified as potential opportunities for future research.

The primary focus of the study, shareholder and stakeholder theory, is constructed as a normative theory of business governance, responsibility, and obligation to society. It describes what an enterprise’s behavior ought to be and implies an ethical framework. Shareholder theory may contribute to unintended consequences such as pollution, inequity, moral hazards and damage to societal norms due to its optimization focus on one stakeholder of the firm. Stakeholder theory has other issues, including a lack of clarity in who are stakeholders and what/how much is their “stake”, definitions and measures of success, and confusion as to the mission and purpose of an enterprise. The Friedman-shareholder (Friedman, 2009) versus Freeman-stakeholder (Freeman, 2010) debate continues today. Regardless, neither theory appears sufficient for the emerging complexity of the role society expects of business.

3.7.2 Governance

The emerging systemic paradigm is integrating information systems, cybernetics, communication theory, second-order cybernetics, organizational design and management, and evolutionary theories (general, life, cognitive, social, linguistic and psychological) into a coherent second-order\textsuperscript{106} vision of our world... It manifests in practices.

\textsuperscript{106} When Bausch is talking about second order, he is talking about the shift from causality to emergence and the introduction of a meso layer of analysis, though he never specifically says so.
of stakeholder design and interactive management that supplant the old hierarchical and linear modes of governance. (Bausch, 2001, p. 2)

The above text was written in 2001. In 2007-2008, the world experienced the worst financial crisis since the Great Depression of the 1930s. Many causes have been identified. The research suggests two. First, it demonstrated that society and its subsystems, particularly the economy are complex systems. Whether it was due to a small perturbation of a few missed mortgage payments in Florida becoming a nonlinear butterfly effect, an unsustainable self-organizing adaptation of “loosened” credit creating a balancing negative feedback loop (which unconstrained the reinforcing positive feedback loop of housing demand thereby initiating a move from complexity to chaos), a black-swan far-outlier event, or simply the normal stochastic behavior of the system—the crises demonstrated the interconnectedness, interrelationship, and interaction of all the elements and systems of society.

Second, it demonstrated that business was failing at some role society expected it to perform in exchange for its legitimacy to operate. Whether it was banks, real-estate agencies, builders, mortgage brokers or even the government, the result was a huge reduction in society’s wellbeing. With more than enough blame to go around, the research suggests that the root cause was that corporate governance failed to understand or care about its role in society and failed to act to fulfill it. The Financial Crisis Inquiry Commission set up by the United States Government agrees: “We conclude dramatic

107 Small change in one state of a nonlinear system can result in large differences in a later state.
failures of corporate governance and risk management at many systemically important financial institutions were a key cause of this crisis” (Commission & Commission, 2011).

You cannot describe the mind of a human as the linear aggregation of neuron behavior (micro agents) or planetary ecology as a linear aggregation of cellular behavior (micro agents), and you cannot describe an economy or society as the linear aggregation of its agents—humans—especially not if you limit those agents to a single (rational economic-decision maker) rule base. Yet most business theory—especially that which concerns governance and strategic management—does just that. What complexity, social-systems theory and economics suggest is a micro-meso-macro model.

One of the characteristics of the conceptual model is the temporal relationship among the macro (economy, society), meso (groups and populations), and micro (individuals and missioned groups of individuals called agencies). Events and change happens quickly at the micro level, slowly at the meso level, more slowly still at the macro level. What this means in terms of governance is that if “society” is unhappy with something business is or is not doing, it takes a long time for that meme (rule trajectory in the conceptual model) to work its way from upset individuals, through groups pushing for action, through the political system responding, through the legal system acting until the economic system finally puts the issue on the “to-do” list of governance. On the other hand, if some ruleset is very successful at generating wellbeing (at least in the short term) at the macro level of the economy—say, “liar loans”\textsuperscript{108}—then that information is quickly observed at the micro level and forms micro trajectories which increase imitative behavior.

\textsuperscript{108} Low-documentation or no-documentation mortgages.
Meanwhile, according to the practitioners, technologies are making networks larger, denser and faster. These are all characteristics that accelerate (in terms of the conceptual model) rule origination, assemblage into rulesets, and the trajectories of those rulesets into populations. Governance cannot move at the pace of the past; nor can it wait upon the political, legal, or science (business research) systems to provide it with guidance.

While the study started off by considering how to compare stakeholder theory and shareholder theory as models for governance, the research suggests that this is not really the issue. While governance was originally a surrogate for owners, few corporations have “real” owners anymore (C. Mayer, 2013), and that paradigm of governance is now less useful. Much business governance is based on the correctness of agency theory, but the research and model challenge that assumption, as is discussed later. Not getting fired for practicing shareholder theory is no longer true\textsuperscript{109}—to see this, just visit Kviabryggja\textsuperscript{110}. The real issue is an emerging new pattern of governance needs requiring a new model of meeting them and modes of execution to support the increasing volatility, ambiguity, uncertainty and complexity alluded to in the practitioner perceptions.

From the perspective of the study and the conceptual model, the role of governance is to deal with what the model describes as the framing rules that legitimize the role of the business in society. Framing rules are an artifact of the conceptual model that are meant to deal with what is generally termed values, constraints, and permissions on actions. They reflect the total societal-system environment (the 10-societal differential-function systems)

\textsuperscript{109} An idiom for the old saying “No one ever got fired for choosing IBM”

\textsuperscript{110} Jail holding Iceland’s bankers jailed for the 2008 crisis.
that a business must operate in and which either limits or enables production (the operational creation, storage, use, consumption, destruction, or exchange of value among system participants). Governance also applies these framing rules to structural rules which govern the non-productive activities of an enterprise. In the same way that one cannot describe the mind of a human as the linear aggregation of neuronal behavior (micro agents) or planetary ecology as a linear aggregation of cellular behavior (micro agents), one cannot describe an economy or society as the linear aggregation of its agents—humans.

In the practical terms of the role and interaction of business with the rest of society, this agency-theory approach may have simplified governance and strategic management, but it is dangerously irrelevant in times of evolutionary change such as those described in the practitioner perceptions. It is obsessive focus on singular measures, like ROI against a single object, capital, for a single class of agent, stakeholder, who is expected to act according to a singular rule archetype, rational cognition and behavior around wealth maximization. It ignores the overall system (a society) and its complexity, structure (subsystems, rules and populations) and variation. This has caused a simplistic, almost mechanical view of the role of business in a society: shareholder wealth creation.

The research and the conceptual model suggest some directions for change.\footnote{The first conclusion of the report is probably anti-climactic.}

3.7.3 Strategic Management

Most of the literature that I encountered around strategic management has focused on why some organizations outperform other organizations in terms of competitive advantage. The study has two issues with this. The first is the competitive framework when...
the practitioner perceptions were clearly moving toward a more collaborative viewpoint and causing a one-dimensional viewpoint. The second is that many of the measures of that performance are highly susceptible to the very fallacies discussed elsewhere\textsuperscript{112}.

The standard perception of strategy, the responsibility of strategic management, is to create a unique position in the market (value proposition), choosing what to do and what to not do (focus) and aligning the company to support those two (Michael E Porter, 2008). This is accomplished by providing direction to the organization by setting objectives, providing operational management with policies and plans to meet those objectives, then allocating the necessary supporting resources.

The study does not suggest any changes to this role but rather a shift in context. Instead of asking about the business we should be in, the question should be this: Given the roles and their parameters provide us by governance, what value should we be producing? The follow-up question—How do we compete in that business? —should be replaced by this: How do we best produce that value?

This gives governance responsibility for understanding and clarifying the roles that all elements of society ascribe to the business and communicating expectations, obligations and constraints to strategic management. Strategic management develops and supplies the necessary plans, policies, and resources for operational management to deliver the required outcomes within permissible limits of action and costs.

\textsuperscript{112} Goodhart, McNamara, Murphy, Campbell, and Lucas.
3.7.4 Stewardship

As compared to agency theory, stewardship theory is more like the conceptual model in that it focuses on the alignment of principals and agents. A difference is that the emphasis is still on the concept of property and the agent is the steward of the principal’s property. This is opposed to the conceptual model’s interpretation that the managers are stewards of the value the enterprise represents to the society and more directly to all its stakeholders. The study here suggests that this emphasis on ownership defined by capital contribution is a holdover from when capital was regarded as a relatively scarce, expensive friction on a business (value exchanged for value received). If ownership is extended as a concept to include all contributors of value and contributors to legitimacy\(^{113}\) that are needed to exist, the stewardship theory and the conceptual model become more in synch. While agency theory assumes “economic man” (rational self-serving), stewardship assumes “self-actualizing man” (Davis, Schoorman, & Donaldson, 1997). The conceptual model requires neither of these assumptions, as behavior emerges from an evolutionary knowledge base of rule sets that have succeeded (increased the societal participants wellbeing) over time. As with agency and structural contingency, stewardship theory can be incorporated as a special case of the conceptual model.

3.7.5 Agency and Structural Contingency Theory

An agency relationship occurs whenever one partner in a transaction (called the principal) delegates authority to another (called the agent) and the welfare of the principle

\(^{113}\) All of society but more specifically, those impacted by the business but whose permission in some way to operate is required.
is affected by the choices of the agent (Arrow, 1986). Agency theory posits three problems. The interest of the principal and the agent may not be the same. There are added costs in the principal monitoring the agent, and the monitoring will not be perfect. Lastly, there is asymmetric information available to the principal and agent—generally to the agent’s advantage. Two propositions of agency are a function of what is called information asymmetry: that managers will have access to more, more accurate, and more timely information. These are moral hazard and adverse selection.

Moral hazard assumes that managers will not work to their agreement with owners and/or will hide the true status of the firm to increase incentives or dissipate punishments.

Adverse selection assumes that the managers have access to information that is not available to the owners and that the owners cannot be sure that the managers are making decisions correctly.

The conceptual model challenges this on several fronts due to its view that the enterprise is “property” rather than a participant in a society. First is the focus on managerial actions that may depart from those required to maximize shareholder value. The conceptual model does not consider shareholder actions, which is detrimental to the sustainability of the enterprise and its other stakeholder obligations. This is discussed in the formulation of the model and with respect to evidence for the model from the research of Colin Mayer (C. Mayer, 2013).

Second, it focuses on delegation, and on minimizing it, so that returns to owners are not less than they would be if the owners directly controlled the firm. Its approach to this is tighter controls, incentives (generally, compensation schemes or risk of termination) and hierarchical authority (generally, governance structures). The model challenges this on
several fronts. It is purely one-dimensional in its expectations of both the principal and the agent ignoring (from the conceptual model’s perspective) other rules sets in each knowledge base from other systems. It focuses on the interest divergence of principal versus the agent, whereas the conceptual model focuses on the interest alignment of the principal and the agent. Agency theory drives toward mechanistic structures which, though efficient are ineffective and fail in uncertain, organic-like environments. Since these environments are the norm applying agency theory inhibits adaptability, innovation and slows responses to external stimuli, as discussed in this research. It also inherently assumes homogeneity of firms, principals, agents and the nature of their transactions. Consequentially, when the evidence demonstrates better performance when the agents self-regulate and can freely adapt to the business’ environment, the model argues in favor of more controls, increased specialization, and formalization of structure (L. Donaldson, 1995, p. 200). Donaldson argues for contingency theories where there is no one best way to organize or manage an enterprise. He later expands this (L. Donaldson, 2001) to say that success is not a function of optimal structure design but of appropriate levels of structure for the business’ environment. The conceptual model supports this with organization and behavior emerging from the interaction of the rule sets of stakeholders.

The biggest issue between the conceptual model and agency theory are the assumptions that it is a positive theory, because it understands and explains what happens in practice and supplies appropriate prescriptions, because the principle and agent are rational, and because people will not ignore their own self-interest and so cannot behave altruistically. The study suggests that the assumptions of agency theory are contradictory (Shankman, 1999), that altruism is not abnormal (Baron, 2001; Hales, 1998; Issar, 2012),
and that a true shared mission aligns owners and managers without the overhead of agency controls—as is demonstrated by some of the new models of business identified in support of the conceptual model.

One major difference between the conceptual model and structural contingency theory is in the idea of “fit”. It is somewhat ill-defined as a concept. There are multiple conceptualizations, and the theory treats it somewhat statically (Robert Drazin & Andrew H. Van de Ven, 1985). The conceptual model posits either the coevolution of agent or agency rule sets into complementary behaviors (fit) for the agency, or the dissolution of the agency due to progressive loss of rule set overlaps. This is more dynamic and adaptive than the structural-contingency approach.

The introduction of autopoiesis into the conceptual model means that any structure will evolve and adapt to the environment it is operating in, that it therefore does not require the predefinition of contingencies, and that it in fact makes the agency more resilient than any formal structure (Taleb, 2012). However, adapting structural contingency theory into more a process approach and incorporating ideas such as the Cynefin probe-sense-respond model (as discussed previously under complexity) might make the conceptual model more useful (heuristic) in practice.

While there are differences among agency theory, stewardship theory and the conceptual model, the conceptual scheme provides an approach to dealing with the issues defined and addressed in both. Understanding (if not in detail, at least in acknowledged existence) of the differing wellbeing-fitness landscapes of the entities and the individuals involved, the emergence of a resulting organizational wellbeing-fitness landscape
generates an optimal\textsuperscript{114} balance of wellbeing across all the parties (owners, managers, customers, suppliers, communities, etc.) involved across all differential-function systems. This preserves agency theory and structural contingency theory as special cases or views of the conceptual model.

### 3.7.6 Non-Business Agency

As people (agents) form into groups (agencies), they form social institutions (organizations that exist beyond individual members and that are agencies in the proposed differential-function systems being studied in this research) to help in value exchange and wellbeing generation. Social institutions (Miller, 2014) (Kendall, 2003) provide five major tasks. The first (reflected in all the proposed differential-function systems) is acquiring, maintaining (caring) and replacing members. The second (education, religion, mass media and perhaps art as differential-function systems) is teaching new members: People must learn how the group does things, reflected as values\textsuperscript{115} and customs. The third (economy, political and perhaps legal differential-function systems) is producing, distributing, and consuming goods and services. The fourth is providing order (political and legal

\textsuperscript{114} Keep in mind that complex adaptive systems do not have an equilibrium state such that they optimally reflect the system state at a point in time given all participants in the system.

\textsuperscript{115} This proposed theory distinguishes between value and values. \textit{Value} is the worth or usefulness of something; \textit{values} are principles or standards of behavior and standards of measuring the value used to judge what is important, prioritize and allocate other values (resources).
differential-function systems with support from academia and the media), since every society needs some type of order and protection. The fifth is providing and maintaining a sense of purpose, of why the society and social institutions exist (the domain of sport in the differential-function systems, where sport is not confined to athletics). There are some unique potential modifiers of the decision process involved in group settings (Asch, 1955), including the addition of “role”-based modifiers (Kantor, 2012) that may come into play as the proposed framework descends into individual decision making. The conceptual model and framework, which are meant to model the behavior of a society as it legitimizes roles for a business, should be able to do this in the context of the “social institutions”. It should be as representative of their behavior and interactions with the rest of society as it is for business.

### 3.7.7 Other Business Theory

The framework and conceptual model under development should be able (eventually) to incorporate or even derive some of these theories below. These discussions are on the state of progress in their consideration and the early state of the conceptual model. Unless otherwise stated, they are primarily speculative, pending further research.

**Social-network Theory (J. A. Miles, 2012):**

Social-network theory posits that people think and behave similarly because they are connected. This could be an example of saltatory evolution in action, as is suggested in the conceptual model. An agent originates a novel rule or rule set and a successful trajectory (it succeeds in the markets) which can traverse all the differential-function systems and quickly forms a population around it. In this case, it is the rule trajectory rather than any specific networking effects that creates the population, thereby suggesting that people
connect because they think similarly and the other way around, as proposed by social network theory.

Social-network theory is consistent with Granovetter’s embeddedness (Granovetter, 1985) discussed elsewhere. The conceptual model incorporates this line of thought in its definition of a population as a group of agents and/or agencies who have some specific overlap in their knowledge of rule sets. This is supportive of Granovetter’s idea of weak ties in a network of people (agents) being more powerful than strong ties because the costs (time, emotional value, maintenance of reciprocity) of maintaining strong ties limits the number available. With social networking theory, the Dunbar number (as discussed in 3.9A Neuroscience Note) also becomes a limitation\(^{116}\), as does the effort required to maintain a strong tie. By replacing networking with a shared rule set, the conceptual model is possibly more supportive of large, high, mission-driven, high-performance organizations such as Google, Facebook, and (in the past) IBM and Polaroid by requiring neither the networking infrastructure (though it will be there) nor the effort to maintain it.

**Social Cognitive Theory (J. A. Miles, 2012):**

Social cognitive theory suggests that human action is caused by behavior, by cognitive and other personal factors, and by the person’s external environment. It also suggests “reciprocal determinism,” in that the individual’s actions also shape the environment. It also includes the concept of personal agency (intentionality, forethought, 

\(^{116}\) The researcher acknowledges that technology may be increasing the size of the Dunbar number, but it remains unnecessary in the conceptual model.
self-reactiveness, and self-reflectiveness). These ideas fit with the development and evolution of the model at a micro and meso level. Incorporating the ideas of third-order autopoiesis (coordination of social behaviors), the conceptual model uses de-coordination, re-coordination and maintenance of the knowledge base of rules. In turn, the conceptual framework/model provides a foundation to support vicarious learning (observation and adoption). The conceptual framework also appears to be able to handle the three modes of agency in the theory: personal (agent in the framework), proxy (agency in the framework), and collective (enterprise/society in the framework). The conceptual model and social cognitive theory differ in their perspective of motivation through goal systems. The conceptual model would suggest the goals (production and structural rules) emerge from the market in concert with the motivations (framing rules and structural rules) into rule sets.

**Social-comparison and Social-facilitation Theory (J. A. Miles, 2012):**

Social-comparison theory posits that people are constantly comparing themselves to others, while social-facilitation theory suggests that the presence of others impacts performance. The conceptual model would suggest that these are examples of rule trajectories. While both theories address what is happening, the conceptual model supports them by indicating how it takes place. Being autopoietic, it allows for maintenance of self while interacting with the environment through signals and while internally restructuring oneself (altering rules) to increase the performance of the wellbeing-fitness function. The conceptual model/framework has the potential to explain and model, through the structural and framing rules, the differences in anonymous and public decision-making and
performance that both theories suggest—perhaps unifying some elements of both while supportive of Asch’s work (Asch, 1955).

**Social-exchange Theory and Social-capital Theory (J. A. Miles, 2012):**

Social-exchange theory and social-capital theory suggest that parties enter and maintain exchange relationships that are mutually rewarding (progresses all parties to higher states on the proposed wellbeing-fitness landscape) by gaining both tangible and intangible values (time, resources, assets, recognition, status, ideas, etc.) through social interactions and connections. The theory assumes that all parties act with self-interest moderated by goodwill or mutual sympathy based on their perceptions\(^\text{117}\). It allows for both economic and social (the other systems) exchange. It does introduce the idea that social exchanges tend to include short-term asymmetries whereas commercial transactions tend to be more equitable. This implies that time must be a factor in the value exchanges within

\(^\text{117}\) This is a problem for static-equilibrium models due to complications such as those shown by Bickerton’s primary representation system introduced in *Considerations of Social-Systems Theory*: “What is presented to any species, not excluding our own, by its senses is not ‘reality’ but a species-specific view of reality – not ‘what is out there’ but what it is useful for the species to know about what is out there.” (Bickerton, 1990) later extended it to individuals (Bickerton, 2017), as humans have a more extensive, adaptive, plastic, qualitatively rich cognitive ability allowing much more variation than other species.
and across differential-function systems autopoietic boundaries—though less so within the economy.

One benefit of the conceptual framework is that it provides a unifying model (framing rules and structural rules) for the individualistic and collectivistic traditions of social exchange theory. The model accounts for the *reciprocity* rules in social exchange theory via trust in a market. The conceptual model perhaps provides a better or more rigorous and general description for reciprocity, as it (trust) is part of the fitness function for all levels of the model. Relative to social capital theory, one element the model challenges is that social-capital theory suggests that, when one individual gains social capital, another individual must lose it. The conceptual model presupposes that a transparent exchange results in improvements to the wellbeing-fitness landscape for all participants. The conceptual model should be able at some point to show that any loss in social capital is balanced (or exceeded) in other value acquisitions, thereby addressing the zero-sum weakness of social capital theory.

**Social-identity Theory (J. A. Miles, 2012):**

Social-identity theory posits that individuals gain value (significance) from group membership. The initial iteration of the conceptual model accounts for the membership exchange/transaction on the part of the individual in two ways. The first is the adoption, adaptation, and retention of a rule set that promotes an individual as a member of a population. Unlike social identity theory, which views value as an external (significance) positioning in society, the conceptual model supports the idea that wellbeing improvement is possible with internal realization of rule-set change. Marketplaces are the second method. Value exchange can take place externally via a narrative-schema relationship
transaction. It also can support the way in which group membership changes an individual’s wellbeing-fitness landscape outside of group participation. One advantage of the conceptual framework is in its ability to model identification with multiple groups simultaneously via interaction of the differential-function systems and individual resolution (adjusting internal autopoietic structure) of the knowledge base by decoordination, re-coordination and maintenance of its rules.

**Structuration Theory (J. A. Miles, 2012):**

Structuration theory assumes that the structural properties of social systems are composed of the practices of the individuals and the outcomes of those practices. By using a complex adaptive-systems model, the conceptual model overcomes the criticism of the weak (low variety) of behavior the rules of structuration theory generate through the introduction of emergence. The conceptual model supports two-way influence (the system influences the agent, the agent influences the system) of the theory. Comparison and interplay of individual free agents traversing the wellbeing landscape might provide insight into the conflict between “individualists” and “collectivists” models of behavior suggested by the theory. The conceptual model has not progressed enough yet to address many of the higher constructs of structuration theory—such as communications, power use, ...ad infinitum.

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Therefore, modelling this from a complex adaptive systems perspective is important. The individual engages (joins) a group, such that they progress on their fitness landscape, but then membership in the group influences the framing and structural rules of the individual’s knowledge base, thereby changing the fitness landscape, which in turn may alter the ongoing value exchange of membership, in turn altering ...ad infinitum.
sanctioning, signification, domination, and legitimation. For the time being, from the conceptual-model perspective, these are potentially emergent behaviors from the evolution and execution of rules.

**Transaction-cost theory (J. A. Miles, 2012):**

Critics have argued that transaction-cost theory is biased toward the benefits of integration and explicit contractual safeguards and is accordingly unable to explain anomalies or situations in which organizations are successful with minimal governance structures, as can be seen in the new forms of business that provide supporting evidence for the model. The conceptual model uses a narrative-schema approach and its five elements to represent transactions, interactions, and relationships as opposed to bargaining, managing and rationing, and it does not require all the assumptions of Transaction-cost theory. Additionally, Transaction-cost theory would suggest continuing improvement with increased integration, structure, and contractual specification, whereas the practitioner perceptions and some criticisms of agency theory suggest the opposite. The conceptual model therefore suggests some insight into the weakness of transaction-cost theory to account for fluid organizations.

**Sense-making Theory (J. A. Miles, 2012):**

Sense-making theory refers to how information is acquired, evaluated and then acted upon or incorporated into analytic frameworks for future use. This has been anticipated in the conceptual model through autopoiesis, the Cynefin framework, and the work of Habermas (as described in (Bausch, 2001)) around trust and communications. The current iteration of the study does not yet model the internals of the emergent markets (exchange of value and resulting move on the wellbeing-fitness landscape), where sense-
making is crucial for executing the narrative schema. The current iteration simply posits that the sense-making will go on. Information acquisition, modification of relative value based upon information, moderation of that information via trust, and other alterations to the emergent markets are yet to be developed. However, follow-up research would incorporate the sense-making process as part of the emergent marketplaces processes. The sense-making literature has largely separated individual and organizational sense-making. The conceptual model may be able to re-unify them as the study progresses. The model as currently formed suggests action over reflection (Theory of Enactive Cognition – “Knowing is Doing” (Maturana & Varela, 1980)) and is consistent with the related neuroscience (Chun Siong, Brass, Heinze, & Haynes, 2008). There is most likely a relationship between sense-making and habit (automatic choosing) formation, which would be consistent with the model of Tversky and Kahneman (Kahneman, 2011; Tversky & Kahneman, 1981) and the conceptual model’s rule approach.

**Self-determination Theory (J. A. Miles, 2012):**

Self-determination theory examines the extent to which an individual’s behavior is self-determined. It posits that autonomy, competence and relatedness are basic needs. These are represented in the market elements of the model for value exchange. These basic needs would need to be part of the wellbeing fitness function; therefore, each of these needs would have a value associated with them. The evolutionary nature of the rule-rule set-trajectory model fits well with the theory’s requirement that these needs change over time and experience. The theory’s extrinsic motivations (integrated regulation, identified regulation, introjected regulation, and external regulation) match well with the structural and framing rules of the model and how they influence the production rules. The conceptual
framework addresses a major criticism of self-determination theory. The model is neutral and is therefore not biased toward positive reinforcement as self-determination theory is. Again, because the model is based upon emergence rather than goal direction, it does not need to assume the attributes of people (agents) assumed by self-determination theory. The conceptual model does not limit the number of “needs,” as the dynamism model supports new emergent value that can alter the fitness function for wellbeing. Also, such value can have a relative strength compared to other value from the framing and structural rules.

**Psychological-contract Theory (J. A. Miles, 2012):**

Conceptually, psychological contracts represent the *quid pro quo* between two parties based upon expectations of a value exchange (*A* contributes *X* and *B* contributes *Y* to the exchange and both parties move on their fitness landscapes). However, it may just be an attempt to put a legal framework around a non-transparent agreement. The conceptual model suggests that such a *quid pro quo* is emergent in a market in response to a narrative schema, becomes part of the rule set and can alter trust in the wellbeing-fitness function. Over time, repetitive execution and success of the rule sets might result in something that would look like a psychological contract if so the advantage of the conceptual model would extend it beyond an agent to potentially agencies. However, it also seems to be counter to the autopoietic behavior and concepts from the theory of enactive cognition within the model.

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119 Active, growth-oriented, committed search for wellbeing.
Prospect Theory (J. A. Miles, 2012):

Prospect theory attempts to explain decisions that people make under conditions of uncertainty and risk. It attempts to reduce decisions to either potential gains or losses based upon a risk assessment. The proposed conceptual model looks at this differently. The theory requires an anchor or reference point when deciding. The model posits roles, as collections of rules, represent the reference point and is not a choice but a function of what ruleset is engaged for the decision. In the model, rule-set selection is an autopoietic reaction to what event requires action. It is useful in accounting for the observed behavior that individuals (and organizations) will take on more risk to avoid a negative outcome than to achieve an equivalent positive outcome. This runs counter to traditional economic-expectation, utility, and equilibrium approaches to decision-making.

A more interesting approach is to use dynamics (risk of ruin). Ole and Gell-Mann (Peters & Gell-Mann, 2016) provide a computational model to represent the risk imbalance for negative-outcome avoidance over positive-outcome receipt in decisions. Another issue pointed out by Dr. Gill (Gill, 2010) is that risk models developed under the assumption of games and gambling are not universally workable for businesses, especially since they focus on loss of investment and often do not consider other forms of loss or consequences (J. Stikeleather & Sahoo, 2013). These same observations would be expected as a natural evolutionary effect from the success or failure of rule sets over time.

Also, the framing issue discussed by prospect theory (discuss positive outcomes or negative outcomes when there is equivalency) is represented by the conceptual model, as such a discussion would trigger which framing rules would be engaged with the transactional-production rules. Because of the evolutionary approach to rules, the
conceptual model has the potential to address some criticisms of prospect theory, such as its failure in mixed-outcome decisions and risk-seeking behavior.

**Planned-behavior Theory (J. A. Miles, 2012):**

Planned-behavior theory is based upon the concepts of intention. It claims that behavior (decision-making and the subsequent actions) is rational, systemic, conscious and considers consequences. The evolution of social-systems theory (Bausch, 2001) suggests that a preference for a pattern-matching process against current value states and future value states (and where that value state lies on the entities’ wellbeing-fitness landscape) is all that is necessary to assess (and predict) an entity’s behavior. This does not include rational, systemic, conscious and considerate deliberations most of the time (Kahneman, 2011). In addition to being more consistent with both social-systems theory and behavioral economics, the conceptual model of rule sets and the wellbeing-fitness function address the inability of planned-behavior theory to account for social influence, observational learning, and moral constructs.

**Organizational-justice Theory (J. A. Miles, 2012):**

Organizational-justice theory deals with perceptions of fairness in employment relationships. One of the goals of the conceptual model is to bring rigor to the concept of “fair”—not just in the employment relationship but in the overall distribution of value as exchanged and transformed by all of the parts of a society that are touched by an enterprise. The incorporation of differential-function systems into the model can address distributive-justice elements of the theory. As the conceptual model advances, the ability to detect and document rule trajectories could begin to anticipate emergent changes in non-economic perceptions of fairness and then adjust outcome-allocation processes. One advantage of the
conceptual scheme is its ability to address the four-factor criticisms of the theory, in that the different types of organizational justice identified in the theory could collapse into one general justice construct supported by a dynamic rule set.

**Organizational-ecology Theory (J. A. Miles, 2012):**

One point of view for examining the emerging forms of business and business behavior might be organizational-ecology theory (Amburgey & Rao, 1996), which discusses how organizations and their populations change over time in a coevolutionary manner through the stages of founding, growth, transformation, decline and death in response to their environment. It addresses increased organizational diversity regarding the new organizational forms we are starting to see now and decreasing organizational diversity as competition begins to eliminate or reduce other organizational forms within a niche, thereby examining how organizations change over time and phases of existence (founding, growth, transformation, decline and death) (Celik & Ozsoy, 2016). Such a life-cycle theory will likely contribute to a new theory of business later—especially one which concerns how society shapes the evolutionary change we are seeing as new forms of businesses are created and compete with other forms and old forms die off as the social environment changes. However, its focus is more on the interaction within and between populations of organizations, their attributes, behavior, and performance within a niche subject to the same environmental conditions. Ideas around age (e.g., liability of newness), specialization versus generalization, competition versus mutualism, stability or inertia versus adaptability or disruption, population density and diversity versus niche size and structure predominate the thinking (Hannan, Pólos, & Carroll, 2007). Organizational ecology talks about how an organization evolves to address a mission.
This study is oriented around consideration of societally appropriate missions and the resulting formation and destruction of niches and roles within niches by the environment. Potentially, an organization’s traversal across a wellbeing-fitness landscape could be shown to be accomplished by the evolution of the rule sets in the organization’s (and by incorporation, any stakeholder) knowledge bases. Patterns of rule sets for founding, growth, transformation, decline and death, along with typical supporting trajectories, would be expected to emerge from the research going forward in this area. Applying this approach to the emergent new models of business identified in the practice suggests testing it against the findings of organizational-ecology theory would be interesting. This work would be follow-up on the initial research.

**Field Theory and Goal-setting Theory:**

Field theory attempts to account for all of the influences of the environment wherein decisions (behaviors) occur—“a totality of coexisting facts which are conceived of as mutually interdependent” (J. A. Miles, 2012)—which is also the intent of the conceptual model. The theory assumes a balancing of forces and psychological tensions motivating the individual to behave in goal-directed ways to relieve this tension, or, in terms of the conceptual framework, to achieve equilibrium among the differential-function systems by pursuing fitness peaks in the wellbeing landscape. The conceptual model, however, is not an equilibrium model but is instead a dynamic model. In the model, the concept of a market resolving value across all the participants in a decision, action, transaction, interaction or relationship adjusts all the participants’ wellbeing and accomplishes the equivalent balancing tensions. This is emergent rather than goal-directed.
This in turn relates to Goal-setting theory and its assumption that life is a process of goal-oriented action. Goals influence performance levels by affecting the direction of action, the degree of effort exerted, and the persistence of action over time. The conceptual model alternatively suggests that these are emergent weights (structural rules) against priorities and constraints (framing rules) which then guide performance (production rules) that favor states that increase wellbeing of the system (society). This will tend toward value equilibrium across differential-function systems and will stick with it (persistence of action) based upon the “fairness” of the results. While goal-setting theory assumes explicit goals, the conceptual model has such “goals” emerge retrospectively from rule competitions in populations via markets that increase a society’s wellbeing. The “goals” are the hindsight outcomes generated by successful rule sets. The model may prove to exhibit tendencies, but it does not have goals. Goal-setting theory also requires a forced prioritization wherein the conceptual scheme lets priority emerge, thereby addressing criticisms that goal-setting theory puts too much focus and effort on goal setting and performance to the detriment of innovation, creativity, and flexibility, which are natural outcomes of the conceptual model. It would also address the conflict between goal-setting theory and the theory of enactive cognition.

3.8 A Note on Semiotics and Philosophy

As the study progressed, two issues were not being addressed by complexity, economics, sociology, and business. Both issues are related to the use of markets to establish value for resources, goods, services and ideas, and enable their exchange. This is a more comprehensive and abstract use of markets compared to that involved in the traditional economic view of price setting and achieving equilibrium in supply and demand.
3.8.1 Philosophy and Value

The literature for defining, determining, measuring, comparing and decision making around economic market value is extensive, deep and rich. There are mechanisms for establishing value for ideas (licensing), resources (price), and even bad behavior (carbon credits, fines, penalties). However, its normalization into a form useful for cross comparison to and integration with other forms of value in society is a significant and difficult part this research. This will require the model to address the construct of money as a representation of value and price as a representation of relative value beyond just their economic use. That is being able to represent what an agent or agency is willing to give up; which is what it (e.g., time, labor, resources, emotions, experience, affiliation, ideas) provides him, and what a corresponding agent or agency is willing to exchange for another asset (barter, but usually in a generalized surrogate medium called money) because they believe the exchange will improve wellbeing more than what they are surrendering.

As the study progressed, it was clear a higher-order meta concept of value was going to be needed to show how the conceptual model might work rather than a rigorous, detailed representation that shows it working in the markets. This was sufficient for the original purpose of comparing stakeholder and shareholder theories. As the study progresses in the future, it will need to get to that rigorous representation of value and it will need to equally address the traditional economic sense and the more sociological senses, as seen in the nine-other differential-function systems. It is not a problem unique to this study. Marrying up traditional notions of economic value with social value, providing integrated constructs or at least positive comparison frameworks between ROI and SROI (Social Return on Investment) is critical according to a special issue of
Evaluation and Program Planning (Yates & Marra, 2016). Other research also suggests that current individual economic and business theories inadequately address all the dimensions of even economic value creation and consumption in society as a whole (Lepak, Smith, & Taylor, 2007).

It appears, though I have not yet determined if it is true, that the axiological branch of philosophy may have the framework for dealing with this. Axiology looks at ways to determine whether something is good and by some measure how good is it. It is generally applied to ethics and aesthetics, but the work of Robert Hartman (Robert S Hartman, 2011) suggests some ways to represent price (monetized) topologically and though enumeration. I was also introduced to Robert Cummings Neville and his book *Recovery of the Measure: Interpretation and Nature* (Neville, 1989) by a systemic philosopher that took interest in this research. It was beyond what I could handle with so little time for the research. It convinces me that as this research continues, it needs to be done by a team from a cross section of disciplines.

3.8.2 Semiotics and Narrative

The second issue is from the practitioner perception of the transaction continuum. Complexity theory (information crossing a system boundary), economics (exchange of some value for a price), and social-systems theory (acknowledge communication) have concepts for transactions, and interactions could be considered long-running sequential transactions—but not for the concept of relationships in a market context as described previously as a transaction continuum. It is possible that the primary-group concept from sociology can be adapted, but it seems very heavy and is relatively static for the purpose. There are social-systems arguments that relationships are a degree of differentiation of self
the more relationship, the less self), or that relationships are emergent semantic relations on a cognitive map and a cognitive equation based on pattern recognition. For the current state of the conceptual model, it was decided that a rigorous model of a market relationship is not necessary.

What is necessary is a concept about how a market operates around relationships rather than simple or complex (interactions) transactions. An approach came from semiotics, narrative theory. The idea is that a relationship-based exchange in a market is part of a chronologically and causality (not emergent, though the relationship itself might emerge) series of interactions among the parties (agents and agencies) of the relationship. Concepts in narrative theory appear to map well onto cognition in social-systems theory (Bausch, 2001) and provide a dynamic approach for dealing with complexity and ambiguity.

The approach selected to represent value exchange in markets under conditions of relationships (as opposed to transactions) is the canonical narrative schema (Hébert, 2006). A schema organizes knowledge about concepts and objects and the links they have with other concepts and objects. A narrative schema focuses on the temporal and sequencing elements of the links among concepts and objects.

The canonical narrative schema has five parts to represent an action among participants in a relationship. The conceptual models market is an emergent relationship among participants that can be described by the canonical narrative schema. There is an action component (in the conceptual model this would be the exchange of value) which requires two other components. The first is a competence component, which includes the factors necessary for the action to take place, such as willingness, obligation, know-how,
and ability. The second is a performance component, which is the manifestation of the action once competence is acquired. The fourth component is manipulation. Manipulation is how the narrative begins and initiates the acquisition of willingness and obligation. The last component is sanction. Sanction determines if the action is realized and the resulting reward or punishment. How this is put together to support the market construct of the conceptual model is discussed in Section 5.10.

The canonical narrative schema also helped to address an early concern, which was the Nash Equilibria issue that market participants have insufficient or incorrect information (or do not care) to conduct increasing wellbeing exchanges of value. From an information-theory perspective, a narrative can be viewed as a transaction among participants. From a semiotic perspective, the participants are encoders (suppliers of information) and decoders (consumers of information). Semiotics also requires a “sign system” that represents the shared understanding of participants of the value of the resources in the transaction and the potential contribution/detractioin of wellbeing because of the exchange. It is this sign system that conveys the suppliers’ and consumers’ intentions (meaning of the transaction) with respect to each other, (a.k.a., trust in the proposed conceptual model). As trust improves and exchanges become increasingly frictionless, the sign system becomes more coherent. As the sign system becomes less coherent, trust reduces and exchanges encounter friction. The concept of society being overly monetized or an enterprise being overly politicized are reflections of one differential-function sign system overshadowing the others. The conceptual model seeks to reduce these occurrences and perhaps provide a meta-sign system to improve the efficiency and effectiveness of the value information exchanges. For now, the concept shows the pattern.
3.9 A Neuroscience Note

Much of the conceptual model appears to be well supported by current neuroscience, neuroeconomics (Christiansen, 2016), and neurosociology (Kalkhoff, Thye, & Pollock, 2016). It was, however, beyond the available time and current expertise I had to incorporate and synthesize these ideas rigorously into this initial conceptual model and this report.

Neuroscience and neuroeconomics (Christiansen, 2016; Levallois, Clithero, Wouters, Smidts, & Huettel, 2012; Wilhelms & Reyna, 2014) provide many insights and perspectives that it will be important to incorporate into the model and its ideas for future governance and strategic management while translating the learnings of neuroscience into business and economic decision making within the context of human society. In the same way, many “gut” decisions in business have migrated to more rational decision making as the components of those decisions become conceptualized, identified, categorized, quantified and incorporated into a logical framework, thereby resulting in more economically optimized outcomes. A similar framework for governance could offer the same potential to be conceptualized, identified, categorized, quantified and then incorporated into a logical framework, thereby resulting in more optimized outcomes for society – from feels good to is provably good.

In addition to addressing the micro and macro elements of agencies and agents, neuroeconomics is focusing its activities in what Dopfer (Dopfer et al., 2004) refers to as the meso level of evolutionary economics (he in fact uses the term *mesoeconomics*) (Nikitaeva, 2016). Researchers (Clithero, Reeck, Carter, Smith, & Huettel, 2011) at the National Institutes of Health have been able to identify a neurophysiological difference
between how social and monetized value assessments are made. The *nucleus accumbens* becomes active when monetized decisions are being processed. Duke University researchers (Pelphrey, Morris, & McCarthy, 2004) found that the posterior superior temporal sulcus becomes active when social-value assessments are made. Both are quiet otherwise. The interplay of these was demonstrated by researchers (Eberts, Hollenbeck, & Stone, 2005) from the W.E. Upjohn Institute who studied teacher incentives versus teacher values. Conscious and unconscious decision-making research suggests that the idea of much decision-making may fit the rule-resolution model of the current version of the conceptual framework. Scientists at the Max Planck Institute for Human Cognitive and Brain Sciences suggest that our decisions are made seconds before we become aware of them. Decisions are strongly prepared by brain activity. By the time consciousness kicks in, most of the work has already been done. This is highly suggestive that a model such as that proposed by the conceptual scheme is in play (Chun Siong et al., 2008). This is a model of cognitive rule processing as opposed to traditional “logic” and “rational” thought processes.

Neuroscience is also discussed because of the nature of the presentation of the model. As the model developed, it implicitly treats model constructs—such as agents, rules, rule trajectories, markets, transactions, and transformations—as real and the outcomes as representations and evidence of those constructs. We intuitively know this is may not be the case, as other underlying models might be applicable.

However, current research in neuroscience may offer more substantive and direct support for the conceptual model going forward. Some research suggests that the mind is in a continuous state of hallucination. What we call reality is simply a hallucination that
any given population (group of agents and agencies with overlapping rule sets) agrees upon\textsuperscript{120}. This fits well with some ideas that emerge from the model, such as population formation via rule trajectories. It is also insightful relative to macro level rule trajectories (knowledge-based maintenance) and the persistence of wellbeing diminishing decision making ideologies, cognitive dissonance, confirmation bias and other things. But it is beyond the scope of the current research.

As this report was being written, several exciting new developments appeared. In \textit{Scientific American}, Silva (Silva, 2017) reports on research showing how neurons link memories by sharing a neuron across memory maps. It is possible that a similar mechanism could link rules in a rule set as described by the model. A Swiss research initiative, the Blue Brain Project, which is working on a supercomputer model of the human brain, found that neurons group together into multidimensional (mathematical, not space-time) groupings. The brain’s over 86 billion neurons construct highly complex cellular networks across 11 dimensions (Reimann et al., 2017). The research suggests that this connectivity provides the emergent functionality of thought (information processing and exchange). It is possible that studying this emergence can shed light on the emergence of differential-

\textsuperscript{120} Anil Seth, Professor of Cognitive and Computational Neuroscience at the University of Sussex, summary TED talk, “Your brain hallucinates your conscious reality”.

function systems in a society. Lastly, interesting research around the Dunbar Number\textsuperscript{121} (Dossey, 2017) has it showing up not only in social networks but in emergent organization structures (military, aboriginal tribes, religious sects) and even in the complexity of stories (Dunbar, 2017). This suggests that it may be a neurological constraint on the number of considerations an agent can incorporate at a point in time and a potential limit on the actionable rules and rule sets an agent can use for any one decision process. It would also show why agencies are capable of much more complex processes via delegation and collaboration across agents and achieving network effects. It also leads to an interesting research opportunity around augmented reality as a super agency allowing individuals to overcome the Dunbar number and potentially making exponentially more complex decisions.

Mapping the artifacts of the conceptual model to neurological behavior has the potential for rich research in the future, but in the present, it suggests no contradiction with the model.

### 3.10 A Note on Memetics

As this research progressed, conversations around the practitioner perceptions invariably resorted to the concept of memes and memetics. A meme is an idea or behavior that spreads from person (agent) to person within a population, or as the conceptual model suggests, forms a population. It is an easily understood concept for practitioners when explaining the idea of a rule trajectory and rule sets, and it constitutes a useful metaphor for explaining the conceptual model in a substantive manner. Richard Dawkins (Dawkins, 1976, p. 25) states that humans can hold about 150 meaningful relationships in their heads.

\textsuperscript{121}Humans can hold about 150 meaningful relationships in their heads.
2016) first used the term as a cultural analog to genes as they exhibit variation, heritability, competition and differential survival based upon fitness.

Memes are different from genes in that they can have multiple parenting and no real generation cycle with unlimited potential spread, thereby resulting in a much faster evolutionary cycle. Technology and its ability to enable, facilitate, and accelerate communication, is now evolving so quickly that we are likely seeing a shift with memes becoming more important than genes for societal success. When memes compete for survival, they do so primarily for their own benefit as opposed to that of their carriers (Dawkins, 2016; Dennett, 1995). Memetic evolution is more Lamarckian than Darwinian, as the carrier does not have to die for the meme to be differentially unselected, although epigenetics suggests a similar behavior with genes. This is also consistent with the conceptual model. Lastly, memes and genes can influence each other. For example, religious prohibitions against reproduction (meme beats gene), caste systems (gene beats meme), or martyrdom (both simultaneously overcome and reinforce each other).

Memetics as a research paradigm, with its own unique methodologies, has not yet achieved any great success. There is significant criticism of memetics. For example, consider the following:

But while genes are well defined and their molecular structure has been extensively investigated, memes are ethereal and cannot be defined. Without an adequate idea of these elusive elements it is no

122 On the other hand, a comprehensive and vigorous defense can be found here: http://memetics.timtyler.org/criticisms/.
surprise that no scientific demonstration of such an immaterial replicator exists and serious scientists disregard memes as the basis to explain consciousness and cultural evolution. Memetics is nothing more than a pseudoscientific dogma where memes are compared to genes, viruses, parasites, or infectious agents thriving for their own survival in human brains. (Benitez-Bribiesca, 2001)

While currently out of favor in the academic community (Vada, 2015), the initial units of information in the conceptual model are based on memes and the principles of memetics. As the study progressed, the concept of a meme morphed into a “rule trajectory” and “rule sets,” which are more tangible. Also, the concept of a meme is beginning to be revitalized in the literature (Waddock et al., 2016) as a vehicle for a cultural narrative, particularly as it relates to social ideas being promulgated across the Internet through social media (Shifman, 2014). Shifman’s approach was readily mapped onto the conceptual model’s rule sets and rule trajectories as they were developed. The study of meme propagation and the probability of meme trajectories are emerging areas of interest in the fields of complex networks and complex computation research around swarm and evolutionary computation (Neri & Cotta, 2012). In addition to the properties of the meme itself, computer simulation shows that the structural properties of the underlying network determine the speed and trajectory of the propagating meme: a useful idea for the conceptual model.

In addition to being a useful metaphor providing and perspective on how ideas propagate, especially for practitioners, the meme is also useful for trans-disciplinary research:
Meme theory can and is serving a bridging function between different disciplines, facilitating the cross-disciplinary study of cultural evolution. Here is where the simplicity and all-encompassing breadth of meme theory is a strength, not a weakness: it provides a common vocabulary for varied disciplines to share information and perspectives. It also anchors cultural evolution in a metaphor with biological evolution, which may help to keep the former from straying from the confines of the evolutionary algorithm. (Beattie, 2016)

Generally, memetics is supportive of the conceptual model around the competition of rule sets via markets. Blackmore (Blackmore, 2000) shows that once our distant ancestors acquired the crucial ability to imitate, a second kind of natural selection began: a survival of the fittest amongst competing ideas and behaviors. Memetics’ focus on the evolution of information and its scope—which encompasses information ranging from individual words to entire ideologies—was critical in kickstarting the study and so is discussed here. However, as other concepts evolved during the study, its utility shifted to be a bridge to practice rather than a foundation for the conceptual model.

However, it is possible that work like that of Waddock and Shifman, better links to biology (De Block & Ramsey, 2016), new utility in computation and diffusion research, funding from the National Science Foundation123, and even the potential contribution of this research’s rule sets and trajectories may lead to a revival of memetics as a discipline and may begin addressing criticisms such as Benitez-Bribiesca’s.

3.11 Discussion and Summary of the Academic Perspective

As different theories and parts of theories from different domains were compared against the synthesized observations, a much more inductive process began. Patterns began to emerge in the application of theories, in the exceptions of theories, in the observations viewed through the lenses of the theories, and in the thought experiments. These patterns led to further leveraging of ideas and theories from complexity theory (to better address causality and behavior), from economics and decision-making (to better reflect choice), and from evolution and biology (autopoiesis) (to better reflect the relationship and interactions of the various components of society). By combining ideas and theories from multiple domains and by relaxing or reducing the assumptions (e.g., rational decision maker, need for system equilibrium), a simplification process of the evolving conceptual model began.

The introduction of these additional domains of knowledge made clear that any systemic description would require three levels of analysis: a micro level that reflects the actions (origination, adoption, adaptation and retention of rules in the model) of independent actors (agents and agencies), a meso level that reflects emergent actions (spread of rules and rule sets as a rule trajectory for group adoption, adaptation and retention) as the independent actors form into multiple membership populations\textsuperscript{124}, and a

\textsuperscript{124} One of the additional complexities of dealing with complex systems is that it is generally a recursive process. Complex systems are made up of complex sub-systems, which are made up of their own complex sub-system, \textit{ad infinitum}. Quantum strings make up sub-atomic particles, which make up atoms, which make up molecules, which
macro level that reflects the emergent behavior (results of rules and rule sets being applied) of the system. This helped test the resulting model with cogent arguments by making it possible to use biological evolution as a working analogy (DNA, gene, chromosome cell, organ, system; individual, species, ecosystem).

As the study progressed, it became clear that it would not end by proposing and testing a hypothesis. It became primarily a theory-building exercise (for how ideas move among different components of a society and become actionable) in terms of constructing a conceptual model, with the primary interest being to achieve an understanding of how society legitimizes a business and how a business might better detect and respond to changes in its legitimate role. The goal of the study then became to produce a cogent model

make up amino acids and proteins, which make up DNA, which make up genes, which make up chromosomes, which make up cellular components, which make up cells, which make up organs, which make up systems, which make up organisms, which make up species, which make up ecosystems and societies. The level of analysis (micro, meso, or macro) is a function of how the system is organized and structured and at what level of behavior you are studying and where you want to introduce change (mutation or variation). Evolution, as generally discussed in biology, is a population process, a meso-level emergence of new behavior (application of rules) in the system. Species evolve from a population of organisms competing in an ecosystem (organism, species, ecosystem), organs evolve from a population of cells competing to perform a function in an organism (cell, organ, system), and cells evolve (gene, chromosome, cell).

125 See more in-depth discussion under Boundaries of the Research.
of how ideas (in the vernacular as norms, values, expectations, obligations and other contributions to legitimacy; in the model as rules and rule sets) move across society to establish legitimacy for a business. In a similar vein, the conceptual framework needs to account for more than just self-interested behavior, as both altruism and others influence decision-making (e.g., shame, example setting).

Once this was in place, an analysis was made to determine whether stakeholder or shareholder theories have the best potential to support and guide governance and strategic management going forward. Afterwards, the goal shifted to how to adapt business theories of governance and strategic management—specifically stakeholder theory\textsuperscript{126}, to better inform governance and strategic-management decision-making. It was to also lay the groundwork for further research into some of the theory identified above, thereby to better integrate and improve not only the model but also the original theories themselves.

\textsuperscript{126} See the discussion in Chapter 8 of Stakeholder versus Shareholder theory for why stakeholder theory was chosen.
CHAPTER 4 Research and Conceptual Model Building Methods

Normal science, in Kuhn's sense, exists. It is the activity of the non-revolutionary, or more precisely, the not-too-critical professional: of the science student who accepts the ruling dogma of the day... in my view the 'normal' scientist, as Kuhn describes him, is a person one ought to be sorry for... He has been taught in a dogmatic spirit: he is a victim of indoctrination... I can only say that I see a very great danger in it and in the possibility of its becoming normal... a danger to science and, indeed, to our civilization. And this shows why I regard Kuhn's emphasis on the existence of this kind of science as so important. (Popper, 1970)

Why would anyone want to take on the difficult job of theory building, or in this case constructing a framework and model that effectively suggests a theory? There are several good reasons to do so. Many are identified by Swanson and Chermack (R. A. Swanson & Chermack, 2013) including a practice-theory gap, a theory that fails in practice, a theory that is overly complicated, and a lack of a directly applicable theory. Additionally, the issue being addressed is trans-disciplinary, which means what little direct theory exists is incomplete. Most of what comes from a specialized domain is inappropriate due to assumptions or paradigm, and are so overwhelming in detail or specificity as to be unapproachable or unusable in practice.

The initial point of this study was to establish any potential superiority of stakeholder or shareholder theory in providing guidance to governance and strategic management going forward—anticipating the issues identified about the future in the
practitioner perceptions. To do this, a framework for understanding and analysis was needed. But none was available.

The reason none was available can be discerned from observations made in the very early literature surveys. It was reasonably clear that the framework would be based upon complex adaptive systems for all the reasons discussed in Chapter 3. The problem is that, with complex adaptive systems, past performance is no indicator of future performance due to the continuous evolution of the system and its participants. The research could not count on a historical study of how companies that used the two theories did comparatively. A corollary issue is that part of the research was around the issues associated with decision externalities. Even if an historical performance study was conducted, it was not clear what extrinsic factors would need to be controlled for.

Another reason was to identify potential units of analysis. One of the key themes in the practitioner perceptions is the speed and magnitude of change that governance would have to deal with. Being unprecedented, there was no real theory in support, and it was not clear what would need to be observed, measured, and analyzed.

4.1 Introduction

There were two immediate problems challenging this research. The first was scope. Determining how a society would establish, legitimize and hold a role for a business to account would at a minimum need to engage sociology to account for society, economics to understand value creation and exchange, and business to provide insight into governance and the strategic management of an enterprise. Since value creation and exchange require many decisions to take place, there was also a need for neuroscience/neuroeconomics and the assorted theories of decision-making. Additional disciplines of knowledge were
added—such as semiotics (narrative schema), cellular automata (classes and behavior of systems), philosophy (nature of value, trust and wellbeing), and memetics—as this study is speculative, exploratory and definitional, implying much discovery and iteration.

The second problem concerned the necessary depth. A society is made up of individuals, as are most enterprises. The study would accordingly need to account for individual behavior, including the behavior of groups of individuals and populations of like (in some way) individuals. The study would need to address the assorted interactions of individuals to understand the higher-level behavior of the society such as norms, behaviors, likeness of individuals, differences of individuals, how society accommodates and assimilates differences, interdependency of individuals, how individuals cooperate or conflict with each other, institutions, and other characteristics. The same hierarchy of behavior exists on the economic and business side, and the interactions of the business and the economy with the rest of society need to be accounted for as well.

The immediate observation from the literature about the role of business and the responsibility of governance and strategic management to fulfill that role is that no existing theories, no traditional approaches for modifying or constructing new theories, and no one discipline would provide a comprehensive, cogent and complete method. This was not a particularly new observation, having been a key issue of wicked problems (V. A. Brown et al., 2010)—a major problem in adopting multi and trans-disciplinary work (Leavy, 2016) and even an issue in intradisciplinary theory construction (Gioia & Pitre, 1990).

To build a coherent description of a conceptual model that would explain the observations and perceptions of the practitioners, it was clear that it would be necessary to incorporate a wide scope of paradigms and theoretical representations. This, in turn,
suggested an iterative, recursive cycle of generating representations and testing them against established theory, practitioner perceptions and observations, and any empirical evidence that could be generated. Gioia and Pitre introduce the notion of developing a meta-paradigm to bridge theoretical assumptions around subjective (normative) and objective (positivist) epistemologies among paradigms and theories, both inter- and intra-disciplinary. This was also consistent with the perspective of Putnam (Putnam, 2002). As was seen in the previous section on academic perspectives, this was a significant issue.

Gioia and Pitre also addressed the functional versus the structural dichotomy contributing to the ontological differences among paradigms and theories, both inter- and intra-disciplinary. They suggest that much business organization theory is boxed in or has at least been dominated by an objective functional perspective which they, in reference to Kuhn (Kuhn, 1970), call the “normal science” paradigm. They also tangentially reference the fact-value dichotomy that results from this—though they do not deal with it directly as did Putnam (Putnam, 2002). In fact, Putnam was dismissive:

_Apparently any fantasy – the fantasy of doing science using only deductive logic (Popper), the fantasy of vindicating induction deductively (Reichenback), the fantasy of reducing science to a simple sampling algorithm (Carnap), the fantasy of selecting theories given a mysteriously available set of “true observation conditionals”, or, alternatively, “settling for psychology” (both Quine) – is regarded as preferable to rethinking the whole dogma (the last dogma of empiricism) that facts are objective and values are subjective and “never the twain shall meet.” (Putnam, 2002, p. 145)_

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127 “Normal science’ means research firmly based upon one or more past scientific achievements—achievements that some particular scientific community acknowledges for a time as supplying the foundation for its further practice” (Kuhn, 1970).
These two schisms (facts versus values) and four resulting approaches\textsuperscript{128} were very evident in the literature review, and being able to reconcile them became a priority for the new conceptual model, thereby to avoid the risk of simply tacitly elaborating assumptions and theories that may not appropriately address the issue being researched: i.e., the societal legitimacy of a business role.

4.2 Research Objective

Figure 11 shows the state of the research objective at the time of this report. It is basically a representation of the research objectives from its origins, that the unintended consequences of business activity and behavior can be attributed to market failures. These market failures are the result of the many elements of society failing to achieve a Pareto optimality\textsuperscript{129} in the allocation of resources across the many dimensions of society. This inability to achieve an optimal\textsuperscript{130} wellbeing is the result of an inefficient and ineffective information flow among the participants. Inefficient and ineffective information flow is

\textsuperscript{128} Gioia and Pitre reference Burrel and Morgan’s approaches are radical humanist (subjective structural), interpretivist (subjective functional), radical structuralist (objective structural), and functionalist (objective functional). (Burrell & Morgan, 2017).

\textsuperscript{129} This construct predates the recognition of the need for non-equilibria for adaptive behavior. It is kept in the initial explanation, as it is part of the research path.

\textsuperscript{130} Likewise, optimal is a holdover, instead it is a (not the) fitness value peak, be it local, regional or global.
generally a function of incorrect encoding and or decoding of the value expectations and value propositions of participants expressed as narratives in markets.

To incorporate more of the practitioner perceptions beyond just unintended consequences, transaction-continuum observations were added into the representation. The transaction continuum provides a foundation for addressing the ecosystem themes (new business models) in the Chapter 2 practitioner perceptions. Role was then added in. The initial research scan suggested that unintended consequences are a function of business not fully understanding the role society ascribes to it. Role was determined to be the significant element of the ecosystems theme as well. Role was also developed as a mechanism to inform governance—both concerning what roles are in play (or emerging) and concerning a measure of performance against the role.

The point of this study has evolved to a long-term goal of providing a framework that will facilitate better understanding of enterprise governance (and strategic management), its evolving dynamics, its performance and how it might be measured. In the context of a society, what is good corporate governance? What principles, practices and methods increase the probability of improved output (value in the conceptual model) good outcomes (societal wellbeing in the conceptual model)? What links governance and strategic-management actions to those outputs and outcomes? What and where are the points of intervention? What inputs (data, analysis) that improve probability governance and strategic management will be correct?

This initial study is meant to address the question whether stakeholder or shareholder theories hold more promise in answering these questions. In the process, the
beginnings of a framework and a conceptual model to more fully address these questions has been laid. 

Figure 11: How the research question evolved

4.3 Approach

The intent was to build a framework or model that could be used to compare stakeholder and shareholder theories in their ability to provide guidance to governance and strategic management in addressing the issues described in the practitioner perspectives. This required breaking the emerging issues and research into small pieces that were as simple as possible to address yet retained the structure needed for the problem. As Einstein (generally paraphrased) suggested, “Make things as simple as possible, but no simpler.”
The first step (this has been an emergent recursive process, as the linear description is a simplification) was theory building: i.e., developing a conceptual model that uses the fewest assumptions from the many engaged domains of knowledge but that can represent the behavior identified by or needed from that domain. The key criteria became accommodating the sources of business legitimacy in a society based upon Roth’s differential-function systems (Roth & Schütz, 2014), thereby representing ideas and knowledge across the sources, showing how they originate, are adopted, are adapted, are retained and are transported across those same systems. As the model was developed, the goal was held in mind to use the fewest possible number of constructs or artifacts to explain the emergence of legitimate business role(s).

According to Gioia and Pitre (Gioia & Pitre, 1990, p. 585)\textsuperscript{131}, “a broader approach to theory building that accounts for differing paradigmatic assumptions” must be used for the framework if it would address the different perspectives and paradigms from the different disciplines that could be linked or juxtaposed in such a way as to provide a cogent view of the issues and approaches to the problem of evolving legitimate societal roles for a business. The research consequentially established a systems paradigm as the anchor for building the conceptual model. Also, the meta-paradigm approach advocated by Gioia and Pitre was incorporated as a way to provide some validation to the model as it developed. As they refer to it, “The multiple-perspectives view implies a kind of meta-triangulation

\textsuperscript{131} Gioia and Pitre were primarily focused on organizational phenomena. From my perspective, it is on governance and strategic management with their underlying assumption of the role of the business is such a phenomenon.
not across methods *within* a single theory or paradigm… but *across* theories and paradigms” (Gioia & Pitre, 1990, p. 596). Thus, the idea is that triangulation can be used for more than just determining accuracy or similarity in analysis across data sets. It can be used for cross-referencing and integrating theories for a more comprehensive description or explanation of the phenomenon under consideration or at least can show that the developing model accounts for existing theories. Leavy pointed out that not doing this is a source of failure in trans-discipline research projects with a reversion to disciplinarity, parallel multi-disciplinarity, and serial inter-disciplinarity processes from trans-disciplinary (Leavy, 2016, pp. 16-26).

This paradigmatic approach turns out to be important as one of the points of intervention in a system: in this case, the system of systems that is society and its economic subsystem. This provides opportunities to discover points of intervention, including the paradigm itself, as described by Meadows (Meadows & Wright, 2009).

As the study developed, a process similar to that proposed by Swanson and Chermack (R. A. Swanson & Chermack, 2013) emerged. This supported the requirement to eventually provide a foundation to practitioners for improving their governance and strategic management while providing academics with a useful framework for reasoning about these subjects. Their approach is meant to address the fact that,

*Practitioners typically throw anything and everything at practical problems, while scholars often slice problems into such small segments that practical understanding is limited. Another almost fruitless approach is to try to emulate successful practitioners (e.g., Steve Jobs and Jack Welch) in hopes of replicating their performance. These tactics do not yield useful outcomes, and applied disciplines do not grow or advance as a result.* (R. A. Swanson & Chermack, 2013, p. 2)
What evolved was an abductive, inductive, deductive iterative sequence:

- Conceptualize (abductive) relevant themes from the narratives, match to existing theories from literature, and observe any discontinuities or gaps.
- Operationalize (inductive) by building an applicable model, look for consistency in inputs, outputs, and flows against theories; identify any propositions or consequences that result; look for opportunities to address gaps from the previous step.
- Confirm (deductive) by conducting thought experiments, comparing against existing theories, compare against narratives.
- Apply by seeking supporting evidence in the academic, practitioner and general societal literature; identify potentially useful tooling approaches for practice; share with others.
- Refine – integrate each iteration with the previous model, theories and evidence.
- Repeat.

Working with a somewhat backward induction process, retrograde analysis of the practitioner perceptions was then conducted to see if they matched the model. Assuming the conceptual model, would its premises expressed as the observations of the practitioners logically come from it? Also, evidence was sought from the real world for both practitioner perceptions and expectations (anticipated outcomes).

Following the suggestions of Gioia and Pitre, the model was regularly triangulated across the relevant theories and paradigms used in the analysis. Periodic analysis and refinement from the data from Ngram, Lexis Nexis, and Access World News also provided
a form of triangulation. The point of these analyses was to address the potential usefulness of the mode such that something like its paradigm and constructs could be observed. In establishing the trustworthiness of the model, the reasonableness of the stakeholder versus shareholder analysis was assumed.

Lastly, if the conceptual model were to be useful and ampliative with respect to existing knowledge, it would need to be anticipatory of behavior by the system (emergence of new roles or evolution of existing ones) and/or identify new phenomena in the system because of the coevolution of roles throughout society. Niels Bohr is quoted\textsuperscript{132} as saying that, “Prediction is very difficult, especially about the future”. This is especially true for complex adaptive systems, where causality can only be seen retrospectively and therefore cannot be predicted. However, if events and processes in the systems can be observed and judgments of probable, preferable, plausible and possible future states can be made (Voros, 2003), then a valuable tool for governance and strategic management would exist.

At this stage of the research, the issues are reasonableness: Do the concepts and model hold up reasonably well to scrutiny such that it is worth continuing, or is there a need to reexamine current progress, or is it time to stop?

### 4.4 Three Levels of Analysis

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*Emergent properties result from interactions between individual parts, so it follows that a top-down analytical approach that begins with the whole and dissects it into its constituent parts is bound to miss...*

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\textsuperscript{132} In “Teaching and Learning Elementary Social Studies” (1970) by Arthur K. Ellis, p. 431.
In Chapter 1 of their book, Liljenström and Svedin (Svedin & Liljenstrom, 2005) discuss complexity as a function of the amount of information needed to describe a system and the amount of interplay among the variables and structural components of a system needed to understand causes, to expect behaviors, and most importantly as a practitioner, to achieve desired purposes and goals. Complex systems are also notable for their non-linearity, self-organization, emergence, sensitivity to initial conditions, and indeterministic behavior (not forwardly predictable over long time frames and causality only visible in retrospect). They also point out that complexity can arise both in time and space—an important concept that is needed to understand a system’s resilience to shocks and sustainability in a dynamic environment. While they do not directly address autopoiesis, they discuss the “stability-sensitivity dilemma” and the need for a system to maintain stability\(^{133}\) with respect to internal fluctuations of its components and structures and to external events and changes to the environment the system operates in while at the same time being sensitive enough to these same changes when they are significant and trending\(^{134}\).

\(^{133}\) Stability here means self-preserving, not static. It perseveres over time but is never the same moment to moment. This is the same idea as that expressed in Heraclitus’ quote about never being able to step into the same stream twice.

\(^{134}\) The events or signals are part of an expected continuing process.
A problem encountered in this study and commented on by others (as indicated throughout this report), is the proclivity of scholars to focus their research by using reductionist methods, breaking the whole into structural elements, and assuming mechanical and predictable cause-and-effect relationships among the structural elements to achieve equilibrium. These methods are relatively simple and elegant and amenable to mathematical formulation. This simplicity and elegance makes them useful for explaining concepts like pricing and equilibrium, but they do not actually describe or analyze the behavior of system participants. These reductionist models are inadequate and insufficient to understand and explore the complex and dynamic interactions that occur among agents (humans), agencies (firms, institutions), the natural environment, and the multiple differentiated function systems of society. Additionally, the assumptions and exemptions (e.g., perfect competition, rational decisions, zero transaction costs, externalities) required to make these theories and models simple and elegant have compound their irrelevance to practitioners who cannot assume things away or eliminate them from consideration.

All disciplines struggle to integrate explanations of the behavior of small elements and large elements of a system. Economics has microeconomics and macroeconomics, physics has quantum theory and relativity, biology has theories around cells and other theories around organisms. In business, we have micro disciplines like human resources and macro disciplines such as governance, policy and strategy. The differences are not just in the topics covered but also in how the study is conducted and analyzed and how topics are taught (Aguinis et al., 2011). As this research interest includes not only determining how a society generates legitimate roles for business but also how enterprises must be governed and managed to meet them, the differences between micro and macro approaches
to governance and strategic management exhibit a “dearth of direction” and an “inadequacy of analysis” (D. R. Dalton & Dalton, 2011, p. 405) to provide useful guidance for practitioners.

What was needed for this type of study is an open-minded, systemic, multi-level evolutionary approach to understanding society as a complex organic system with multiple subsystem wherein the economy and business they operate in it are but parts. This brought methodological problems, as traditional static, linear and closed-loop analyses based upon easily identifiable and measured parameters would likely be incomplete if not in error for a system of dynamic, interconnected subsystems such as that which was emerging.

The key was to establish a context for this research encompassing a micro, meso and macro-level approach (Dopfer et al., 2004; House et al., 1995; Klein & Kozlowski, 2000; Svedin & Liljenstrom, 2005), thereby systemically addressing micro-level research as to constituents of value exchange and production for free agents, agencies and their choice processes; researching at a meso level how different value states combine and morph into group (population) value states; and then applying these to macro-level processes for value-exchange decisions through successive interactions of choice making that results in dynamic non-equilibrium\(^{135}\) among the proposed system components of a

\(^{135}\) Terminology in the study is still awkward at this stage. Complex systems do not have equilibrium. The study suggests that many of the issues in the practitioner perceptions are a consequence of using equilibrium models in a complex environment. 

*Non-equilibrium* was chosen to indicate the continually fluxing but metastable state a
society. Success of these value-exchange activities adjusts the system and its participants’ wellbeing-fitness functions (differential survival), which in turn emerges the behavior of the system and influences future value exchanges.

Wicked problems may involve the differentiation between scholars and scholar practitioners (Cumming, 2010). This three-level approach may be a defining aspect of practice-oriented research on the “wicked” problems of practice:

*The presence of the micro-macro divide may be a contributor to another important divide in our field, namely, the science-practice divide (Cascio and Aguinis, 2008; Rynes, 2007). Practitioners who face day-to-day management challenges are interested in solving problems from all levels of analysis. For example, they are interested in performance issues at the organizational and individual levels of analysis. However, if research produced by management scholars addresses only the organizational or individual level, then it is likely that practitioners will continue to believe that the research produced by management scholars lacks relevance and, hence, “does not matter” (Hambrick, 1994). This divide may be furthered by the institutionalization of pedagogical offerings that tend to focus on either individuals (i.e., OB and HR) or organizations (i.e., strategic management and entrepreneurship) issues. (Aguinis et al., 2011, p. 397)*

The levels of detail used to build a model or describe a system concern a decision about what level of resolution the modeler or analyst is trying to achieve. As seen in Figure 19, if a researcher is interested in an organism, he or she might break it into organ systems that form function systems (e.g., neural, digestive, circulatory) that form the organism. If organs are of interest, then the breakdown would be organelle, cell, organ; if organelles are of interest, then atom, molecule, organelle. This is a somewhat arbitrary decision.

A complex system is in that is not equilibrium but is also not chaotic. Disequilibrium was rejected, as it implied an equilibrium state.
Generally, three levels are chosen: micro, meso, and macro. Macro generally represents the behavior of interest; micro represents the level where activity takes place that eventually appears as macro behavior. The meso level is primarily the connection between micro and meso, though to do this it may have as many constructs as the other two.

Technically, there is a fourth level: the meta level. It is an abstraction of the other levels to maintain a “bird’s eye view” of the system under study and not lose the forest for the trees.

There is an engineering trade-off warning. It concerns the level of detail that must be included in the model to provide understanding against the effort required to build, analyze and use it. Unlike monolithic, mathematical, deterministic models, which generally linearly scale with more detail, multi-level, agent-based models have an exponential effect due to the interconnectedness of the constructs. More detail is usually desired at the micro level, as it is where intervention can take place to change the system behavior being studied. Only enough detail should be used at the macro level to demonstrate the behavior of interest, with the meso layer having enough detail to bridge micro and macro. Changes at any level propagate throughout the model (it is a complex system), so the more detail, the more recalibration of the layers must take place with a change. Be as simple as possible and remain useful, but no simpler\textsuperscript{136}. Every level of a complex adaptive system can generally be reduced into more macro, meso, and micro levels. Any unit of study at the

\textsuperscript{136} With apologies to Einstein.
micro level here is itself likely a complex adaptive system. What is important is the level of detail needed to intervene\(^{137}\) in the behavior being studied.

Also, a unit of analysis or observation is not the same thing as a level or layer of analysis. Levels of analysis focus on relationships among the constructs of the model. The units of analysis, in complex systems, are the actors at the micro level where interventions can take place. The observed emergent behavior happens at the macro level.

### 4.5 Process

#### 4.5.1 Heuristic Research

The research informally begins with a heuristic (Moustakas, 1990) research narrative approach of collecting over many years stories, observations and perceptions of changes in business from mine and fellow senior executives in business by me before I began my research. These are identified in Chapter 2. Executives from multiple industries such as technology, consumer packaged goods, services, finance, pharmaceuticals and others were included. The researcher synthesized these into the themes described earlier.

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\(^{137}\) Again, terminology is awkward. A complex system can be observed but causality can only retrospectively be determined (path dependency, initial conditions), so inferring repeat causality from past causality is inaccurate. From the Cynefin framework, we know we can “probe” a system and observe its response, with the caveat that the act of probing may have changed the system (adaptation). Continuous probe (micro-level intervention) sensing (macro-level observation) activities enable building a probability model or futures cone (Voros, 2003) that can be used to “imagine” the meso layer.
and presented them in practitioner articles and conferences over the years. They are more formally organized as the starting point for this study.

While the overall approach to the study was effectively grounded research and its recursion, this stage of study is better described as heuristic research (Moustakas, 1990). It is more informal and less rigorous than suggested by Moustakas in its original form but consistent as themes were extracted from the narratives. It was, retrospectively, consistent with Moustakas’ six phases of initial engagement: immersion into the topics and questions, incubation, illumination, explication, and creative synthesis. He also cautions that the researcher must continually return to the data to ensure the synthesis and to “determine whether the qualities or constituents that have been derived from the data embrace the necessary and sufficient meanings.” My informal application of this process can be seen by the figure in Chapter 2 showing the evolution of original practitioner (including mine) ideas into synthetic narratives and then confirming them or modifying them from feedback at conferences, workshops and publications.

4.5.2 Abductive Assumptions

Additionally, the researcher applied an initial hypothetico-deductive approach by hypothesizing (effectively assuming) that the problem would be systemic in nature, that society would be the system of interest, that economic activity would be a subsystem of the overall system of society, and that a business would be inherently a participant in both. This was later borne out in the early literature search (Bausch, 2001; Beinhocker, 2006; Boulton, Allen, & Bowman, 2015; Roth & Schutz, 2015; Schumacher, 1977).

This abduction process prepared for the next phase—a grounded-theory approach to the research (Reichertz, 2007).
4.5.3 Grounded Theory

The next step was to find a common way to describe the origins of the resulting themes using a grounded-theory approach, as described by Creswell (Creswell, 2013). Grounded theory is useful when there is no current theoretical explanation of a process: in this case, the societal creation and legitimization of a role for a business. The interest was in developing an understanding of the process of ideas forming in an individual, spreading to a population, and evolving into a set of expectations and obligations constituting a role for a business. Rather than relying upon more traditional causality-driven approaches, the paradigm of a complex adaptive system of interacting agents with observed behavior as emergent properties constitutes the underlying meta-paradigm for exploration, description and analysis. This also made it possible to use the different theories—particularly those from business—as checks and balances on the conceptual model. These theories should be triangulated—that is, explained by the associated paradigms and supported by the conceptual model as it developed. This involved techniques such as creating problem statements, identifying success criteria, and performing thought trials—a process identified in Swanson and Chermack, having been developed by Weick (Weick, 1989) for theorizing as a disciplined form of imagination.

It should be noted that Swanson and Chermack make a point of distinguishing between a theory and a model (R. A. Swanson & Chermack, 2013, p. 15). While the outcome of this effort is being described as a model, it is also a preliminary theory about how roles (expectations, responsibilities, contributions, obligations, and degrees of freedom to act) emerge in a society. It addresses the six components Swanson and
Chermack require\textsuperscript{138} from an applied discipline (Practice’s equivalence to an academic area of study). Chapter 4 discusses the Swanson and Chermack conditions for research/model/theory. Irrelevant theory is not called out, but throughout the research report, issues or assumptions that contribute to potential irrelevance (such as causality or rationality) are discussed. Contributing theories are discussed in Chapter 3 and their conflicts and potential future modifications. The model itself represents a core theory that is the “intersection and integration of the contributing theories that operationalize the definition, purpose and assumptions of an applied discipline” (R. A. Swanson & Chermack, 2013, p. 24)—in this case, governance and strategic management. Useful theory is addressed in the conclusions and future research chapters, and potential benefits are discussed in Chapter 5. Novel theory emerges in the potential rejuvenation of memetics by using rule-set trajectories as memes in the conceptual model. Memes will be easier to understand by practitioners without having to deal with the micro and meso level constructs of the model. Integrating complexity, differential-function systems theory, and evolutionary economics and then applying them with a model that supports governance and strategic management is also “novel”.

As the model evolved, it became clear that there were really two units of analysis emerging from the process. One is the concept of a population, being defined as a group of agents or agencies who shared some overlapping rule set(s). Success of a population brought forth success of the rule set(s) in the same way success of a species brings forth

\textsuperscript{138} Boundary, contributing theories, core theory, useful theory, novel theory and irrelevant theory.
success for the relevant genes. As with genes (which are aggregates of nucleotides), so rule set(s) (which are aggregates of rules) became a unit of interest. The other was specifically the trajectories of rule sets within and among agents and/or agencies which formed populations. This means that the model needed to account for how rules and rule sets originated in the system, were adopted by system actors, adapted by actors to their unique needs, retained by actors for reoccurring use and transmitted to other actors in the system.

This was a very recursive process. Multiple conceptual models in the form of concept maps were generated (what Creswell refers to as “memoing”) and tested against the multiple discipline’s theories and paradigms, as described earlier through thought experiments\(^{139}\) (R. A. Swanson & Chermack, 2013; Weick, 1989). Data was also collected using culturomics\(^ {140}\) approaches and via analysis of popular and business literature.

### 4.5.4 Culturomics

By quantitatively analyzing digitized texts, one can study human behavior and cultural trends over time. The approach was first described by Jean-Baptiste Michel and Erez Lieberman Aden (Michel et al., 2011) by using analytical tools to take advantage of the massive amounts of textual data available today. To date, it has been primarily a lexical and statistical exercise, but it has shown its use in forecasting (Leetaru, 2011). Others (Borin et al., 2013; Tahmasebi & et.al., 2015) have expanded the concept to include precepts. In this case, it was the use of N-grams, word relationships in terms of proximity, syntax and grammar in their use over time.

\(^{139}\) *Gedankenexperiment*

\(^{140}\) A quantitative analysis of text based upon natural language-processing
knowledge-based technologies. Language processing tools for semantic analysis (e.g., entities, relations, events and their structure, their semantic roles, and co-reference between their arguments) have been used to further this mode of research. Culturomics also aids mixed methods by bridging quantitative methods and qualitative methods (Silber-Varod, Eshet-Alkalai, & Geri, 2016).

Roth has used this approach (Roth, 2014) to demonstrate societal focus-shifting among the differential-function systems, and to trace the decline of religion, the rise of politics, and the relevance of the economy to modern societies. Others (Richards, 2013) have used it to show specific issues gaining focus in society such as the environment. Kalev H. Leetaru (Leetaru, 2011) used news archives for words that imparted tone or "mood," and geographic data and was able to retroactively predict the 2011 Arab Spring and successfully estimate the final location of Osama Bin Laden to within 124 miles. Linguists and Lexicographers have challenged some Culturomics studies due to the life cycle of words. This is not a major concern due to this study’s limited time frame (less than 100 years, due to limits on how far back the business literature has been digitized.

In a manner similar to Weiss’s work showing societal diffusion of the meme (concept of, value of, sentiment of) “teamwork” (Weiss & Hoegl, 2015), the research shows a way to track issues of governance and strategic management.

4.6 Tool Selection

All the necessary tools for content and sentiment analysis (e.g., Ngram, Prediction API) were available from Google. The research reviewed natural-language processing (NLP), lexical, and sentiment-analysis tools (OpenText Sentiment Analysis, Sentiment.Vivekn, Stanford’s NLP suite, NLTK, Apache OpenNLP/UIMA, GATE). There
was not enough time to incorporate NLP analysis (Ingersoll, Morton, & Farris, 2013; Manning & Schütze, 1999) into the study. However, Voyant was used as part of the iterative testing of the model against literature such as business articles and annual reports sourced from Lexis Nexis and Access World News. As the research proceeds, NLP will be more intensely integrated, not only as part of the study but as part of the practitioner tool development.

The future direction of the research will likely include agent-based modeling (Niazi & Hussain, 2013) and will leverage my familiarity with Mathematica.

4.7 Summary

[T]here is no single, best all-purpose model ... it is not possible to maximize simultaneously generality, reality, and precision. (Levins, 1968)

The conceptual model and theory development around complex adaptive systems (Holland, 1995, pp. 161-172) and wicked problems (V. A. Brown et al., 2010) is particularly difficult. Theories are more than simply the sum of their parts. There are many interconnections, interrelationships, and interactions among their components, resulting in non-linear behavior. Such non-linearity means that traditional methods and techniques—such as statistical analysis of components or detecting system equilibrium among components—are less effective or even irrelevant\(^{141}\). It also means that their specification

\(^{141}\) Dynamic systems (Wolfram Class 4) such as a society or its subsystems such as the economy do not have an equilibrium state (Wolfram, 2002).
is difficult, requiring different paradigms (abduction) and methods (heuristic). Identifying units of analysis and methods of collecting data requires innovation with new techniques like culturomics and natural-language processing (NLP).

Not only did the theories and concepts from multiple disciplines contribute to this study, but their many and varied processes and methods contributed as well.

There was not enough time to conduct all the culturomics, bibliographic, text processing and agent-based modeling research the original research proposal anticipated. However, more time was spent in accumulating ideas across knowledge domains, thereby resulting in a potentially better conceptual model for future modeling and societal-literature parsing.

The process culminated in the analysis details and resulting model that are discussed in Chapter 5.
CHAPTER 5 Research Analysis and Synthesis: A Conceptual Model and Framework

When we think in terms of systems, we see that a fundamental misconception is embedded in the popular term “side-effects” ... This phrase means roughly, “effects which I hadn’t foreseen or don’t want to think about” ... Side-effects no more deserve the adjective “side” than does the “principle” effect. It is hard to think in terms of systems, and we eagerly warp our language to protect ourselves from the necessity of doing so. (Hardin, 1963)

Another term for side effects is unintended consequences. They happen so often that there is a law for them. It appears to be a popular law: A Google Scholar search returns “about 243,000 results (0.15 sec)” in total, and its popularity continues with “about 13,600 results (0.09 sec)” for the first few months of 2017. The law of unintended consequences does not appear to have a formal definition, but is generally understood\(^\text{142}\) to mean that the actions of people (though government is a popular substitute for people) always have effects that are unanticipated or unintended. They are usually noted when they are “bad” (in terms of the conceptual model, reduce wellbeing), but they can be equally good, if unnoticed, as in the case of Adam Smith’s famous invisible hand (A. Smith & Skinner, 1999) or aspirin taken for a headache that simultaneously reduces your chance of a heart attack.

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\(^{142}\) Which would make it a meme.
While there is no real formal definition of the “law” of unintended consequences, this does not mean none have been considered—as is indicated by the Google Scholar searches. But those hits were about specific unintended consequences in a specific domain in specific circumstances. What about unintended consequences as a subject of study themselves? A long time ago, Robert Merton devoted himself to just such a study (Robert K. Merton, 1936). He identified five enablers and facilitators of unintended consequences. *Ignorance* is straightforward: If you do not know what you are doing and what may result, then you are likely to get some results you were not expecting. Who, of any age, does not remember the infamous WKRP turkey drop\(^{143}\)? *Error* is equally straightforward: If you make a mistake, you are likely to get results you were not expecting. *Intentional short-sightedness* is less straightforward but understandable: If you want something (an intended consequence) so badly that you blatantly ignore any potential fallout, you are likely to get the fallout. Beliefs, heuristics, or basic values applied to decisions without critical examination or linkage to how they worked out in the past ensure that they will continue to surprise with outcomes “out of nowhere.” Particularly germane to this study from a complexity perspective is the *self-defeating prophecy*, where predicting that something (interacting with the system) will happen motivates forces to keep it from happening (changes the system), thereby resulting in an unanticipated non-outcome.

The practitioner perspectives are full of opportunities for unintended consequences. The study could argue that the ignorance of society’s roles for business has facilitated many

\(^{143}\) Source of the famous meme, “As God as my witness, I thought turkeys could fly.”
unintended consequences. Likewise, students who assume away more and more externalities in search of mathematical rigor, linearity (correlation), and equilibrium might be demonstrating intentional short-sightedness. The study shows that shareholder wealth creation and owner primacy is a pervasive set of beliefs in business, as is “the business of business.”

By conducting this analysis against a backdrop comprised of the practitioner perceptions, the principles of complexity, a systemic view of society, an intent to detect and measure, and multiple epistemologies, the hope is that the conceptual model developed will help proscribe some unintended consequences in the future and enable more intended benefits.

5.1 Introduction

You can’t navigate well in an interconnected, feedback dominated world unless you take your eyes off short-term events and look for long-term behaviour and structure; unless you are aware of false boundaries and bounded rationality; unless you take into account limiting factors, nonlinearities and delays. You are likely to mistreat, misdesign, or misread systems if you do not respect their properties of resilience, self-organization, and hierarchy. (Meadows & Wright, 2009, p. 87)

Meadows’ quote succinctly sums up the difficulty, effort, and time investment required to create the conceptual model. Reflectively, much more “value” was “transformed” (as the model would refer to it) in building the framework needed to compare stakeholder and shareholder theories as a basis for governance and strategic management than was applied to the analysis itself. Einstein was apparently right when he
reportedly said, “If I had an hour to solve a problem I’d spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.”

Additionally, Swanson and Chermack (R. A. Swanson & Chermack, 2013) advise that, when building theory—or in this case, a conceptual model—it is important to stay focused on the purpose of the theory-building effort. The grand purpose is to better understand how roles emerge in a society for its businesses, and, knowing this, to help businesses better understand their roles. The mid-range purposes are described in the objectives below and their local reasons to be are discussed in the description and origins of each part of the model in this chapter.

Swanson and Chermack (R. A. Swanson & Chermack, 2013) further advise paying close attention to the intended boundary—the context—of the theory. The conceptual model was developed to compare business theories’ ability to help the governance and strategic management of enterprises meet societal expectations. In the process of developing it, its boundary has expanded to include enabling enterprises to sense, anticipate, discover, understand and intervene appropriately as its roles evolve and expand. Swanson and Chermack’s (R. A. Swanson & Chermack, 2013) last piece of advice is to assure cohesion: nothing there that does not belong, everything there working with everything else.

There are four ideal objectives for the conceptual model:

- Use the literature to illustrate how the roles and responsibilities of a business form and evolve in a society. A priority is consistency with leading social, economic, and systems theory. The source knowledge used is described in Chapter 3.
• Use the minimal elements necessary to be descriptive and explanatory while being approachable and useful for practitioners, yet remain sufficiently rigorous for academic consideration. The conceptual model is built upon the concepts of autonomous agents, interacting peer-to-peer and exchanging simple rules. Everything else in the model is built on top of these. Additionally, the use of memes as a metaphor in the model is helpful, as the study was shared with practitioners.

• Find support by showing its constructs and processes or similar ideas and processes that appear in the real-world society, in business practice, and in academic study. This is identified in Chapter 6.

• Compare stakeholder theory and shareholder theory as guides for corporate governance: the starting point of the study. This is done in Chapter 8.

The model should provide an approach to tracing the idea interactions and value exchanges of businesses in and among the differential-function systems of society, as identified in social systems theory. It should eventually suggest measures and approaches to enable, facilitate, and accelerate enterprise governors in detecting, tracking, adjusting for, and incorporating socially evolving roles into the governance of their enterprises. The model should suggest points of leverage and intervention to avoid or lessen future unintended consequences, market failures,\textsuperscript{144} and societal reaction.

\textsuperscript{144} Market failure here has two meanings. One is in the miscommunication of information in an exchange of value; the other is business failure for not meeting the evolving conditions described in the practitioner perceptions.
A complex adaptive system is not predictable (as if anything really is)\textsuperscript{145}, for all the reasons discussed elsewhere. A model of a complex adaptive system should not be expected to be predictive either. If the model is agent based, it can be expected to behave like the system it models in that it learns and, in the process, shows the study how the system learns and thereby provides an opportunity to anticipate what might happen next. The conceptual model is expected to perform this role as it progresses.

5.2 Design Requirements

\begin{quote}
There is only one difference between a bad economist and a good one: the bad economist confines himself to the visible effect; the good economist takes into account both the effect that can be seen and those effects that must be foreseen. (Bastiat, 2010)
\end{quote}

The conceptual model treats a society as a complex adaptive system made up of complex adaptive systems represented by the 10 function differential systems proposed by Roth (Roth & Schütz, 2014). This characterization imposes some design criteria on the model.

Complex adaptive systems have many components that adapt or learn as they interact. This is called cognition in evolutionary models. It represents the elements’ ability to sense and respond to their environments. Of interest are those components, referred to as agents, which perform actions. Agents themselves are complex adaptive systems.

\textsuperscript{145} Niels Bohr, “Prediction is difficult, especially about the future.”
There are four characteristics of a complex adaptive system and two issues to address (J. Holland, 2006). The first is parallelism, which means agents interacting by sending and receiving signals but acting independently and simultaneously. Considering the subsystems of the society system to be autopoietic means that these subsystems also act as agents.

The second characteristic to address is conditionality: The actions of agents are a function of the current state (condition) of the signals (activity they have observed, information they have received, outcomes they have experienced) they have received from their environment and the strength they have attributed to them. Agents’ actions are predicated upon whether a vector of signals is present or absent: an “if-then-else” rule.

The third characteristic of a complex adaptive system is modularity. This is facilitated by groups of “if-then-else” rules which combine to handle situations where no other rule exists. These sequences of rules, or rule sets, in turn become rules. This prevents the need for anticipating all possible state vectors and having a rule to address. It also improves the parsimony of the rule space. Many highly complex adaptive systems have very sparse rule spaces (e.g., fish schooling).

The fourth characteristic is adaptation. As agents (and systems) react to their environments, they discard, modify or acquire new rules to improve their performance in their environments.

The process of swapping rules gives rise to two issues. Credit/detriment assignment determines which rule or rule set has contributed to an agent’s performance success. This is difficult to determine, as reward or punishment is often significantly lagged in a complex adaptive system, is intermixed with the execution of other rules or programs (modularity),
and may be irregular, partial or even non-existent (not detected as a signal from the environment). Is your improved health a function of 10,000 steps a day, quitting smoking, the Mediterranean diet?

*Rule discovery* is determining what to replace a rule with once a rule is obviously inefficient or ineffective. Rather than randomly replacing a rule with totally new rules, repeating patterns (modularity) of successful rules can create novel rules (mutation and variation for evolution).

Taking an initial metaphorical approach to facilitate understanding among practitioners, imagine a society as a city with very distinct ethnic neighborhoods. In this city, there are Vietnamese, Ethiopian, Sudanese, Polish, Irish, and Brazilian neighborhoods (etc.). A company (society) decides to build malls in each of these neighborhoods. These are malls of ideas. In each mall, there are many specialty stores offering different types and styles of hats, shoes, under-garments, shirts, pants, stockings, accessories, etc. These specialty stores are the memes of society. Each mall has a “flavor” that reflects the neighborhood it resides in – the selection of boutiques, the inventory in the boutiques, the pricing of that inventory, signage, amenities, etc. Each store has an option call on some set of resources of society (it may not be in stock, but it can be gotten from the warehouse) and an option put on the value for which it will deliver those resources.

In effect, the meme becomes an options marketplace that an enterprise, group or individual visits to assemble the fashionable (esthetically, ethically, morally pleasing, etc.) and functional (fit for purpose) “wardrobe” of ideas needed to decide (what to wear depending upon type of event, weather, location, etc.) and the supply or resources needed to act upon that decision (get dressed and attend an event). These boutiques’ inventories
are the signals among the systems, agencies, and individuals that trigger the autopoietic behavior of society, its subsystems, agents, and agencies (groups, individuals).

While the study uses the concept of a meme and the mechanisms of memetics to present the model to practitioners, the actual constructs are described in the basic model structure.

5.3 Functional Requirement

While the design requirements capture what is required for the model to behave as a complex adaptive system, the functional requirements are meant to address what is required to translate those general requirements to the specifics of business role formation in a society.

The zeroth requirement comes from the narrative synthesis of my and other practitioners’ observations and perceptions of the changes taking place in the role of business, was compiled over many years of random conversations and debates. Hundreds of practitioners were involved—more than enough populate (or saturate, per Creswell (Creswell, 2013) a grounded-theory model. The conceptual model must be able to account for as many of the practitioner perceptions as possible. The other requirements follow.

First, the conceptual model would require a systemic view of business, the economy and their roles and relationships with the rest of society.

Second, the conceptual model should leverage what economics has already determined—particularly around externalities, public goods, and club goods (Cornes & Sandler, 1996), behavior, and systemic approaches to economic issues. It should account for what is already known about idea origination and propagation from social-system theory (Bausch, 2001).
Third, it was argued earlier that many of the unintended consequences are a function of an inability to achieve Pareto optimality\(^{146}\) among the many subsystems and actors in the system or achieve an increasing fitness on a rugged landscape of all the actor-fitness functions of all the systems (Gill, 2010; Richter, 2014). To overcome this, there must be some meta-resource that translates into specific resources, goods, services, ideas, and experiences that people value for each system of society and exchange among the systems. There must be an information channel between and among social-systems and agents to assess and agree upon meta-resource exchange. Lastly, there must be a fitness function for evaluating such exchanges.

Fourth, such a conceptual model would need to be equally useful to governance and strategic management in their effort to support the efficiency and efficacy of business in its role as an agency in the economic subsystem of society (e.g., by addressing the non-economic business roles of society). This would mean addressing social consequences and the concerns identified by (Willmott et al., 2016).

Fifth, the conceptual model would be severely lacking if it did not incorporate the latest and best principles of systems (Meadows & Wright, 2009), complex adaptive systems (Boulton et al., 2015), society as a system (Buckley, 1998), and its subsystems as systems—including the economic ones (Beinhocker, 2006).

\(^{146}\) Because these are complex systems, they are dynamic, and any optimality is highly temporal and fleeting.
Lastly, to support the evolving environment of governance, it should not be limited to traditional boundaries of business, sociology, and economics if it would usefully capture the necessary and sufficient phenomena.

5.4 Informed Assumptions

An outcome of the abductive-reasoning phase of the study are these informed assumptions about the conceptual model. They offer the likeliest possible explanations of the practitioner perceptions. They provided the starting point for the first iteration of the conceptual model development.

**Society is a system of systems.** A society evolves as and can be described as a system—specifically, as a complex adaptive system comprised of agents. This complex adaptive system is in turn comprised of other complex adaptive systems (subsystems) and this composition can theoretically continue recursively. These systems are not “real” in the sense that they are emergent collections of behaviors from the aggregate interactions of independent agents making self-optimizing choices in their interactions with each other and the environment (which includes the rest of the universe and these emergent systems recursively acting as agents themselves). Social-systems theory—especially functional differential social-systems theory—provides a framework for a working model.

*Differential, functional systems represent the systems of society,* and Roth’s description of differential, functional social-systems (Roth & Schütz, 2014) is a foundation for this work.

*These systems are emergent from independent agents interacting.* Furthermore, these independent agents assemble themselves (dynamically, in multiple and in parallel) into groups into agencies that also act as independent agents. Each of these also make self-
optimizing\textsuperscript{147} choices in their interactions with each other and the environment, including these systems.

\textit{These systems are autopoietic.} Autopoiesis is a concept from biology which means that the system is constantly reproducing/regenerating itself, with a constantly evolving and changing internal structure and components, in response to external changes in its environment. It is a network of value (in biological systems, value is energy) production (creation, use, transformation, destruction, and exchange) processes that are metastable to the components that form them. An autopoietic system is open but has a closed organization (it is self-maintaining in an environment) that is distinguishable from its environment in a spatiotemporal structure that adapts in its interactions with the environment constrained by the closed organization.

\textit{Only the economic system is reasonably understood, but in an inadequate paradigm.} The economic system of a society—with money representing the flow of value (societal equivalent to biology’s energy), wealth representing wellbeing (societal equivalent to biology’s metabolism), and ROI representing trust (societal equivalent to biology’s ecological balance)—is relatively understood in isolation. The same is true for business as a subsystem of the economic system and as an aggregate collection of agencies and agents.

\textsuperscript{147} Again, terminology is awkward. Each agent’s fitness landscape emerges from the individual fitness functions in each of the differential-function systems they provide or receive value from. Optimization is dynamic, temporal and situation dependent. It is more balanced in the moment.
No system is more important than any other system. It is expected that society and its differential-function systems would behave as a Wolfram Class 4 system (exhibit evolution). Over time, the importance or emphasis a society places on each system should shift. This assumption was validated through a simple culturomics analysis of the 10 systems (in English) from 1800 to 2009 (the most current content of the database).

![Figure 12: Ngram analysis of 10 differential-function systems over time](chart.png)

This study is very preliminary, so validation (so far, so good) rather than verification (nailed it) is the working approach used here to examine data. Care must be taken when doing culturomics analysis, as is discussed in Chapter 9. A good example of this is doing the same analysis but using the mediums of the differential-function systems and a combination of systems and media. Within the limits discussed in Chapter 9, the three analyses support a thesis around decline in the religious system with the rise of the political system and the presence of the economic system after them.
Another perspective is to do the analysis on short term publications versus books as in the Ngram corpora. The data set overlaps are from 1990 to 2008 and represents proportion of total coverage. The sport function system was left out do to newspapers having dedicated sports sections skewed the results. What this preliminary comparison shows is that short term interests represented in articles is different than long term interests represented in books. This could be a function of early rule trajectories before they have proven their survivability. They do loosely track as in the 2006-2008 downturn in media. A future comparison of interest would be to see if there is a population difference, a book
oriented versus periodical oriented rule set. As the research progresses, adding web based content will be important. This is where the advances in natural language process discussed in Chapter 11 become important.

![Figure 15: Access World News function systems search](image)

The fitness function for these systems is wellbeing modified by value through a medium of trust. These are defined terms in the model. Value is the meta-resource exchanged between and among social-systems and agents. It is a proxy for resources, goods, services, ideas, and experiences across all the differential-function systems. Trust represents the nature and state of the information channel between and among social-systems and agents used for determining the relative value of the value-up for exchange in

148 These terms have loose vernacular meanings and a variety of inconsistent academic meanings across philosophy, sociology, psychology, business and economics.
a market. Wellbeing is the fitness function (as defined by (Gill, 2010) and the resulting fitness landscape across which agents and systems traverse toward Pareto optimality\(^{149}\) in exchanging value. Exchange (transaction) of value is a derivative of production (transformation) value.

*Markets are the medium for value exchange.* Wellbeing, value, and trust provide the framework for interaction (a market)—in and among the agents and agencies of the social systems and the social systems themselves—through their agents and agencies. Markets emerge in the presence of value differentials among agents and agencies.

*A value exchange does not mean a positive wellbeing change.* In a rule-based system, a set of rules may survive\(^{150}\) that, in the short term, may reduce wellbeing but is selected (to survive) because it increases wellbeing later. For example, consider risk-taking rules. This means that a temporally optimal state of wellbeing may be lower than nearby states on the fitness landscape.

*Markets are an emergent property of the model.*

\(^{149}\) Pareto efficiency or Pareto optimality, is a state of allocation of resources (value in this model) from which it is impossible to make any one entity (system, agent, agency) better off without making at least one other worse off.

\(^{150}\) Survival in an evolutionary sense is not a video-game high-score objective but a pinball-gets-to-play-another-game objective. Therefore, evolutionary success goes to the most adaptable (get to play again) versus the strongest (high score).
5.5 The Process

It can scarcely be denied that the supreme goal of all theory is to make the irreducible basic elements as simple and as few as possible without having to surrender the adequate representation of a single datum of experience. Albert Einstein, From “On the Method of Theoretical Physics,” the Herbert Spencer Lecture, Oxford, June 10, 1933. Likely the source of “everything should be as simple as possible, but not simpler,” and its variants.\footnote{http://quoteinvestigator.com/2011/05/13/einstein-simple/}

The general “study question” here is this: What would an actionable, comprehensive, and complete systems-based conceptual model of the emergence of the role of business within a society look like? If we could understand how this type of role forms and evolves, it would become clearer what enterprise governance needs to consider. With this information, it is possible to compare theories and models of governance by how well they map to this. The conceptual modeling process began to compare shareholder and stakeholder theories. Starting with informed assumptions and targeted requirements, the next step is to determine what is needed.

Unlike many early theories that place business people and the people they interact with in well-defined problems using deductive reasoning to achieve perfect equilibrium, this conceptual model is meant to be practical by addressing the class of problems known as wicked problems. As described by Horst Rittel (Rittel & Webber, 1973), wicked problems are difficult or impossible to solve because of incomplete, contradictory, or changing requirements which are difficult to recognize. These problems are multi- and
trans-disciplinary in nature. They are always made up of many diverse and autonomous components that are interrelated and interdependent with many interconnections, but must be studied as a unified whole.

A systems approach was chosen because the study suggests that the model should not be segmented (assumed away) from its environment. Ignoring “externalities” has not worked well in past models, and, from the practitioner perceptions, what the study is trying to model has sped up and gotten more interconnected, and the anticipated components of the model are already components of other systems (business, society, the economy). Everything is connected to everything else in the environment the model is to address. If everything is connected to everything else, then more than one thing will be going on at the same time. The model and those who might use it cannot control (they probably do not even know) who the participants are in the role-setting process; but with a systemic model, there are lever points regardless of who the participants are\(^{152}\).

Using iterations of concept maps, as proposed by Novak (Novak, 2010), the themes from the practitioner perspective in Chapter 2 were integrated with the theories, models, and constructs contributed by the academic perspective in Chapter 3. A foundation of these concept maps were autonomous agents, as is required for a complex system. As this progressed, the central phenomenon of interest—how legitimate roles for an enterprise emerge in a society—bifurcated into two processes. The first was the process of role origination and its establishment in the knowledge base of a society. The second was the

\(^{152}\) Charlotte Roberts, an executive coach, asks a question, “Who has the most influence on the performance of a ship at sea? The designer of the ship.”
evolution of that role into a societal condition of legitimacy for a business. These two phenomena became the focus of the conceptual framework being developed.

The first phenomenon to be tackled was the origination, adaptation, adoption, retention and propagation of ideas that would eventually form the legitimized societal role of a business. Here, the general memetics literature (Blackmore, 2000; Dawkins, 2016; Lynch, 2008; Shifman, 2014) was useful. The second was a market approach to establish legitimacy over time based upon ideas developed by the Santa Fe Institute and discussed by Arthur (Arthur, 2015, pp. 39-66) of markets emerging as asset-pricing mechanisms with heterogeneous agents whose expectations continually adapt to the market that their expectations created.

Because this would be an emergence rather than a causal model, instead of exploring potential causal conditions (as in grounded-theory approaches), the interconnectedness, interrelationships, and peer-to-peer interactions of the agents were explored to establish a topology of connections. At the current stage of the conceptual model, a “soup” topology is used. A soup topology is non-spatial; therefore, agents do not have temporal or spatial attributes. They do have virtual positioning relative to other agents via memberships. The basis for these interactions are simple rules, as are found in complex adaptive systems.

Once an understanding of who agents would interact with (other agents, agencies, and populations) via rules was gained, the environment this would take place in was developed. This is the grounded-theory context and intervening-conditions step, which gave rise to the micro-meso-macro model influenced by ideas in (Dopfer et al., 2004;
Dopfer & Potts, 2015; Svedin & Liljenstrom, 2005) and by the first-, second-, and third-order autopoiesis from (Bausch, 2001, pp. 41-43)

A system is a whole which consists of parts, each of which can affect the behavior or properties of the system. Every part of a system depends upon all the other parts to produce those behaviors or properties. The conceptual model is an agent-based model, as it is a natural representation of a system made up of agents (people, in the case of society). The conceptual model is restricted to the process of business-role emergence\(^{153}\), so agent decision-making is simply observing changes in wellbeing (the chosen fitness function for this model) and rules in play at the time, then weighing the rules relative to the changes in wellbeing.

While the conceptual model is an agent-based model, what is of interest are the agent’s knowledge base and the rules that are contained in it. What is being modelled is the origination and diffusion of rules—rules that when they interact define the roles of a business. As the model developed, all of the requirements and characteristics of a complex adaptive system were included.

From a grounded-theory approach, the resulting “consequences” of this role-development model were the ideas around emergent markets, which was the basis for addressing the second phenomenon. These markets are the “competitive” environments in

\(^{153}\) It appears to be able to generalize to any social “norm”—a prospect for future study.
which rules associated with business roles are tested, “evaluated\textsuperscript{154},” and then appropriately weighted the next time they are engaged in a market. The markets enable agents to exchange value (resources, goods, services, ideas and experiences). Value is the input into the wellbeing function.

5.6 The Basic Model Structure

\emph{Some problems are so complex that you have to be highly intelligent and well informed just to be undecided about them.}\protect\footnote{Laurence J. Peter\textsuperscript{155}}

The conceptual analytical model proposed for society and its subsystems is a complex adaptive system. The model is a synthesis, adaptation, extension, and rationalization of many points of view. The current manifestation of the model structure is predominantly influenced by systems theory (as described by (Meadows & Wright, 2009), complexity and complex adaptive systems theory (as described by (Boulton et al., 2015) and (Kurtz & Snowden, 2003; David J. Snowden & Mary E. Boone, 2007), differential-function systems theory (as described by (Roth & Schutz, 2015), and economic evolution theory (as described by (Dopfer et al., 2004; Dopfer & Potts, 2015). Novak’s (Novak, 2010) concepts around the nature of knowledge is also useful for rationalizing the different elements of the model.

\footnote{Terminology is a continuing problem, especially for anthropomorphizing behavior. The evaluation here is simply a plus-minus impact on wellbeing.}

\footnote{\url{https://www.brainyquote.com/quotes/quotes/l/lauurencej201742.html}}
The model is discussed at two levels. The first discussion is around the structure and resulting behavior of the model and its micro-, meso-, and macro-level components. The second discussion is around emergent properties resulting from the interaction of the components of the structure (e.g., markets and transaction continuums).

Constructs of the second discussion are wellbeing, value, and trust, which drive a fitness function in which trust facilitates value exchanges, where value is a representation of resources, goods, services, experiences, or ideas and contributes or subtracts from wellbeing. Every actor in the system (called agents and agencies) have individual instances of that fitness function for every system (see the differential-function-systems assumption) they participate in. Together, these functions form a fitness landscape. Each system and the society have a fitness landscape that emerges non-linearly from all the actor landscapes.

The conceptual model is formed of interacting agents and agencies formed from collectives of agents. Agents and agencies are autonomous and independent entities. In the model, they interact to accomplish tasks whose outcome is to improve the individual agent’s and agency’s fitness function of wellbeing. Agencies are formed by agents\textsuperscript{156} to perform tasks or acquire resources that are beyond the capability of any individual agent. Agencies also form to improve the efficiency of agent tasks, thereby further improving wellbeing (whole greater than the sum).

\textsuperscript{156} Agencies may also emerge from agent behavior as an institution—for example, a mob—or may be formed by extending capabilities by integrating with a machine such as a diver and a car (Abel, 2014).
These agents and agencies are adaptive—as are each differential-function system and the society in the model—through the process of autopoiesis described earlier. They react to the environment around them and change their behavior to improve their wellbeing. Those changes are the variation that facilitates evolution. The model requires neither the homogeneity nor the heterogeneity of the agents or agencies. In applying the model to governance and strategic management, agents are individuals participating in the system. This is not a restriction, as advances in technology have created computer-based systems that act autonomously and learn from and adapt to their environments and may therefore also be agents in the future. Agencies are businesses, institutions like FASB\textsuperscript{157} or SASB\textsuperscript{158}, cooperatives, and other entities that operate as fictional persons (can “own” resources, can transform those resources, can “transact” with other agents or agencies to exchange resources). When applied to the non-economic systems of societies such agencies would include government, church, and academic institutions. Additionally, the model posits that the agents and agencies may also instigate adaptation by other components in the environment to better suit themselves (improve their wellbeing). This is called co-evolution. Societal responses (such as regulations for unintended business consequences) provide an example of co-evolution among the societal systems: in this case, changes in the legal system in response to the economic system polluting the environment (decreasing societal wellbeing by exchange of negative value).

\textsuperscript{157} Financial Accounting Standards Board

\textsuperscript{158} Sustainability Accounting Standards Board
Rules define the flow of the model for transactions (exchanges of resources among agents and agencies) and transformations (aggregating and modifying resources into new resources) and thereby create, destroy, hold, use, consume, and/or exchange resources to realize (or diminish) value. Rules are the mechanism for accomplishing the work and learning proposed by the model. The model does not claim that these rules explicitly exist in the agents or agencies. They are a construct the model uses to represent the decision-making processes (strategies) of agents and agencies and the resulting agent, agency, and system behavior. They represent what the agents and agencies “know” and what they “do.” They are considered stimulus-response rules. If “this” happens then “do” that. The do can include applying another rule or collection of rules. These same rules generate the emergent phenomena discussed below. Collections of very simple rules can generate very complex behavior.

Rules are effectively ideas: ideas that can be activated in the world either as production or behavior. The role of rules in complex-adaptive-systems theory is pivotal. The rules that govern many human systems are of three basic kinds: We give instructions to ourselves about how to detect information, and we become aware of different information from our environment, depending on our “rules.” We have rules about how to interpret information and “rules” for what is important, what it means, and how to act in response. Our “rules” prioritize possible responses by predicting how successful courses of action will be for us. And there are rules about rules.

The model proposes three levels of rules independent of the three levels of the model itself. The lowest-level rules are production or operational rules. They apply to the specific societal system in which the agent or agency is currently making decisions or
performing actions producing (transforming) or exchanging (transacting) value. These inform agents and agencies as to how to do this. An economic example might be how to produce or price a widget. A religious example might be how to perform a rite or grant forgiveness. A legal example might be rules for chain of custody or the bar association code of ethics. Each of the differential-function systems have their own production and operation rules for the values they contribute to society. These rules generally apply in tactical situations.

The next level up are structural rules. These are the rules that agents and agencies would use to change the rules in the level above, the level below, and themselves (they are recursive\textsuperscript{159}). These rules are necessary for learning (adjusting rules to more effectively improve the wellbeing fitness function) and creativity (originating new rules)). These rules govern the origination, adoption, and retention of rules. These rules generally reflect strategic-management decision-making processes in a business form of agency—that is, they concern what rules to incorporate into production or operations and what rules to dismiss.

Last are the framing rules. These are the rules that have entered the agent’s or agency’s pool of rules from all the different societal systems in which the agent or agency

\textsuperscript{159} There are origination rules for origination, adoption, and retention rules; there are adoption rules for origination, adoption and retention rules; there are retention rules for origination, adoption and retention rules.
participates to produce or exchange value. Over time, these rules evolve into abstract, generic versions of the structural and production rules of the originating system, and they can be present in all systems as the highest-level rules. For example, the religious system may specifically forbid profiting from another person. Over time, as that rule migrates to other systems such as the legal or economic systems, it may evolve through variation (to improve the individual agent’s or agency’s fitness function), inheritance (rule trajectory within a population), competition (in markets, as discussed later), and differential survival (relative success of possessing agents or agencies) into a generic fairness rule or usury rule. This dynamic process over time establishes the rules that legitimize agents and agencies as participants in the society, so long as they perform according to them. They are how society—implicitly and explicitly (through formal permissions and sanctions from the different subsystems such as laws, suits, excommunication, and curricula inclusion)—expresses the expectations, duties, norms, and behaviors that encompass its participants’ roles and the rights and degrees of freedom of action they are permitted. Therefore, these rules are the province of governance, and from this governance, are the guidelines for strategic management.

A biological analogy is that individual rules are the DNA of the system that then form up into genes called rule sets. As genes code for making specific proteins, rule sets code for making decisions or taking actions.

\[\text{\textsuperscript{160}}\]

\[\text{\textsuperscript{160}}\] Participate means not only active participation but also passive participation, such as that which receives a benefit from the sub-system or can be penalized by the subsystem (e.g., taxation without representation).
Rule sets are collections of rules that interact with each other. Rules are not exclusive in sets; one rule may be in many sets. Rule sets may vary by as little as a single rule or can be totally disjoint. Rules generally do not travel among and across populations individually but as part of rule sets containing related, complimentary, and supplementary foundation and reinforcing rules. For this reason, the terms rule and rule set are used interchangeably, unless specifically called out, throughout the rest of the report. Rule sets effectively behave like memes—as understood by practitioners and described by memetics—as they form and move among populations. Populations are collections of agents and agencies that have some overlap in their rule sets. The cohesiveness of a population is a function of how much overlap exists.

It is the pool of rules (a knowledge base) and the way in which the rules are distributed among knowledge bases that facilitate variation and specialization among agents and agencies. This variation and specialization is the basis of norms, best practices, transformations, and exchanges of value. Think of these pools of rules as the biological equivalent of chromosomes.

Being a complex adaptive system, the model also posits emergence. Emergence is a consequence of agent and agency interaction. Emergent properties or structures are coherent patterns that occur in the system as a by-product of the interactions of agents and agencies but are more than just the sum of individual agent or agency activities. The classical example of emergence is in the patterns that appear in a murmuration of
starlings\textsuperscript{161}. Each bird executes very few simple rules, but there is no rule for the resulting patterns. Emergent behavior (e.g., investing) or structures (e.g., markets) are persistent phenomena whose individual components can be changed without impact on the behavior or structure. In this study’s application of the model for governance and strategic management, behavioral roles (e.g., legitimate business, illegitimate business, stakeholder, owner, manager, employee, supplier, and regulator) and structures such as markets and forms of business are emergent properties.

To support emergence and self-organization, the model has three levels: macro, meso, and micro.

While \textit{emergence} names a case in which local (micro-level) interactions and the behaviors of agents and agencies generate global (macro) effects, self-organization is a way in which global effects can in turn influence local activity. Imagine an audience spontaneously bursting into applause at a performance. The hand clapping is an individual (micro) behavior. The applause is an emergent (meso) property of a population: the audience. At the same time, audience members hear the applause (a macro event) and begin adjusting their clapping based upon the rhythm they detect in other audience members clapping. Eventually, this will self-organize into a single rhythm. Self-organization is important when discussing emergent properties such as markets or roles. The very simple concept of a supply-and-demand curve is an example of self-organization. This is important

\textsuperscript{161} https://www.youtube.com/watch?v=QOGCSBh3kmM Starlings Flying;

Starling Murmuration
if governance and strategic management are to observe and understand when to intervene (or not) as the environment and behavior of the enterprise evolves.

Complex adaptive systems, such as this model, themselves emerge from the bottom-up behavior and interactions of agents. Some persistent emergent structures from this bottom-up activity can become components (agents, agencies, rules, and roles) of yet more-complex emergent structures, thereby creating a hierarchy of systems and components. This is easily seen in biological systems (atoms, molecules, cell structures, cells, organs, systems, and organisms), and it is the mechanism that allows the model to scale and evolve over time. It is also a source of the variation, heritability, competition, and differential survival of the systemic genetic equivalents of rules and rule sets and consequentially of the emergent properties such as markets.

The essence of the model, and the vehicle for emergence in and evolution of the systems, is the ability of rules to move among agents and agencies. This suggests the concept of a rule trajectory. A rule trajectory is the process of an agent innovating or originating a new rule. It has to do with how they then adopt that rule to make decisions or perform operations and how they habituate or retain that rule going forward. As that rule is adopted by other agents and agencies, a population\(^{162}\) is formed with the trajectory describing how the rule propagates to others.

\(^{162}\) Populations are defined by the model by overlaps of rule sets. Populations can have homogeneous (cults at the extreme) or heterogeneous (anything goes at the extreme) rule sets.
Operational management is primarily concerned with the production rules, though executing them within the guidance of strategic management and consistent with the principles of governance. Strategic management concerns itself with the structural rules guiding and modifying the production rules of operational management. Governance, which is charged with maintaining the societal legitimacy of the enterprise by ascertaining and accomplishing societal expectations and obligations to stakeholders, does so by concerning itself with the emerging framing rules.

Here is a simple example. As ideas (rule sets) around pollution impacts emerged in the science subsystem, they developed trajectories into education, health, mass media, and, to a lesser extent, art and religion. Over time, accelerated by Rachel Carson in 1962 (Carson, 1962), they became more abstract and generic versions of the science rules resulting in societal rules (the highest level) potentially present in the rule pools of agents and agencies participating in any societal subsystem. Keep in mind that, because of mutation (incorrect information transfer, incorrect understanding) and variation (new rule sets subject to the different structural rules in individual agents and agencies based on their mix of subsystem participation), rule sets will not initially have the same priority, implementation or force in every decision across subsystems and subsystems’ participants. As outcomes from applying these rules (or not) compete for improving society’s wellbeing, a differential survival process begins to increase or decrease the rule set’s application. In the case of pollution, evolved higher-priority versions adapted by education, health, mass media, art and religion had more forceful trajectories into the political and legal subsystems. These evolved rule sets increased priority among legal and political
participants’ rule pools and initiated origination of new production rules\textsuperscript{163} (manifested in laws, regulations, and liability lawsuits). These new rule sets established trajectories that were then more forcibly adapted and retained by participants in the economic subsystem.

Another way to look at this is through the proposed rule taxonomy. For example, the statement, “the atmospheric ozone is 20% depleted”\textsuperscript{164}, is an objective technical rule from the scientific subsystem. In the vernacular, this is a fact\textsuperscript{165}. This rule begins to associate with other rules that are more subject based and cognitive to form a value, such as “the ozone layer is too depleted.” While this emerging rule set might originate in the science differential-function system, its trajectory is likely to move it into other subsystems where the set expands, contracts or varies. In the religion subsystem, rules around “Gaia” or stewardship of God’s creation might be incorporated. Likewise, as the rule-set trajectory moves through a society, the healthcare system might offer risk rules (melanoma), the legal system might offer liability rules, and the economic system might offer price or cost rules.

These are all still transformational production rules. They are co-existing but are not yet integrated into a form in which a transaction can take place. I can believe that a

\textsuperscript{163} Common law, writ, etiquette, tradition, etc. are all visible manifestations of rules and rule sets as described by the model. Likewise, rule trajectories are manifested in what popular literature refers to as memes.

\textsuperscript{164} \url{http://www.nationalgeographic.com/environment/global-warming/ozone-depletion/}

\textsuperscript{165} Within the scientific subsystem, there are many production or transformation rules that might apply to weigh the validity or value of the fact in the science subsystem.
20% reduction in the ozone is too much, yet I can also believe that the cost to repair this is too high. At this point, the structural rules begin integrating the rules from the different subsystems (e.g., risk of cancer, short-term versus long-term, agent or agency current context, historical weighting of rule contributions from other systems) into a transactional (value-exchange) rule set that can be used for “pricing” behavior by participants in each differential-function system. In response, legislators pass laws, regulators regulate, citizens protest, investors buy or sell, and executives initiate programs.

One potential promise of this study stream is that it will provide tools and techniques for observing and measuring this process in such a way that governance and strategic management functions can get in front of (better anticipate) the evolutionary process. Doing so would potentially prevent the less efficient and generally less-effective method of government (which the model treats as an institution of the political subsystem) intervention or legal (which the model treats courts as an institution of the legal subsystem) punitive behavioral change. It would also facilitate faster recognition of potentially mistaken enterprise behavior by benefiting from the “wisdom of the crowd”¹⁶⁶ (Kremer, Mansour, & Perry, 2013) and better respond to mistaken, misguided, or malevolent memes (rule trajectories) (Alon, Feldman, Lev, & Tennenholtz, 2015). This is a critically important capability, as suggested by the practitioner perceptions of a serendipity economy and a reputation economy discussed later. Faster responses to mistakes or misunderstanding of the business role would be better (time to value), higher value (more effective and

¹⁶⁶ The “wisdom-of-the-crowd” phenomenon refers to findings that the aggregate ideas from a group of individuals perform better than the majority of proprietary ideas.
efficient), and sustainable (probability of continued survival) for both a business’, its stakeholders’ and society’s well-being.

5.6.1 Differential Function systems

Social systems theories (Bausch, 2001) provide a sound beginning, especially because they have evolved with a multisystem model: differential-function systems theory (Roth & Schütz, 2014). These systems can be seen in Table 3. This was used to establish the societal environment for business and the sources of rules for the business role(s). The roles of business are then established through collaborative markets within and among the differential-function systems. This conveys to the model all the characteristics and attributes of a complex adaptive system, as discussed in Section 3.4.

5.6.2 Agents and agencies

The elementary unit of any complex adaptive system is an agent. Generally, this is an individual human, though it could conceivably also be an artificial intelligence that uses rules to make decisions and to perform operations on resources to realize value. Agents in complex adaptive systems are generally complex adaptive systems themselves. This is the case in the conceptual model.

In a complex adaptive system, agents have certain properties. Agents are autonomous—that is, they function independently of the environment and other agents. Observed behavior is an emergent attribute of the agent detecting signals in the environment, processing the rules in the agent’s knowledge base, and the subsequent interactions initiated by the agent.

Agents are also self-contained. Each one is uniquely identifiable with some characteristics, which forms a boundary (important for autopoietic behavior to emerge). In
the case of the conceptual model, the boundary is the knowledge base and its state, thereby allowing both temporal and “spatial\textsuperscript{167},” uniqueness.

Agents are social: They interact with other agents—unless they are executing a rule that stops the interaction, such as death.

Agents have a state called conditionality in complex systems. There are two elements of state in the conceptual model. One is the agent’s membership in groups, agencies and populations. The other is the knowledge base and its collection of rules. That state is determined by the rules it contains and their current point of execution (the ability of the rules to be modified by other rules during execution, as is done by the framing rules to production rules). In the conceptual model, the agents do not have a specific goal. Instead they have a preference for greater wellbeing. The agents learn and adapt. They learn by observing (sensing) their changes in wellbeing, adapt by modification of their rules. This is how they express the aforementioned preference.

The agents in the model are heterogeneous in their knowledge bases.

There are two types of agents in the model: agents and agencies. Agencies form when there is a need to transform or exchange value in a way that is beyond the capabilities of a single agent. Agencies are comprised of agents and are agents (unitary behavior) when they interact with the environment. An agency can do anything an agent can do but with more scope and scale. There is one exception: Only the cellular agent can originate a new rule.

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\textsuperscript{167} Location in its networks.
Agents are both rule creators and rule users. As described earlier, rules can and do change. Classical economics focuses on the operational rules that result in the production of goods and services, while neoclassical economics focuses on operational rules of exchanges of goods and services. Both require stable (static system) rules of rational cognition and behavior, as this model does not. This model focuses on rules as a concept rather than on resources and factors of production (classical) or rational decision making by agents (neoclassical).

Traditional economic models use a representative (average) agent and representative rules that are rational and cognitive. This model does not. This model assumes a population of varying agents sharing a rule with varying collections of other rules. They are carriers of rules rather than representatives of a rule.

An agency is a group of agents formed to carry rules of complexity that enable capabilities beyond a single agent. Economically, an agent may know how to repair an engine and have the ability to do it. It takes a firm (a form of agency) such as Ford to know how and have the resources and capability to build a car. No one agent has that potential.

Agencies can also be augmented agents. An augmented agent is one that is applying technology to achieve agency (increased capability) benefits. For example, a fighter pilot plus a fighter plane is an agency (Abel, 2014). Agencies can also be augmented: Consider a combat tank team. Most businesses are augmented agencies.

5.6.3 Rules

Complex systems are always systems of rules. The exhaustive list of one-dimensional cellular-automata rules developed by Wolfram (Wolfram, 2002) contains 256 rules with only 88 needed to derive the rest. The conceptual model’s rules are a predicate
calculus (if-then-else) implementation of a representation system from social-systems theory. Given a stimulus, perform an action. Rules are generally part of a collaborative rule set. Rules are the DNA equivalent of a complex adaptive system, and DNA are the rules (instructions) an organism (a complex adaptive system) needs to develop, survive, and reproduce.

In a complex adaptive system, agents need a minimum of two levels of rules: one set of rules to guide the agent’s environmental responses, another set of rules to change the behavioral rules. The conceptual model uses three types of rules: production, framing, and structural, as described below. Rules perform two meta-functions. They instruct the agent how to transform value or how to exchange value.

Though they are not needed in the current conceptual model, rule classes from Dopfer (Dopfer & Potts, 2015) have been included here. They may be useful as the model develops further.

5.6.4 Types

There are three types of rules in the conceptual model. There are production rules that guide the production and exchange of value in the model. There are framing rules, which are constraints on production rules. And there are structural rules, which apply production, framing and structure to the other two types and to themselves.

Production

Production rules perform either transactional or transformational functions, as described below. Production rules detect signals from the environment, then initiates some action, or not based upon the value of the signal. These are comparable to social-systems-theory’s principle representation system. These actions alter the amount of value the agent
has on hand. Dopfer and Potts (Dopfer & Potts, 2015) refer to their versions of these as first-order rules and consider them to be of two types: generic (knowing what can be done) and operational (knowing how to do it). The conceptual model does not do this because value has not been added to the model. The conceptual model includes the transactional and transformational typing, but to all three rule types.

**Framing**

Values are represented by framing rules in the conceptual model, and value is a representation of worth or usefulness within the model. These representations become the categories themselves (abstract concepts versus concrete stimulus-response) in what the social-systems theorists call a secondary representation system. In the conceptual model, these become framing rules (values, *oughts, shoulds*) and structural rules (norms, heuristics) and the foundations for a complex society. Dopfer and Potts have a similar structure called constitutive rules or 0th order rules. A difference between the conceptual model and Dopfer and Potts is the evolutionary path for these rules and the relationship of these rules to all systems except the system in which the production rules are operating in. The constitutive rules of Dopfer and Potts can be derived from the conceptual model’s framing rules, but not the other way around.

These are the rules that have entered the agent’s or agency’s pool of rules from all the different societal systems the agent or agency participates in to produce or exchange value. Over time, these rules evolve into abstract, generic versions of the structural and production rules of the originating system, and they can be present in all systems as the highest-level rules. This dynamic process over time establishes the rules that legitimize agents and agencies as participants in the society as long as they perform according to
them. They are how society, implicitly and explicitly (through formal permissions and sanctions from the different subsystems such as laws, suits, excommunication, and curricula inclusion), expresses the expectations, duties, norms and behaviors that encompass its participants’ roles and rights and the degrees of freedom of action they are permitted. Therefore, these rules are a focus of governance, and from that governance become guidelines for strategic management.

**Structural**

Structural rules are rules about rules. These rules are production rules for rules. They detect, accept, or reject new rules encountered in the environment. They create new rules as well. Rule creation, adoption, adaptation, and retention all take place via structural rules. They also adjust the execution of all the rules, including themselves, in the knowledge base. They are also subject to framing and production rules, as they are to the structural rules.

**Summary**

Structural rules organize and grow knowledge by structuring and adding structural rules, framing rules, and production rules. Framing rules control what is permissible action by the structural and production rules and the weights of all rules (used in relative value assessments) based upon outcome perceptions. Production rules generate or exchange value and generate other rules.

5.6.5 **Functions**

Rule functions enable the rules to express themselves in the environment by their manipulation of value.
Transformational
Transformational rules are instructions on how to take available value (resources, goods, services, ideas or experiences) and transform (create, store, use, consume, destroy) them into another form of value or add to wellbeing.

Transactional
Transactional rules are instructions on how to take available value and exchange it in a market for other value.

5.6.6 Classes
Dopfer and Potts (Dopfer & Potts, 2015) have a rule-classification scheme of four classes. The conceptual model did not need this structure, but it is included here for potential future consideration. They also use concepts of generic rules (effectively structural rules) and operant rules (effectively production rules) that are not in the conceptual model. The multisystem approach the conceptual model uses for rules makes the additional organization unnecessary. The classes are cognitive (operating inside the agent) and behavioral (agent acting in the environment) rules that act on the agent, and social (organizes other agents) and technology (organizes stuff) rules that operate on the outside world.

5.6.7 Rule Carriers
Rule carriers are simply agents who actively, passively, or indirectly through artifacts (e.g., write a book) cause a rule or rule set to be adopted by other agents. This means that the carrier has the rule and manifests it in some way so that it is visible to other agents who then adopt it by the mechanisms describe in Bausch (Bausch, 2001) for social
and cognitive evolution: essentially stages of language development. Rule carriers are the media for rule trajectories. Rule carriers are the spermatozoa of the conceptual model.

5.6.8 Rule Sets

For simplification, the term rule is used going forward to mean either a rule or a rule set. For example, a meso-level (as it requires a population of two or more agents and or agencies) market rule is a rule set of production rules that describes how to conduct transactions (auction, Dutch auction, posted price, etc.).

A micro-level trajectory, as discussed in levels of analysis below, consists of an agent or agency that is innovating, adopting, and then retaining a rule. It is very rare that only one rule is involved. More commonly, a collection (set) of production rules are interrelated that are either necessary to or supportive of each other’s execution. A meso-level trajectory, as discussed below, will most likely be the appearance of such a set forming a population of users, the diffusion of that set among the population (growth of the population), and its eventual institution within the population.

It is expected that there will be co-evolution of rules both in and between individual rule sets and population rule sets as they evolve and adapt to each other. For example, an innovative analytical method or a new religious concept, as it diffuses through a population, will include rules for new ways of thinking and new acceptable actions and the rules for performing transactions and transformations.

In addition, every rule (set) carrier is expected to exhibit variety in its representation of a rule set. This variety is a consequence of individual significance and weighting of the rules in the set relative to others. At a micro level, there will be three types of variation: rule, carrier, and instantiation. There will likely be rule variety (mutation) where the same
rule is instantiated differently. Think of a dog rule with different fur patterns. Carrier variations would be the result of different environments. A boiling-water rule is different at sea level than at the top of Mount Everest. Lastly, production variation applies the same rule for different purposes. For example, the boiling rule can be applied to cook potatoes, or a variation (double boiling) can be used to prepare chocolate.

Carrier variety has the most significance in evolution at the meso level, as it is a vehicle for preference. When a carrier adopts a new rule, that rule finds itself in a systemic (complex adaptive system) environment of the other rules being carried. Adoption will require adaptation by either the rule, the existing rules or both. This can be by how the rule connects to other rules (evoked sets – think cold dessert and ice cream, sherbet or frozen grasshoppers come to mind) or how it is used to perform different operations (boiling used to cook, sterilize, humidify, etc.). Alternatively, the carrier could move to a different environment (using a proprietary technology to build a new product for a new market).

Meso-level variation is evolutionary selection (competition) of all the variety of rules as they change for “successful” adoption and retention in a population. First a novel rule appears, then varieties occur to facilitate adoption, then the process of retention begins to reduce the number to a few dominant versions.

This is very like the genetic concepts of DNA (object and subject rules) combined into a gene (an interacting rule set that is a recipe for transformations and transactions) being a functional contribution to a chromosome (population) which controls the activation of the genes using the DNA.
Variety at the micro level also has a biological equivalent in epigenetics wherein the environment influences the specific expression of genes. At the meso level, it is Darwinian selection and reproduction.

Like biological evolution, rule evolution is non-linear and is expected to exhibit punctuated equilibrium—that is surge with innovation and variety—before it converges into a stable set of dominant versions.

These are the easy rules to understand. They control the actual production of value when resources are either exchanged (transactions) or combined into a new form of resource (transformation). They define how to do things, such as bake a cake. Production rules are constrained by framing rules and organized by structural rules. For example, baking may not be permissible during a religious holiday, or certain ingredients may not be legally used (in brownies perhaps); you may have to substitute an ingredient, or cakes may have fallen out of fashion as a dessert.

5.6.9 Populations

Populations are collections of agents\textsuperscript{168} with some overlapping commonality in their knowledge bases. The cohesiveness of the population is a function of how much overlap and the structural attributes (strength, priority) of the rules have in common. For example, there is a population of Second Amendment supporters: firearms owners, pistol owners, isosceles stance shooters, and competitive shooters. There is also a population of Second Amendment supporters who own pistols and shoot them competitively using an isosceles stance.

\textsuperscript{168} Reminder that agencies are also agents.
As a population grows, the common rule set is seen in more markets and, progressively, if it results in net wellbeing improvement and is retained by the using agent, more agents will adopt it.

5.6.10 Rule Trajectories

Choo (Choo, 2002), in discussing knowledge transfer, gives the example of the GM and Toyota joint venture NUMMI (New United Motor Manufacturing, Inc.). Even though volumes had been written about the “Toyota Way,” researchers contend that the essence of the process would not have been discernable by GM without exposure to the tacit knowledge in action, embedded experience and systemic interactions. This is how rule trajectories operate in the model. It is everything needed for a rule or rule set to manifest in another agent. It is a fine-grained concept similar to diffusion of innovation. It is the process whereby a novel rule is originated, adopted and retained by an agent, then eventually a population, until it becomes part of the knowledge base of the system or society.

5.6.11 Knowledge

Knowledge in the conceptual model represents pools of rules that are held and used by agents or agencies. These pools are conceptually equivalent to Snowden’s third generation of knowledge management (Snowden, 2003) and the representation of complex knowledge. The conceptual model requires decision making to be multidimensional—considering not only the content of the decisions being made, but also the contexts and
narratives that accompany those “facts”\textsuperscript{169}, from other systems of society. These companions may be complementary, supplementary or even contradictory.

The conceptual model view of knowledge is a derivative of earlier work on knowledge-based enterprises that was highly influenced by the work of Weick (Weick, 1995), Nonaka (Nonaka, Toyama, & Konno, 2000), Oinas (Oinas-Kukkonen & Oinas, 2004), and Boyd (Boyd, 1996). Figure 16 below shows the resulting model used in executive training sessions.

In Weick’s view, three kinds of knowledge are used in economic decision making. There is the tacit knowledge of individuals (agents) built up from experience; explicit or rule-based knowledge in artifacts, rules and routines (available to agents but generally found in agencies); and cultural knowledge in the form of beliefs, assumptions, values, and norms that system participants use to weigh and prioritize the knowledge (framing rules). The model simplifies this by treating beliefs, assumptions, values, and norms as rules and rule sets from across all differential-function systems. The model combines tacit and explicit knowledge into production rules and rule sets with different structural rules engaged. This concept of structural rules is a difference between the conceptual model and Weick.

A future research project could take the previous work, incorporate Snowden’s work, and establish an operational model of a knowledge base consisting of only rules.

\textsuperscript{169} An interesting aside due more study is that if you treat knowledge as a collection of rules, then the fact/value dichotomy disappears as Putnam says it should.
5.7 The role formation perspective

The figure below represents all that has been discussed in term of the conceptual model and how rules work. In the conceptual model, a role is simply a rule set that reflects how to do things and identifies constraints on what can be done and permissions and encouragement for what should be done—all of which are emergent form the interaction of populations of agents. What is missing from the discussion is how that evolutionary process is manifested. That is accomplished with the emergence of markets.
Figure 17: Conceptual model of role formation

5.8 Markets

In the model, the lowest level or production rules are of two types. There are transformation rules that express how to combine resources of value into new resources of value. There are transaction rules that express how to acquire, share or exchange resources (value). These resources can be from any of a society’s systems\textsuperscript{170}. They can be tangible (iron, grain) or they can be intangible (ideas, ideologies). They can be representational artifacts of value such as contracts from the legal system or a degree from the education

\textsuperscript{170} These are the differential-function systems discussed earlier, but for context here they are as follows: political, economic, science, art, religion, legal, sport, health, education and mass media.
system. Markets are a mechanism used to facilitate the exchanges that emerge from the behavior of applied rule sets within a subsystem of society.

As already discussed, the model exhibits emergence. One of the suggested emergent properties of the model at the macro level are markets. In addition to emergence, another characteristic of complex adaptive systems is self-organization. Markets, regardless of what is exchanged, are self-organizing in the conceptual model. In the economic subsystem, markets emerge and organize to determine “price” (relative value parameters for an exchange). In the science subsystem, markets emerge and organize (schools of thoughts, domains of knowledge) the “value” of facts and theories. In the art subsystem, markets emerge and organize to establish fashion value.

The market emergence at the macro level portion of the model synthesis drew upon Informing science and in particular the concept of fitness landscapes (Gill, 2010). The other foundations were the canonical narrative schema described by Hebert (Hébert, 2006) from semiotics and The Theory of Externalities, Public Goods and Club Goods (Cornes & Sandler, 1996) from economics.

Rather than “things,” markets in the model are processes: processes of agents and agencies discovering their own and others wants, needs, resources (value) and the relative importance of those resources among each other and society as represented by all the subsystems, not just the economic one. The key concept here is that while a market may exist in one subsystem (for example, a livestock exchange in the economic system), the decisions made in that market are governed by the production rules—whose differential survival is dependent upon the success of the resulting transactions of that system—but
also in the higher-level societal rules that have gone through their own competitive evolution in other subsystems.

This is an important part of the conceptual model. Traditional economics restricts the context of a market to the specific resources exchanged within the economic subsystem and considers elements of the exchange outside of the economic system as externalities. In them, a market is a thing (environment) which establishes price by discovering supply and demand. For example, in economic terms, a market for a wedding ring is established via other economic markets (e.g., gold, diamonds, jeweler hours) or substitute markets (divorce lawyers and pawn shops) establishing supply and demand. Price and transaction volume become a function of a resulting non-equilibrium.

The conceptual model suggests that the market process is more inclusive (incorporating externalities) than either classical or neo-classical economics. For the previous example, the value of the diamond is not just its cut, color, clarity, and carats. Is it a conflict diamond? What is its pedigree (originally mined, refined, cut, polished, “markets” it moved through)? Was the gold mined with slave or child labor? Was the ring stolen? Can I buy it in New York, ship it to a friend in Tampa who ships it back to me so I avoid sales taxes? What the model argues is that every exchange (legal, illegal, economic or non-economic) is a function of all the rules in play in the participant’s rule pools. It is the process of establishing relative value (as the old expression goes\textsuperscript{171}, every person has a price for everything, it just needs to be discovered) across all the systems of a society the

\textsuperscript{171} Earliest known version is in Juvenal's \textit{Satires} (c. 120 C.E.): "All things at Rome have their price."
parties involved participate in. The model elevates the economic concept of markets to incorporate all of a society’s interactions—not just the exchange of goods and services.

Markets emerge from a need to transact. Market size and stability are inversely related to the number of rules engaged. Few rules are applied when buying a bottle of water in a convenience store. Considerations are generally what is available and an acceptable-exchange your thirstiness and money in your pocket versus established price, maybe some brand rule set kicks in, perhaps some health or ecology concerns on the plastic involved. The emergent market for bottled water is therefore large and persists over a long period of time. Contrast this to the emergent market for medical treatment for Charlie Gard\textsuperscript{172} and all the rules (political, legal, economic, science, religion, health, and mass media) engaged to establish the parameters (value) of the resource exchanges (legal, political, health, science, mass media, economic).

In the macro level of the conceptual model, markets continue to emerge as mechanisms for discovering price (participants’ perceived relative value in an exchange). However, the model accounts for much more than simply supply and demand for a single resource, product or service. Because it works across all the differential function systems,

\textsuperscript{172} Baby born in the UK with a “terminal” disease. Charlie Gard was refused treatment by the National Health Service, and courts denied parents the option of taking the child to the USA for experimental treatment. Millions were raised from the public, Trump and Pope Francis weighed in, the U.S. Congress granted permanent residence, and Parliament objected. Experts disagree on treatment and prognosis. Groups are protesting about “death with dignity” versus “sanctity of life”.

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it includes historical externalities such as other value that being exchanged may have in other systems of society. A simple mathematical relationship (e.g., ROI) becomes more of a conversation as these externalities present significantly more tradeoffs for a transaction than a simple availability-versus-need price decision with large continuums of potential values, as demonstrated in the previous wedding-ring example. Since an action (transaction, value exchange) is desired by participants and a conversation is required to accomplish it, semiotics offers a potentially useful descriptive structure: the canonical narrative schema for such a conversation. The initial conceptual model adopts the canonical narrative schema to describe an emergent market’s participant’s rule sets interactions.

The Canonical narrative schema is a tool from semiotics that is used to describe actions. The action under consideration in the model’s macro level is a transaction occurring in an emergent market.

There are five components of a CNS representation of an action:

- The **action** itself for the model is defining an exchange of value (the transaction)
- The **competence** to perform the action, sometimes categorized as follows:
  - Wanting to do
  - Having to do
  - Knowing how to do
  - Being able to do
- The **performance** of the action, accomplishing it by acquiring competence and acting

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173 Can also be used to describe transformations when operational rules within agencies require coordination and collaboration (effectively transactions) among agents.

This is beyond the scope of this study and report.
• The **manipulation** of the participants of each other to influence both “wanting to do” and “having to do”.

• The **sanction** of the outcome, the consequential retribution, either reward or punishment of the participants based on success or failure.

The canonical narrative schema (CNS) is a manifestation of a rule set. It is a collection of actions. Each action itself may be made of a collection of actions, and each action is governed by a collection of rules. The actual transaction is a manifestation of an instance of a CNS. There are temporal relationships among the components that are discussed later. The CNS is generalizable to cover everything from altruistic or self-serving gift giving to long-term, in-depth legal contracting. It is equally facile in describing traditional economic-subsystem value exchanges and value (idea or rule set adoption) exchanges in the non-economic subsystems.

Here is a simple example. The finance department decides (based upon rule sets from strategic management and governance) on the need to secure a receivables loan (action). The finance department asks for and justifies to a bank (manipulation – wanting to do) a loan (action). The bank does its due diligence and checks availability of funds (competence – having to do, knowing how to do, being able to do). The loan is executed (performance) and the company does further business with the bank (sanction) over time.

The CNS is an important part of the model, because it supplies a basis for identifying interaction constructs among a markets participants and potential insights into

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174 Consistent with the bank’s business model, governance and strategic management.
the rule sets and their pedigree. The canonical narrative schema also provides a mechanism to represent the entire transaction continuum in the practitioner narratives.

The emergence of markets is shown below in the figure conceptual model market formation.

Figure 18: Conceptual model market formation

5.9 Levels of Analysis

Although quick to acknowledge organizations as multilevel systems, organizational science has traditionally developed and tested theoretical models from three distinct points of view—organizational, group, and individual. Each level has become the province of different disciplines, theories, and approaches that have evolved over time. The current challenge is to integrate processes occurring across and within
all levels of an organization that affect the behavior of individuals, groups, and organizations as a whole. (Tosi, 2002)

What this study is attempting to do is to extend the “whole” that Henry Tosi is discussing to include society—particularly as a society defines the environment that the individuals, groups, and organizations must operate in, influences their behavior in those environments and establishes the expectations of their behavior. The interest of the conceptual model is in the roles societies establishes for business.

5.9.1 Micro Level

Patterns of change have a coherence. We may measure at the macro level but the dynamics of change must be explained at the level of micro phenomena. Stanley Metcalfe (Metcalfe, 1998)

For any evolutionarily complex adaptive system, the elementary unit of evolution is an individual free agent. In biological terms, it can be an individual specimen or a species; in economic terms, it can be an individual person. In the conceptual model, the analogue is the agent and its knowledge base. The methods of evolution are the rules and resulting constructs in the conceptual model. These are what we are interested in tracking and understanding; we want to know how they change in the knowledge bases.

Since these rules and constructs are ephemeral, nebulous, and lack any physicality, agents and agencies as rule carriers and users are surrogates\(^{175}\) for them. These evolutionary

\(^{175}\) This is the arbitrary choice described earlier. The rules are likely artifacts of some complex neurological system that manifests as human behavior (decision making
agents are part of a heterogeneous populations, and in conceptual model terms are both rule originators (just agents) and rule adopters/adapters/retainers whose knowledge base of rules are constantly changing. Neoclassical economics also posits a single archetype agent as a rule user, but representative rules based upon “rational” cognition and behavior.

These rules govern, 1) transformations of objects in the system, 2) transactions among the agents (and agencies) of the system, and 3) transformations of the agent’s rules. Application of these rules result in the creation, destruction, usage, consumption, and exchange of value and the withholding of value from transformation or transaction.

In effect, an economic agent is a system (a complex adaptive system) of rules—rules that come from the economic system, from traditional neoclassical economic rule archetypes, and from the other systems the agent operates in (such as the differential-function systems).

Trajectories are important. At the micro level, a rule trajectory is the process of adoption and retention of a new or modified rule by an agent. An agent that facilitates that rule to pass to other agents is a carrier.

The key concept is that of the rule carrier. The rule carrier is an agent (or agency) who has a knowledge base comprised of the four types (subject cognitive, subject behavioral, object social, and object technical) and three levels (constitutive, structural/mechanical, and operational). The micro-rule trajectory described earlier is the

and environment sensing). That level of detail was unnecessary for the study at this point in time, though the potential for extending into neuroscience via neuroeconomics is acknowledged.
process in which agents and agencies evolve by replicating the rules among themselves, by introducing variety in the rules to meet internal and external environments, and by selection as the agent or agency is successful (or not) in its environment.

There are two levels of variety at the micro level. Internally, a new rule, either originated or adopted, must coexist with the existing rule (knowledge) base of the agent or agency. To fit in (per some fitness function of the agent or agency), the rule has to adapt via some change in the rule or the agent’s rule set or both, thereby generating a variant of the rule (or rule set). Additionally, each agent or agency might connect that rule differently (i.e., employ it in different rule sets) and or apply it for different operations.

Externally, each agent or agency operates in a local environment: that is, a culmination of all the environments they are engaged with that will likely be much different from any other agent’s environment. These multiple environments (think biological niches) are the foundation of the evolutionary selection process. Also, these agents and agencies can move between selection environments in search of opportunity—such as church on Sunday (religion), work during the day (economic), classes at night (education), softball on Saturday (sport).

Within an individual agent, the assorted rules go through a process of either being original (that great idea in the shower), or some behavior is seen\textsuperscript{176} in the world that causes an original rule of someone else to be identified and the adopted. The rule has no status until it is used. Once used, it is either discarded (great in theory, didn’t work in practice), adapted (just needed a little tweak) and tried again, or retained. Continuous use of a retained

\textsuperscript{176} Could be visibly observed, read about, and watched on TV.
rule over time means it has become habituated and in some evolutionary form will have moved over to Kahneman’s (Kahneman, 2011) S1 system as a heuristic.

5.9.2 Meso Level

The meso level of any complex adaptive system is generally a rule set or collection of rule sets and their carriers forming populations. The population becomes a unit of analysis at the macro level. The combination of a rule and its trajectory could be considered, for practitioner purposes, the equivalent of a meme, which is effectively a rule that has been innovated in one carrier and then subsequently adopted by many others. This level of analysis is of the rules and their populations with any resulting trajectories. The importance of the meso level of analysis cannot be overstated. The meso level rules are traditionally treated as invariant and even external to the concerns of business in traditional analysis, if not ignored. Yet it is their ongoing evolution that addresses the changing environments of business and the evolution of business’ expected role in a society.

It is at the meso level that a single agent’s rule (which can reside in multiple agents) becomes readily adoptable by others. Evolution and emergence are properties of the populations.

It is the meso layer where the dynamic phenomenon of non-equilibrium arises. Congested roads exhibit an interesting wave phenomenon because cars slow down and speed up but do not do so in unison. In some places, a group of cars may actually be stopped. There are three things to notice if you study the systems involved. First, it is spontaneous. You can watch the road all day and not be able to predict where a wave or stoppage will appear at any moment in time. The second point is that it exists for a moment of time and is gone; it is temporal. Finally, you will learn little to nothing studying the
phenomenon at either the macro level (traffic flow) or the micro level (automobiles). You must study the meso level between cars and traffic.

5.9.3 Macro Level

A human society and the economic differential-function system of that society are complex adaptive systems. As such, macro order is never correctly described as a linear aggregation of its micro operating parts. This generally requires the introduction of a meso level to represent the self-organization of the micro parts (agents) into agencies (for example, firms, institutions and communities). A macro level is effectively an emergent structure of meso units and activity.

As discussed elsewhere, processes speed up the closer to the micro level you are; they slow down the closer to the macro level you are. Knowledge bases constitute one of the reasons for this. Agents have relatively small knowledge bases because they leverage (include by default) the knowledge bases of the population they are a member of and that of society. An individual agent does not change a population’s knowledge base (he or she leaves the population instead); nor can an individual agent change a society’s knowledge base without the help of a very large population. Also, the consequences of wiping out all the pointers is insignificant in terms of an individual agent (from society’s perspective), but wiping out society’s pointers is catastrophic. For this reason, rule trajectories at the macro level are different. A new rule, once accepted (moves from a population to a society or system), must first unwind existing rules (de-coordination), find an insertion point for the new rules (re-coordination), and then reinforce the rule among the agents (maintenance).
5.9.4 Level of analysis summary

This introduces a micro-meso analysis to explain the emergence of new behaviors (actions, preferences) by the actions of agents in response to new and existing rules. This in turn makes the meso-macro analysis the study of populations. Simply put, micro-meso analysis is around the rule base of agents; meso-macro is around the population base of rules. The meso functions as a bridging point to account for the non-linearity of the micro into the macro levels.

For human complex adaptive systems, the micro level of analysis is an individual, the individual’s collection of rules, how the individual adopts and retains new rules (adding, replacing, modifying existing rules), and the individual’s value effects in applying those rules in transforming objects or transacting with other individuals. The meso level of analysis has to do with how those rules move through populations and support transactions and transformations beyond the capability of single individuals.

The macro level then concerns itself with the coordination of all those meso activities into some semblance of order and systemic behavior. This would include the coordination of the body of participating rules and the coordination of the all the populations carrying those rules. The meso units (populations as firms, institutions, agencies, etc.) are the analytical units at the macro level. Evolutionary economics treats these not just as a traditional agency (agent on behalf of a population of agents), but as a carrier population for a rule.

In this context, evolution (change) is a function of the de-coordination and then re-coordination of agents and agencies caused by the trajectories of rules at the meso level.
Macro behavior is the result of the emergence (of new rules and populations) and self-organization (of those rules and populations).

Remember from complexity that agent behaviors do not aggregate due to interdependencies; therefore, there should be no expectation of aggregative relationships between micro and meso or meso and macro. There are useful summations (firm, market, communities) with commonality, but the whole is more than the sum of its parts.

This means an economy and a society, do not seek equilibrium but instead dynamically evolve via self-organization as the rules and populations dynamically adapt (via autopoiesis) to each other.

Complex adaptive systems do not achieve equilibrium.

That said, the state of a system at the macro level can be measured by the order and non-equilibrium, represented by the coordination of all the elements of the system and how it shifts when it encounters innovation in the form of a meso trajectory. At the macro level, a meso trajectory disrupts the system’s order. This in turn requires the system to deal with the de-coordination a new collection of rules introduces then re-coordinate all of the elements incorporating the new rules. As discussed in the meso level, there is an ongoing varietal evolution of rules that requires a maintenance activity to maintain coordination. This coordination activity is called a regime in Dopfer and Potts’ terminology.

In the same way, a trajectory has a set of rules usually associated with it. Meso trajectories generally appear in sets.
Communication, which is the key to progression up to the meso level can also first be seen here. Prigogine (discussed in Bausch, 2001) describes how mutations create greater complexity and order not only through the genome but also from the ontogeny and social relations of the organism. Likewise, Eigen and Csanyi (both discussed in Bausch, 2001) show how a system (at any level) can create and retain (communicate over time) information, thereby enabling replication and componentization with the resulting in a precursor of the development of autopoietic theory, which is important at the higher levels of society (Roth’s 10 systems are defined as being autopoietic, as are most complex adaptive systems).

5.10 The “Value”, trust, and wellbeing Problem

The Nobel laureate economist Paul Krugman in 2009 wrote:

“As I see it, the economics profession went astray because economists, as a group, mistook beauty, clad in impressive-looking mathematics, for truth.
Economists will have to learn to live with messiness. That is, they will have to acknowledge the importance of irrational and often unpredictable behavior, face up to the often idiosyncratic imperfections of markets and accept that an elegant economic 'theory of everything' is a long way off." (Krugman, 2009)

5.10.1 Wellbeing

The key to doing well lies not in overcoming others but in eliciting their co-operation. Individuals don’t have to be rational; the evolutionary process alone allows the successful strategy to thrive, even if the players do not know why or how. Finally, no central authority is needed; co-operation based on reciprocity can be self policing. (Robert M Axelrod, 2006)

In the conceptual model, wellbeing is the state of the independent choosing agents. It also represents the emergent state of all choosing agents and therefore of a differential-function system and the overall system of a society.

Although the notion of wellbeing is extensive in the literature, it is variously interpreted and has no common definition that I can find. In fact, it is difficult to find agreement as to its spelling. Part of the reason is the complication of the construct and all that researchers are trying to account for with it – physical wellbeing, mental wellbeing, subjective wellbeing, economic wellbeing and a very recent concept of accrued wellbeing (Gillett-Swan & Sargeant, 2015). Wellbeing in its broadest sense encompasses all aspects of the human experience as perceived by individuals (as themselves or as members of a group or society) at any given time. Wealth and other surrogates for wellbeing such as happiness are always compared (W. Ng & Diener, 2014; W. Ng, Diener, Aurora, & Harter, 2009; Veenhoven, 2000) suggesting that there is an acceptable wellbeing tradeoff.
mechanism. Within the literature, whether discussing individual or group wellbeing, two measures consistently appear: 1) resilience (Riley, 2012), the ability to deal with and recover from events outside of normal expectations (black swans?), and 2) happiness (Tay & Kuykendall, 2013) or some similar construct around a preferred state of being or existence. One framework that has been used to explain motivation ever since it was first published in the 1940s is that of Maslow’s hierarchy of needs. This framework suggests that people are motivated by different needs that can be classified into a hierarchy, with the lower level needs having to be fulfilled before the higher-level needs can be. There is likely a link between Maslow’s model and societal wellbeing in the conceptual scheme and the resulting fitness landscape.

Another potential surrogate for wellbeing is quality of life. The World Health Organization defines quality of life as “...an individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person’s physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment” (World Health Organization, 1997)

Another view, (Hooker, 2015) suggests that hedonism as a surrogate for wellbeing. Another main view of welfare holds that a person’s well-being is constituted by the fulfilment of his or her desires, whether or not the person knows the desires have been fulfilled. This view is often called the desire-fulfilment (or preference-satisfaction) theory of wellbeing. Derek Parfit (Parfit, 1984) describes this theory as the “objective-list theory.” According to this objective-list theory, a life contains more welfare to the extent that it
contains more pleasure, knowledge of important matters, friendship, significant achievement, and autonomy.

Happiness is another potential surrogate. It is often used in economics as part of a utility function. Recently, the National People's Congress in China declared that increasing happiness is more important than increasing GDP (Economist Special Report, June 2011).

Wellbeing is not addressed in detail in the conceptual model now. For current purposes, it is a stand-in until a more detailed definition can be built. The conceptual model considers it like pinball. Survival in an evolutionary sense is not a video-game high-score objective but a pinball gets to play another game objective. Therefore, evolutionary success goes to the most adaptable (get to play again) versus the strongest (high score). This is consistent with how the conceptual model developed.

Wellbeing is the objective fitness function for the conceptual model. Value may add to or subtract from wellbeing. Agents may execute rules that reduce wellbeing because those rules eventually move agents to higher states on the fitness landscape (investing instead of buying a new car). All that is required is for wellbeing to go up or down, not specific values, at this point in the model development.

5.10.2 Value

All economics, and society, is about exchanging value. Value in resources, goods, services, ideas and experiences. Where value comes from, what it means to individuals and societies, and how we measure that meaning is the basis of business and economics. It also is the realm of philosophers and philosophy as creating value is part of living well.

There are numerous theories of value including economic, social, and philosophical (Robert S. Hartman, 1961). Value can be intrinsic and instrumental. It can be tangible or
intangible (Pine & Gilmore, 1998). Value can be created, stored, used, consumed, destroyed and exchanged. It can be relative, or it might be absolute. There are methods of value creation ((Di Domenico, Haugh, & Tracey, 2010; Kroeger & Weber, 2014; Tsai & Ghoshal, 1998; Wilburn & Wilburn, 2014). There are value-neutral mediums to convey value, there is a short-term versus long term perspective (Cuadras-Morató, 1997; Duffy & Ochs, 1999; Seonghwan, 1989). There is shared value (Pfitzer, Bockstette, & Stamp, 2013; Michael E. Porter & Kramer, 2011), knowledge value (Starosta, 2012), relationship and inter-relationship value (Kivleniece & Quelin, 2012), and more.

At this stage of development, the conceptual model has not addressed operational issues of value. It currently stands as a meta construct to represent resource, goods, services, ideas and experiences that agents produce and trade among themselves. Value can increase or decrease wellbeing. Simplifying the concept of meta resources into a statement of value, then philosophical debates of what is value along with Psychological value theory (Eccles & Wigfield, 2002) provide foundations for dealing with the other non-economic systems Roth identified, and their surrender and acceptance of resources from each other and the monetized economic system (Bell, 2011).

Once multiple purposes for value (creation, exchange, storage, usage, consumption, destruction) are considered, and more than a few actors become involved, subtleties and complications arise. Some of these are the introduction of money, the nature of price, relative value, usage, intent, and others. Other elements of business value theories such as the first inklings of agency theory – what works, what doesn’t make their appearance. Then people begin forming up into groups for the acquisition and consumption of “social value” as well as economic value. The other elements that make up society begin to interject their
needs into what were simple transactions. Add the formation of a business (employment, fictitious person for continuity), and the idea of an optimized economy around shareholder wealth creation, we see the issues brought up by Meyer and Kirby (Meyer & Kirby, 2012) All of this plus the inherent nature of ROE driven investments creates a “rich, who have the equity, get richer” unintended consequence creating a social and societal backlash (Bartlett, 2005) which were trying to be addressed by Donaldson and Walsh (T. Donaldson & Walsh, 2015).

This is the simplest form of both the representation problem and the map/territory problem. A representation is a way to write down a concept. A representation of a value consists of some symbols used to convey the abstract notion of a value. Mistaking the map for the territory is a little known but very important form of fallacy in which someone confuses the semantics of a term with what it represents. For example, money is the map of value within the economic system.

Getting to a uniform, rigorous definition and representation of value is a critical and likely exceedingly difficult part of this study program going forward. More study is needed to reconcile the different definitions of, uses of, and approaches to “value.”

What can be said is that most scientific research on value has focused on economic returns (Harrison & Wicks, 2013). The business literature assumes that economic value is value. While this simplifies calculations and modeling, it obscures potentially equally or more important components of value which are not economic or tied to short term profits.
5.10.3 Trust

Stephen Knack\textsuperscript{177}, a lead economist at the World Bank, once commented that, “basically all the difference between the per capita income of the United States and Somalia” could be explained by trust. While Knack talks about it in terms of institutions (Knack & Keefer, 2014), the conceptual scheme anticipates it in a more independent form in terms of an information channel of signals sent, received, acknowledged and acted upon by the different systems (differential-function systems, agencies, and agents sensing their environment). Other researchers have extended the need for trust to economic value creation and exchange (Bjornskov, 2012)—in particular, to transparency of the exchange (transaction). Before this, Francis Fukuyama (Fukuyama, 1995) argued that prosperous countries (societies) tend to be those in which business relations between people can be conducted informally and flexibly on the basis of trust. Even before that, Adam Smith said that the pin factory achieves nothing if the workers cannot trust each other (A. Smith & Skinner, 1999). This concept of trust could be extended as the platform to support the interactions among the systems of society in lieu of current approaches using regulation, taxation, laws and direct social action (protests, boycotts, even terrorism).

Trust, which is one of the explanations for discrepancies between actual behavior and that predicted by a model of self-interested actors, makes social life possible and permeates economic relationships. It has been related to positive economic outcomes, such as macro-level economic growth (Zak & Knack, 2001) and micro-level intrinsic motivation and work performance (Armin & Michael, 2006; Falk & Kosfeld, 2004). There is also a

\textsuperscript{177} https://ideas.repec.org/e/pkn35.html
need to account for fairness\textsuperscript{178} and reciprocity in aggregate. The conceptual model posits that the outcome of transactions (narrative schema in the model) changes trust and either accelerates or inhibits future narratives among those agents (R. C. Mayer, Davis, & Schoorman, 1995).

More study is needed to determine other potential modifiers of value (or the value-exchange process), but most likely trust will be one. Of all the concepts introduced into the developing theory, trust has the least base of knowledge.

At this point in the development of the conceptual model, trust represents the information-exchange medium that has carried the narrative schema among parties in a market. A next step in the study is to make the trust construct more concrete—especially in its relationship to the narrative schema.

5.10.4 Fitness landscape – trust, value and wellbeing Utility

Rational decision making for utility maximization is foundational in contemporary economic thinking. It forms the current “best practice” of shareholder wealth maximization as the primary if not only role for a business in society (M. Friedman, 2009). Even though the practitioner literature speaks about “social responsibility” and “shared value creation,” the reality is that shareholders\textsuperscript{179} and management are more committed to short-term profits

\begin{flushleft}
\textsuperscript{178} Interestingly, the study shows that these are not just human issues (Brosnan & de Waal, 2014).

\textsuperscript{179} In the discussion of the supporting evidence in Chapter 5, the study of Colin Mayer (C. Mayer, 2013) shows that shareholder is an extremely Balkanized term that
\end{flushleft}
and incentives than to the enterprise itself (Willmott et al., 2016). Whether such behavior is sustainable or not is a major motivation of the study. Consequentially, the utility-driven approaches of contemporary economic thinking present a problem for the students who wants to account for how a society establishes the role of a business, for how a business discovers its role, and for the evidence being accumulated that such a unidimensional framework (such as shareholder wealth creation and its mechanical manifestations such as ROI) cannot explain governance and strategic management actions. Such a singular focus on utility would not account for what was being observed.

However, even the foundations of utility theory—from Adam Smith and John Stuart Mill to Alfred Marshall—describe many motivations, such as sympathy and public spiritedness, for economic decision making (Amartya Sen, 1994). This suggests that a singular fitness function around shareholder-wealth creation based upon a decision’s utility to contribute to it, while subject to both rigor and mathematical treatment, would be inadequate to represent the real world. This is all the truer when the real world is comprised of more than the economic behavior of a society. A societal participant’s fitness function must account for each societal subsystem’s value and contribution to fitness\(^{180}\) of society,

\(^{180}\) Capability to get that system’s value into the future.
manifested in a society’s individual participant. I adopted the concept of wellbeing to represent this emergent\textsuperscript{181} outcome.

This in turn suggests a need to look for theories, approaches and methods that would support economic externalities (specifically the multiple systems of a society), the behaviors of a complex system (which all the differential-function systems of a society are), the ability of individual participants (agents and agencies) to intervene and significantly influence system behavior\textsuperscript{182}, the inverse ability of the system to influence its participants, the ability system participants to influence each other (relationships, cooperation, collaboration), and the use of information for adaptation and evolution (learning).

To accomplish all of this requires a mechanism and medium for originating “ideas,” for adapting these ideas to circumstances (evolution), for adopting these ideas and using them, for retaining them over time (learning), and for transporting them across the systems of society through communication among agents and agencies. From complexity, the study

\textsuperscript{181} It is a non-linear result of the values of all the engaged systems, not a summation of values. This creates an evolutionary or rugged or adaptive fitness landscape in which small movements of any values can result in large changes in fitness (wellbeing) (Gill, 2010).

\textsuperscript{182} Sometime called a butterfly effect. Small localized changes in a complex system can have large follow-up effects. The name comes from the idea of a butterfly flapping its wings and initiating a tornado weeks later.
selected the concepts of rules and rule sets. From evolutionary economics, it selected the concept of rule trajectories.

The evolutionary contest for the rule trajectories had to do with how they contributed to the wellbeing fitness function. The wellbeing of an agent (and agencies) goes up and down based upon the store of value in all its forms from all the differential-function systems that agent (or agency) contributes or receives value from, regardless of form. The agent changes their store of value by either transaction or transformation. The efficiency of that transaction or transformation is modified by trust, reflecting past performance.

All three terms are what Gallie refers to as contested concepts (Gallie, 1955). As referenced elsewhere in this report, more work needs to be done on refining and defining them. However, for exercising the conceptual model, it is enough to treat them as black boxes and reflect just their directional effect on each other works.

5.11 Points of intervention

In Chapter 3, academic perspectives, Meadows’ points of leverage (Meadows, 2010) in intervening in a system were introduced. Using Meadows’ viewpoint, there are many places in which the conceptual model can be intervened by future governance and strategic-management practitioners.

The conceptual model is but one way of looking at the process of the emergence and evolution of the roles of a business. Meadows’ advice was to not lock into a paradigm. The conceptual model and this report reinforces that with a consideration of the many side issues of equilibrium versus non-equilibrium models, facts versus values, emergence versus causality. A paradigm is just a tool, like a microscope, an electron microscope, or
an X-ray: The paradigm will work differently for every problem and every instance of a wicked problem.

That said, the conceptual model is a paradigm based upon many other paradigms, but it is mostly a product of looking at the problem as a complex adaptive system. At one stage, the model was an equilibrium model that was stuck, but by adjusting the paradigm, progress resumed. This not only reinforces Meadows point about the power of paradigm, but the importance of transcending the idea of a paradigm, as a paradigm is itself a paradigm. That was reinforced by Putnam’s perspective on factual statements versus value statements and the “fact” they are one in the same (Putnam, 2002).

The goal of the conceptual model (and by inference, the system it is modeling) is to increase wellbeing. This is a change from a goal to increase shareholder wealth, which the model could just as easily represent. It may not be the actual goal of the system, but it is one that responds to the issues identified in the practitioner perceptions.

An early conclusion of the study was that unintended consequences are a function of inadequate information flow such that inaccurate value assessments are made of the exchange of resources, goods, services, ideas and experiences. Air and water are “free.” The conceptual model presents places in which governance can begin looking to increase awareness of the value they are consuming and returning. In the same way, most firms have a balanced scorecard which represents their state in the economic system. One can be built for each of the differential-function systems then integrated to show the firm’s total societal footprint.

The combination of a balanced scorecard for each system and a method to observe the emergence and evolution of new expectations and responsibilities of the firm to
anticipate rather than respond, provides new feedback loops between the systems and the participants in the systems become available.

Balance between the systems can happen “naturally” without the interventions of laws, regulations, taxes, and other forms of constraints and parameters. They are the least effective; they are slow to respond to changes, and they are imprecise. Improving the information flows, such the conceptual model is attempting to do by increasing awareness of the many roles of business, improving the ability to detect them, and in the future ways to measure performance will help encourage that natural balance.

Below is one suggested intervention with a trajectory scanner (along the lines of the social media scanners of today) used to pick up on changes in sentiment across the society. By using the results of the scanner to populate a multidimensional score card, governance can then use the scorecard to monitor performance against a firm’s roles.
Figure 20: Potential points of intervention

There are multiple projects underway in both academia and practice to develop the capability to monitor social media and integrate it with other sources of data to get a realtime view of each of us and provide us just the right value at just the right moment as described in the serendipity economy narrative. If it is done transparently then agencies of all the differential function systems can become more responsive to the world and us.
5.12 Synthesis– Nature of Societies, Economies, Markets, Transactions

An interesting outcome of using rules, rule sets, and rule trajectories along with the taxonomy of rules developed is in their ability to describe how it is that, given the same set of “facts” in similar circumstances, people can “rationally” disagree about the right and wrong courses of action. It is an interesting take on Putnam’s collapse of the fact/value dichotomy (Putnam, 2002).

It also provides a method for joint strategies arising even when everyone may be pursuing their “rational” self-interest. And yet the outcome might result in some agents or agencies within the decision group being less well off. Individuals will have unique rule sets creating unique reasoning about a given set of facts, but since the rules are likely to be related across rule sets and may have overlapping hierarchies and be variations of each other, it is possible for them to have the necessary commonality to support altruistic behavior. It is this commonality of rule and rule set evolution in the model that establishes values (framing rules) and norms (structural rules), provides experience, supports learning, emerges frameworks of fairness and justice and consequentially lays the foundation for cooperation, collaboration and sustainability of a society through knowledge bases of shared rules.

A key to the conceptual model of idea markets for societal value exchange is that the participants in these markets are the ten differential-function systems of society, as
identified by Roth (Roth & Schütz, 2014). Institutions, groups and individuals are agents and agencies of each system participating in a market. An instance of a market itself will consist of a commodity of exchange (resources surrendered and received – value, from canonical narrative schema – the competence of the exchange), a mechanism of exchange (the purpose, place, information flow and attributes of the exchange – trust, from CNS the performance of the exchange), and a unit of account (how the exchange adjusts wellbeing – from CNS, the manipulation and sanction of the exchange). The study so far suggests that they are system and time specific and represent collective stores of knowledge shared by the prototypical members of a given system. Instances of these markets are predominately intra-system narrative schemata representing the knowledge base of participating agents. The conceptual model is meant to idealize these markets for inter-system exchange and to improve information flow to facilitate market participants in achieving Pareto optimality across all their rules across all of the systems they participate in.

To address this, the conceptual model market emerges when two or more agents interact to exchange value to improve each other’s wellbeing based upon the resources available in the market. That market is an emergent property of the systems involved. With complex adaptive systems, there is a group of (locally) interacting agents, who constantly act and react to the actions of other agents. These agents can exist in one or more of the systems simultaneously. The coherent emergent behavior that might occur in a system arises from the local interactions of the agents. Those actions and reactions are a function of the agent’s perceived state of the system (in this case their wellbeing and the value they are expecting to surrender and/or receive). From a complex-adaptive-systems perspective,
the market becomes the signal that triggers an autopoietic change (internal assemblage of components and processes that use those components) in those systems and/or agents.

Technically speaking, a market is any medium through which two or more agencies can engage in a transaction of any kind—even those that do not involve money (e.g., reputation, obligation, fealty, etc.). A market transaction may involve goods, services, information, currency or any combination of these things passing from one agency to another in exchange for one of these or another combination. Markets establish the value of the resources that it has options on supplying or acquiring, establishes which resource providers determine supply, and which resource consumers determine demand. Ideally, markets achieve a Pareto optimality wherein further value exchanges do not increase any agency’s wellbeing without decreasing another’s.

For a market to be efficient and effective in achieving that Pareto optimality, there must be clear information exchange among its participants. This is the reasoning around using the canonical narrative form as the basis for market communications.

As I am defining it for this proposal, the narrative schema/meme/market is an emergent system of purpose-driven (outcome – individual wellbeing) agents working together (even if at cross purposes at some point in time) to achieve societal wellbeing maximization by exchanging value (puts and calls upon society resources) based upon information sharing (trust).

Remember that the conceptual-model society is a complex adaptive system made up of complex adaptive systems (differential function systems from social-systems theory) which in turn are also made up of complex adaptive systems (institutions, agencies, groups, individuals, called agents and agencies.). This is not an equilibrium model. There is no
movement or direction in the system toward any kind of equilibrium. Optimality is fleeting; once optimality is reached, the system changes. There is no maximization, as once any state is reached, the system changes. Agents and agencies move across their fitness landscapes by following rules that have succeeded (or are new and being tried out) that, resulting in higher positioning on those landscapes. That position on the landscape comes from the wellbeing fitness function. That function measures wellbeing relatively (better or worse) based upon value at hand and value available, either through transformation or transaction, modified by the trust in the transaction or transformation.

This introduces some idiosyncrasies in explaining the conceptual model.

Complex adaptive systems show only indirect effects. Problems that are difficult to solve are often hard to understand because the causes and effects are not obviously related. Popular ideas such as the “butterfly effect” and the “sand-pile effect” demonstrate that influencing a CAS in one area often has effects unexpectedly somewhere else because the parts are interdependent. Also, influencing a CAS the same way twice may not have the same effect consistently (the adaptive part of CAS). Micro-level (individuals, teams, etc.) and meso-level (populations) behavior are not predictable in a CAS even though the

183 The butterfly effect is the sensitive dependence on initial conditions in which a small change in one state of a nonlinear system can result in large differences in a later state. It comes from the weather metaphor of the details of a tornado being influenced by a distant butterfly flapping its wings days earlier.

184 As a sand pile is formed, placing a grain of sand a particular point in the pile may have no effect or may cause a cascading reaction that collapses the pile.
underlying rules that result in complex behavior tend to be simple and few. Causality can generally not be traced back from an instance of behavior to specific executed rules or sequence of rules. They are hard to explain.

5.13 Summary

The fundamental expectations that human moral instincts and empathy play in human activities suggest that more than ROI drives economic decisions. Governance and strategic management need to recognize and respond to this. The conceptual model is a first step in finding ways to assist.

There are a few simple ideas in constructing this model. This model assumes that evolution and growth in all the identified systems happens because they are open autopoietic systems accepting of new ideas (rules). Those rules (ideas) form a knowledge base in individuals (agents), organized groups of individuals (agencies) and populations of heterogeneous members who share some segment of a knowledge base. The more rules they share in common, the more homogeneous they become, and in combination with size, the more influence on the overall society. The growth of knowledge initiates emergent growth (economy, business, politics, religion, etc.) and evolution of the constituent systems.

All complex adaptive systems are recursive; that is, they are made up of complex adaptive systems themselves. In this model, a society is a complex adaptive system made up of differential-function systems which are complex adaptive systems. By design, this general model presented here applies to any human system, as equally to a firm as to a society.
As the study developed this model over time, it began adopting constructs from the proposed general theory of economic evolution of Dopfer and Potts (Dopfer & Potts, 2015) while incorporating more general ideas from complex-adaptive-systems (complexity) theories and more specific ideas from Roth’s differential-function systems and the other social-systems theories described earlier. It further evolved as theories from business (i.e., stakeholder, shareholder and agency) were tested against it to see if it was equally explanatory for them and for traditional economic analysis and business decision making.

There is one key underlying assumption: This model assumes that evolution and growth happen in all the identified systems because they are open autopoietic systems accepting of new ideas (called rules going forward). These rules (ideas) form a knowledge base in individuals (agents) and organized groups of individuals (agencies) who in turn loosely become populations of heterogeneous members who share some segment of a knowledge base. The growth of knowledge initiates emergent growth (economy, business, politics, religion, etc.) and the evolution of any constituent systems.

Additional assumptions for the model include the following: These human systems are made up of people, resources, knowledge and interactions among them; the result of these interactions is the emergent (constantly evolving) structure seen in society; for a given rule, there can be multiple instantiations (variety) across the society; and people and their assemblages are the carries of rules.

This is an evolutionary model. Any engaged systems (such as the differential-function systems making up a society) or collections of systems (societies) may evolve at different rates at different times. For example, in the religion differential-function systems,
reformation took place at different times for Western Europe and Middle Eastern (Christian, Islamic, and Jewish) populations.

A difference between this model and the economic, sociological and business models it is adapted from is the idea that the different levels of the models are not aggregations of the previous levels and components but instead are a synthesis of emergence and self-organization—ideas from complexity. Also, these foundation models treat their summations as micro to macro without the use of a meso. This makes them static (formulaic) and unable to easily express behavior change.

This results in another difference of this model: Traditional models seek some form of non-equilibrium, a balance of fitness functions across participants’ choices. This model is based upon the system self-organizing (no predefined maximalist state) as rules and their populations adapt (coordinate) with each other as new rules (and consequentially populations) emerge via autopoiesis. This is consistent with a biologic model of change (evolution) according to which one cannot describe an ecosystem as a direct summation of the genes of the participating species expressed in the behavior of individual participants. The participating species form a meso level for the ecology. In the model, agents from the micro level form into populations which house rule trajectories at the meso level which emerge in the macro level as roles for a business.

This provides a way to account for economic “externalities” and the contribution of the “social economy” where there is little rigorous definition of value and little success in “monetizing” some representative artifact of the intent of the term value, and more esoteric concepts associated with wealth creation and storage (political, social, institutional and individual) such as favors, chits or personal coins (common in military). There are
practical obstacles to generating a measurable social value, as it is often the marginal
difference it creates rather than the absolute value (however measured) it may have that is
important—for example, the social value of an electric car versus fossil-fuel consumption
to produce the electricity. For social “investments” or value creation, the important
question may be this: What difference is it making compared to alternatives? Or what
would have happened if the value was not created? The static-system equilibrium approach
has been in “creating” social-value markets to bridge economic markets (i.e., carbon
trading) to monetize social value. It is important to account for social-value creation, as
this study suggests that high-performing social value creators are also high-performing

The current state of the model uses an abstraction—value—to represent resources,
goods, services, experiences, and ideas, and it avoids the measurement issue. It requires
only a better or worse impact on wellbeing. Social economy theory (Wagner, 2010)
attempts to do something similar by trying to measure high social-value producing
organizations into a broader political and market economic context, thereby reinforcing the
conceptual model. It investigates the economic contribution of cooperatives, mutual, and
the value of non-profit organizations, charities, and other “non-business” forms in a
traditional economic-theory (monetization and equilibrium) approach. Under the theory, a
social economy develops because of a need for new solutions for issues (social, economic,
political, religious, legal, environmental, etc.) and to satisfy needs which have been ignored
(or inadequately fulfilled) by the private or public sectors. As described in social economic
theory, a social economy has a unique role in creating a strong, sustainable, prosperous and
inclusive society. The conceptual model suggests how that might happen; but more
importantly, it suggests how it might become part of the commercial economy. Being able to specifically measure value across these systems will be a necessary element for extending the conceptual model.
“In the development of social theory we must follow the path that has proven successful in the natural science: we must be critical but not too critical.” (Hardin, 1963)

The original intent of the research was to compare Stakeholder and Shareholder Theories in terms of their ability to account for and deal with, and inform governance and strategic management in the context of the Practitioner Narratives going forward. But to me there was a problem. All stock market promotions include this caution, “Past performance is no indication of future performance.” If there was anything clear from the initial iterations of considering the issue of the relationship of a society and a business around the concept of the business’ role, it was that the process was complex, dynamic and adaptive. And, if anything was clear from the nature of complex adaptive systems and their processes, they are probabilistic instead of static. Each moment is a probability, they are dependent upon initial conditions, and every moment is an initial condition for the next moment. That small, perhaps undetectable, changes can easily have significant impacts, and therefore they are emergent rather than causal and therefore causality can only be seen retrospectively.

This presents a few problems in attempting to evaluate Stakeholder and Shareholder Theories based upon a comparison of their past performance. One is that their past performance would not be reliably predictive of their future performance because of the
previous complexity issues and because society has changed over time thorough changes in the many differential function systems and their artifacts like laws, regulations, acceptable behavior, beliefs, and curriculums. Another was the Practitioner Perceptions suggested regardless of past performance, one or both were not working well now. A third was the caution on the risk around the what, when, where and why measurements and any resulting empirical data would be informative by the previously discussed Goodhart’s Law, Murphy’s Law, Campbell’s Law, McNamara Fallacy, and Lucas Critique.

For a comparative analysis of the ability of these two theories to inform governance and strategic management and be useful to Practitioners in the future, there needed to be a framework that compared the theories directly against the system they were performing in, the process of business role emergence and evolution in a society. This is a different approach than comparing them by their historical performance within that system. As this report shows, almost all of effort in the research shifted to establishing this evaluative framework, which became a description of the business role origination, emergence, diffusion and evolution. With that, the two theories could be analyzed and compared through the lens of that framework by their compatibility, relevance, consistency, and overall fit with the framework. This meant the evidentiary efforts needed to be expended on developed framework and not the two theories under evaluation. Then, with the assumption that the model is correct based upon the evidence gathered, the two theories could be compared. As it developed, the process of developing the model simultaneously compared the two theories, just like a complex system, everything was happening in parallel and the evaluation of the theories emerged.
The analysis of the two theories and its support is contained in Chapter 8. Evidence gathered in support of the conceptual model used in comparing Stakeholder and Shareholder Theories is described in the following sections of this chapter. Throughout this report confirming evidence of the reasonableness if not validity of the practitioner’s perceptions has been suggested when there were matches to macro level behavior being described. Counter evidence was not sought at this stage of the research.

6.1.1 Method of validation

The conceptual model was derived from a collection of practitioner narratives, that were then interpreted with existing theories from business, sociology, economics and systems. What was learned was then synthesized into a conceptual model of how ideas, specifically the roles of business, become implicit in a society’s collective memory. That was then used to compare the two theories of interest. That comparison is in Chapter 8.

The model is tested or validated in four ways. First is the internal consistency of the model, as discussed in Chapter 1 and the consistency of the Practitioner Perceptions and proposed evidence with the model to make sure there are no contradictions among all the evidence and the model. Second is the external validity of the evidence to the model such as the examples sourced from practice in section 6.2. Third is through corroboration, what Gioia and Pitre (Gioia & Pitre, 1990, p. 596) referred to as meta-triangulation, as the model is compared to other researchers’ models and approaches in section 6.2.7.

Lastly, a form of empirical evidence is gathered vis the culturomics approaches described in section 4.5.4 where some of the artifacts and behaviors of the model, or something similar, is detected in the available literature of society in section 6.4.
6.1.2 Unit of Analysis

The evidence presented here is more a collection of observations than traditional hypothesis testing approaches. Can the model, or something like it, be seen in the real world. It is like an initial medical diagnosis process more than a set of lab tests. Later extensions of this research will add sufficient details to the model to render it falsifiable.

In studying a complex system, the unit of analysis is usually the actors, in the case of the conceptual model Agents and Agencies or their rules which can be manipulated in an agent based simulation. The conceptual model is insufficiently detailed now to do that. Instead the unit of analysis is observed macro level behavior of the system.

6.2 Practice Evidence– adaptations

There are two considerations in the conceptual model. One is the description of how a role for a business might emerge from society either into its community memory or formalized through the political, legal, academic and religious systems. The other is the implications of that process. The model posits the emergence of markets where value can be exchanged as frictionless as possible when opportunities for wellbeing improvement arises. If there is friction introduced into the process, which the model represents by trust, then the probability of the exchange decreases. In the real world, trust is diminished by inequitable or disproportionate treatment, failure to meet expectations, or just not engaging in the market. One of the outcomes of the report is that shareholder theory diminishes trust, and stakeholder theory increases trust.
With that in mind, if the conceptual model and framework are directionally correct, then complex adaptive systems behavior would be expected. From my perspective this systemic behavior would take two forms. The first form would be in a divergence between expected and observed behavior in the system based upon current practices. The prime focus in the research has been on the application, performance and consequences of applying a singular optimization approach, shareholder wealth creation, against a complex system of society and not achieving the desired, from a society perspective, results. These are covered in Chapters 7 and 8.

The other form would be the evolutionary emergence of new “species”, adaptations by old “species” and expansion of previously peripheral niche “species” as the system responds. This suggests that there would be new emergent forms of business evolving in response to the discussed social and economic issues adapting to new environmental conditions and pursue new “ecological” niches that might be forming.

These are the B Corps, Benefit Corporations, Double Bottom Line, Triple Bottom Line corporations, Community Interest Company, Public-benefit corporation, social purpose corporation, ESOP and other forms that are emerging to enable, facilitate and accelerate the more equitable sharing of generated value and incurred risk among all stakeholders, versus the centuries long standing model of owner/shareholder primacy. These are a starting point to establish the lay of the land and discover salient features worthy of more in-depth analysis.

In addition to the “genetic” evolution of these new forms is the “epigenetic” adaptation of existing forms to better fit the environment the conceptual model posits for business roles in society. These also take two forms.
First are the attempts to adjust the environment such as sustainability programs in business. The second are attempts to better fit the environment by modifying governance or governance principles. Both could be considered coevolution.

Within evolutionary theory there is a concept of coevolution\(^{185}\) wherein closely related species influence each other’s evolution and can be extended to change in environment initiating change in species and changes in species initiating changes in the environment – resulting in neutral, virtuous and vicious circles of change.

A specific form of co-evolution, called the Red Queen Hypothesis is used to describe two similar ideas, which are both based on coevolution. The first is that the evolutionary interaction among prey/predator and parasite/host is constant and continuous, and that the basis of selection is an attempt to reduce the coevolution. This is the situation that the traditional companies now find themselves with a predator / prey like relationship with society via governing, regulatory and legal vehicles and a host parasite like relationships with customers, employees and suppliers. One could argue that the Corporate Social Responsibility and Corporate Shared Value movements within traditional companies are evidence of transitionary “organisms” attempting to adjust or repair the environment while adjusted governance models like bifurcated ownership or eliminating traditional ownership are attempts to better fit in with the environment. Corporate Shared Value and Corporate Social Responsibility programs are assumed to be sufficiently well known they are not discussed here.

\(^{185}\) http://evolution.berkeley.edu/evolibrary/article/evo_33
Lastly would be a resurgence into the evolutionary competition of niched species whose niche is more compatible with the emerging ecosystem than the old ecosystem. These would be the cooperatives and mutual companies.

### 6.2.1 Peripheral model resurgence

The peripheral models share a common characteristic. They merge the ownership stakeholder role with at least one of the other stakeholder roles. In credit unions and mutual companies, the customers are also the owners. In cooperatives it can be combinations of ownership with suppliers as in buying services, with “employees” such as ESOPs and cooperatives. Some cooperatives effectively combine all roles into one participation model such as community gardens. This model is closer to the conceptual model of emergent value exchange markets, which from a business perspective is basically a stakeholder approach.

Credit unions are doing very well even in the very low interest rate environment that negates their primary advantage over traditional financial services. They have also done very well against the new forms of competition coming from the fintech\(^{186}\) space by demonstrating agility and innovation.

According to Experian\(^{187}\) credit unions have seen significant increases in membership, assets, and market share. For example, their share of auto loans increased 5%

\(^{186}\) Fintech stands for financial technology. It is used to describe new companies using technology to offer old services differently and new services that are disrupting the financial services industry.

will that of traditional banks declined 4%, personal loans up 2% of market share with banks declining 5%, mortgages up &5 of share with banks down 4%, which is significant given the size differences. As of the end of 2015, according to CUNA the credit union industry association, there were 6,143 credit unions with 103.992 million members comprising 45.4 percent of the economically active population and hold $1.3 trillion in assets. According to the FDIC there were 5,102 retail banks (with 80,227 branches and 85,329 offices) at the end of 2015 down from 9,922 in 1995, but hold $16.9 trillion in assets. Each of the nation’s four largest banks are larger than the entire credit union population. A summary would be that credit unions are seeing growth, while banking is seeing consolidation and share loss to credit unions and fintech companies.

According to the National Center for Employee Ownership, there were 6,717 plans, with 14,050,344 participants. That compares to 7,348 and 10,243,283 in 2004. Both growth and consolidation in the form of mergers and acquisitions are taking place. Approximately 40% of these plans completely own the company.

At the end of 2016 there were 2,370 cooperatives (which include mutual) across 63 countries, of which over half have $100 million in turnover annually, according to the World Co-operative Monitor. According to McKinsey cooperatives have growth rates

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189 https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/Strategy/Mck_on_Cooperatives/PDFs/McK_on_Cooperatives-How_cooperatives_grow.ashx
comparable to public companies in comparable sectors. However, they are outgrowing public companies in market share.

These data points are supportive of the conceptual model in that the observation organizations that facilitate emergent markets by inclusivity of the potential stakeholder participants produce wellbeing faster and better, and therefore rewarded with relative growth.

6.2.2 New model emergence

Society has ecological niches that are perceived to not be adequately addressed by, or could be more effectively addressed by existing forms of agency such as businesses, government services or charitable services, especially in terms of jobs, value creation and innovation. The result is we are seeing a recent explosion in new agency forms sometimes called social enterprises (Young, Searing, & Brewer, 2016). To put this in perspective, the last major legal form to be created in the United States was the LLP in 1991.

According to B-labs, the certification organization for B-Corp compliance and auditor for many stats benefit corporation reporting requirements, there were 2263 B-Corps in 50+ countries and 130 industries at the end of 2016. There were 4000+ benefit corporations, 1500+ L3Cs (low profit limited liability) and 2100 assorted other mission chartered for profit enterprises (Tyler, Absher, Garman, & Luppino, 2014). The first B-Corp was certified in June of 2007. Illinois passed the first L3C enabling legislation in 2013. Maryland passed the first benefit corporation legislation in 2010.

Summarizing the different models:

- B-Corp Certification – a voluntary standardized third party audited and reported purpose and mission encompassing all stakeholders of an organization. Its only
enforcement is potential public relations implications both positive and negative off loss of the certification and use of the B-Corp moniker.

- L3C low-profit Limited Liability Company. A form built on the LLC framework with the aim of giving for-profit, social mission-oriented companies the legitimacy necessary to attract certain types of philanthropic funds.

- Benefit Corporations – addresses all stakeholders\textsuperscript{190} associated with an organization and legally requires that their concerns be incorporated in the governance and management decision making processes.

There are other forms, but this area is confusing with the many forms discussed above, variations of those forms via contract or tax law as well as corporate law. There is also misuse of terminology and repurposing of existing forms. Industry and academic papers intermix examples and data from all as social enterprises.

For example, unlike benefit corporations, Flex-C (flexible purpose corporation) corporations commit to a set of very specific goals as opposed to a general public benefit. The chosen special purpose becomes a priority of the company and it is required to release reports detailing their adherence to the purpose but no third-party verification is mandated.

\textsuperscript{190} “Stakeholders” in the enabling legislations refers to any entity (individual or organization) upon which the conduct of the company, whether directly or indirectly, has an impact. Complying with the stakeholder principle, the entity is obliged to consider stakeholder concerns, instead of simply maximizing the shareholders’ (owners’) wealth.
More liberally, SPCs (Social Purpose Corporations) allows companies to pursue profits, general and specific social goals of their choice.\(^{191}\)

Several major milestones have been reached with Etsy being the first B-Corp to IPO in April 2015; Laureate Education the first benefit corporation to IPO in February of 2017; May of 2017 the announcement that Danonewave, the newly merged entity of WhiteWave Foods and Danone's North American dairy business, had reincorporated to form the world’s largest public benefit corporation. These are the signs of the growing mainstream acceptance of these governance models.

These have arisen in response to the issue that by law directors and officers of traditional for-profit corporations maximize the shareholder’s financial returns.\(^{192}\) Therefore, all corporate actions must be justified in terms of creating shareholder value. These models are designed to codify additional social stakeholders, values or missions in a company’s certificate of incorporation. In principle, these models provide a company’s leadership with legal protection to consider the impact its business has on society in addition to shareholders’ economic interests.

From the development of the model perspective, these responses are the result of meme (rule set and trajectory) diffusion from different areas of society into the political and legal function systems where they were manifested into the resulting enabling legislation. As Patagonia founder Yvon Chouinard has written: “Benefit Corporation

\[^{191}\text{http://www.sos.wa.gov/corps/SocialPurposeCorporation.aspx}\]

\[^{192}\text{There is an exception in a court ruling called the “business judgement rule” but it is subject to debate and does not change the outcome being discussed.}\]
legislation creates the legal framework to enable companies like Patagonia to stay mission-driven through succession, capital raises, and even changes in ownership, by institutionalizing the values, culture, processes, and high standards put in place by founding entrepreneurs.”

The conceptual model would also suggestion the increases ease of participation in emergent markets, especially idea markets, would produce other outcomes as well. A recent Harvard Business Review article said that B Corp certification, referencing one company, encouraged more “whole-systems thinking” around our social and environmental practices, which led the company, Cabot, to develop even more robust customer and consumer programs, cut operating costs, and strengthen our brand reputation as a sustainability-minded company. Attracting and engaging employees and customers (Stammer, 2016).

I believe these new forms suggest the conceptual model may be directionally correct as these new agencies improve trust in the emergent markets resulting in evolutionary advantage, at least in growth rates.

6.2.3 Old model adaptations

There have always been bifurcated shareholders. Many companies have had a preferential treatment option for “owners” through the concept of preferred stock. These owners gain first access to dividends and priority position (after debt holders) to be paid from assets in case of liquidation generally in exchange for surrendering voting rights.

They do not participate in the capital appreciation of the firm, but may change value based upon risk to the dividend payment. These preference shares may also have the dividend rate fixed. It is effectively a bond with lower liquidation preference (after creditors and taxes) and therefore generally higher return and some preferential tax treatment of dividends. As a stakeholder, a preferred share holder is a legal fiction owner and is effectively a creditor rather than an owner (shareholder).

When it comes to common stock, some companies have chosen to issue two classes, generally called Class A and Class B shares. Class A shares are generally issued to and restrictively held by “insiders” made up of founders, senior executives and management, board of directors and sometimes employees. They are granted sufficient voting superiority over the Class B shares such that shareholder disagreements and potential consequences such as a hostile takeover are prevented. This allows governance and strategic management decision makers to participate in the long-term capital appreciation of the firm, or experience the alternative consequences without the agency problems (short term profiteering or financial engineering) that Class B shares bring. This is an important concept that is discussed later in the academic evidence and the concept of “trust” shares. In addition to higher voting rights, these shares tend to also include dividend preference and liquidation priority over Class B shares in exchange for the inability to trade them.

An analysis by “The Street” last year found 28 companies on the S&P 500 restricted shareholder voting rights. It is increasingly a pattern being seen in tech IPOs such as Facebook and Google. There has also been push back from investors who feel this approach allows management to control the firm via the Class A shares while diluting risk via the Class B shares. While the major exchanges still allow multiple classes, FTSE Russel
and S&P Dow Jones have banned or restricted companies with multiple shares from joining their indices. Objectively, firms like Google, Facebook and Berkshire Hathaway, which have multiple classes of shares, are considered market success. They in turn believe their success is in their ability to stay focused on the long term and their missions.

The term “shareholders” is in quotation marks for a reason. As argued in Chapters 7 and 8, there are very few shareholders, mostly there are share “sellers” and over half of those aren’t human (Guo, Lai, Shek, & Wong, 2017). Also, discussed in Chapters 7 and 8, the concept of ownership of a firm given the rights and obligations a firm accrues is being questioned, and nothing differentiates a capital value contribution to the business in exchange for future benefit from any other stakeholder value contribution, not even a fully accounted risk profile. Colin Mayer’s research also confirms these observations (C. Mayer, 2013).

From the conceptual model perspective what is being observed here is the organizations attempt to improve the communication channel among stakeholder by reducing the potential noise, or reduction in trust, in those communications yet still offering a capital appreciation opportunity. This is effectively a Shannon entropy problem from information theory. The better the communication channel the less encoding effort is needed to overcome noise. Every stakeholder introduces some noise, but those with voting rights generate significantly more.

There are some hybrids to this model discussed next.

6.2.4 The Tech Giants

The tech giants are called out separately because beyond just separating capital appreciation from voting rights, they are adopting a new paradigm that Fenwick, Kaal, and
Vermeulen call “unmediated and technology driven governance” (Fenwick, Kaal, & Vermeulen, 2017).

This paradigm is based on flatter organizational structures in which the best idea wins; openness and transparency for trust; and changes to the roles of management and the Board. It is also completely in synch with the emergent market trust based value exchange, especially in terms of ideas and experiences, with the conceptual model.

Removing layers within an organization implements many of the system intervention points discussed earlier. It expands information flows, improves both reinforcing and balancing feedback loops, and enables dynamic self-organization. Using unmediated corporate communications such as social media does the same things, and both contribute to improving trust.

Fenwick at.al. call out specifics about unmediated communications:

- aim for transparency and relevancy,
- personalize, humanize, and tell a distinctive story,
- convey an unmediated and unpolished vision,
- address difficult issues and encourage employees to care,
- create a sense of leadership,
- generate buzz,
- promote best practices and a commitment to review such practices,
- build relationships and invite input, and
- communicate in a more colloquial manner.
Particularly interesting considering the conceptual model is their emphasis on the role of the Board being the interface between the company and society, that a monitoring role for the board is no longer enough, and that the board should also receive feedback on company initiatives in the form of unmediated and relevant input from the market. They also recommend more variety on the Board, what the conceptual model would consider increasing populations represented, to increase feedback to management.

6.2.5 Shift to privatization

It is not only a shift to privatization that is going on where public companies decide to become private, but there is an increasing reluctance for private companies to go public. The total number of U.S. companies continues to grow from 4.5 million in 1990 to 5.1 million in 2013, the number traded on stock exchanges has dropped from 7,322 in 1995 to 3,556 in 2016\textsuperscript{194}. IPOs have gone from 675 in 1996 to 120 in 2015 (Mauboussin & Majd, 2017).

Public companies are becoming fewer and bigger, reflecting the idea of ecosystem hosts as suggested in the practitioner perceptions. Even large companies are going private. Dell and Safeway went private for the ability to invest for the long term and focus on the business rather than on Wall Street. They also did it to avoid activist investors for the reasons Colin Mayer described (C. Mayer, 2013) and is discussed under Academic Evidence.

\textsuperscript{194} http://politicalcalculations.blogspot.com/2016/09/the-shrinking-us-stock-market.html#WdD06WhSxhE
Fortune surveyed CEOs and asked, “Do you agree or disagree with the following: It would be easier to manage my company if it were a private company rather than a public company.” The results had 77% agreeing with the statement\(^{195}\).

One contributor may be the reduction of friction in capital discussed in the practitioner perceptions. Fortune also asked CEOs if they had all the cash they needed to fund investments. Only 8% said no. In a friction-free economy where information and money move instantly, the best public companies will rise to the top. There is a widening gap between the profits of the top performers and everyone else (Andrews, Criscuolo, & Gal, 2017), resulting in fewer, bigger public companies.

The Securities and Exchange Commission (SEC) Advisory Committee on Small and Emerging Companies says this generation of emerging companies and their founders prioritize control and flexibility over wealth creation in a way that encourages private sector financing. Many are disruptive companies who want to take risks outside of the public company spotlight. (Brorsen, 2017). An interesting observation are the more than 170 private tech companies with valuation in excess of $1bn. These “unicorns” are worth over $660bn in total\(^{196}\).

One last observation is that private companies invest more than publicly held ones because of the need to hit quarterly targets (Asker et al., 2015). This intuitively suggests

\(^{195}\) http://fortune.com/going-private/

\(^{196}\) Financial Times “A secular trend away from public markets”

https://www.ft.com/content/2369d71a-abf7-11e6-ba7d-76378e4feb24?mhq5j=e6
increasingly improved performance over public companies in innovation and market growth.

Another phenomenon is the emergence of niche on demand value exchange markets that the conceptual model suggests. These are enabling innovative ways for owners of private companies to trade their shares through nonpublic venues such as SharesPost\textsuperscript{197} and Nasdaq Private Market\textsuperscript{198}.

Beyond that is a new way to raise participatory capital without ownership, the Initial Coin Offerings.

\textbf{6.2.6 Initial coin offerings and Crowdfunding}

These are unregulated ways to raise funds by issuing a specialty cryptocurrency. An Initial Coin Offering (ICO) is used by startups to bypass the rigorous and regulated capital-raising process. A firm plan and a whitepaper on what a project is about, what will happen upon completion, how much money is needed to undertake the venture, how many coins the firm will keep for itself, how the coins can be purchased, and how long the coins will be available. The coins’ price is fixed during the offering period and the supply is permanently fixed. These coins are like shares of a company sold to investors in an Initial Public Offering transaction except they are bought and sold in cryptocurrency exchanges.

There are two versions, share coins that represent a percentage of the project and are likely in violation of security laws\textsuperscript{199}, and specialty currencies that will be the medium

\textsuperscript{197} \url{https://sharespost.com/}

\textsuperscript{198} \url{https://www.nasdaqprivatemarket.com/}

\textsuperscript{199} A case of society distinguishing between legitimate and legal
of trade when the project is complete. Examples include frequent shopper tokens and the recent cannabis tokens implemented to make federally regulated banks more comfortable providing services to state legal but federally proscribed businesses by removing banks from any “illegal” transactions. According to Forbes $380 million ICOs have been bought as of May 2017.200

Crowdfunding is a combination of crowdsourcing and alternative finance (Mollick, 2014). It is basically preselling with no obligation to deliver a product or service in the future. Some are equity offers and have been exempted from security rules under the Jumpstart Our Business Startups (JOBS) Act. The SEC has issued guidelines for how much companies can take in and how much individual investors can contribute for the equity campaigns. It is also used in philanthropic campaigns where the only commitment on the party being funded is to perform some act.

In both models, capital is raised in exchange for future uncommitted benefit. It could be capital appreciation, first access to a product or service at an effective discount (what was paid for the coin or was contributed), or a charitable deduction. It is a hybrid species somewhere between a new form and an adaptation of an old form. They demonstrate several anticipated behaviors from the perspective of the conceptual model. First is a move away from an ownership model of capital and toward a more inclusive stakeholder approach, customers as funders. Second, both are very high trust relationships

as there are no contracts nor compliance regulation. There is no legal commitment for a crowdfunding of ICO project to deliver.

### 6.2.7 Ecosystems – a converged biome

Businesses have always operated with a network of suppliers, distributors, customers and other participants in a value chain. An ecosystem tightens these networks up, increases their transparency and density, while at the same time striving to reduce bureaucracy and increase interdependence and trust. Ecosystems are difficult, they don’t publish annual reports, they are also sort of like fight club, in that you don’t talk about fight club. They are increasing in popularity as evidenced by mainstream consulting firms such as Accenture\textsuperscript{201} and Gartner\textsuperscript{202} offering training and advisory services for them. A good example of ecosystems is seen in the game console and game software companies’ relationships and the previously discussed *Shanzai*.

Mark Kramer has researched these ecosystems in the context of them being social enterprises creating collective social impact. It is the idea that social problems arise from and persist because of a complex combination of actions and omissions by players in all sectors, or a form of wicked problem, requiring transdisciplinary coordinated efforts from businesses to government agencies, charitable organizations, and members of affected populations (Kramer & Pfitzer, 2016).

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\textsuperscript{201} https://www.accenture.com/au-en/insight-digital-ecosystems

\textsuperscript{202} http://www.gartner.com/smarterwithgartner/8-dimensions-of-business-ecosystems/
Rahul Kapoor, of Wharton, has been researching commercial ecosystems for over a decade. He says, “It’s very important to move away from a focus on the firm or a specific partner to a broader ecosystem for creating value.” He believes it will be fact critical for growth and survival for all business in the future (Kapoor, 2017).

In addition to reflecting a specific practitioner perception, ecosystems reflect the model’s idea that emergent markets based upon trust and broader participation among those who have value to share will result in faster, better and more agile value exchange and subsequent transformation. That forming ecosystems is becoming a business evolutionary necessity suggest the model may be directionally correct.

6.3 Academic Evidence for the model – other research models

The academic support for the conceptual model is based upon what others are researching relative to changes in governance and strategic management. These fall into three categories with exemplars in each case. First are changes to existing governance models by incorporating social responsibility and shared values into the governance process. A relationship with the conceptual model is what defines responsibility and where do the values come from. Neither issue is well addressed in practice and the values are generally assumed. The second is a stream of research on trying to define a new model of business that considers that business has responsibilities beyond making a profit, exemplified by Donaldson and Walsh (T. Donaldson & Walsh, 2015). Again, the conceptual model link is what responsibilities and from where do they come. And lastly there is some research around returning to older models as exemplified by Colin Mayer’s work (C. Mayer, 2013). The conceptual model and these are very similar.
A common gap in these research streams is the issue of determining what societies values are. This research suggests it is the wrong question. The objective should be to discover the role society has produced for the enterprise, then organize to fulfill it. The conceptual model is a first step in addressing that gap.

There are other streams of research that are worth mention in similar lines. The reoccurring issue across all this research is the priority of capital providers. Do they earn a priority in the performance of the enterprise compared to others who make non-capital contributions? To some researchers the question becomes should companies be property and have owners.

A number believe the answer is no. Yochai Benkler’s (Benkler & Nissenbaum, 2006) concept of “commons-based peer production” systems is one. Lynn Stout (Stout, 2012) has argued that companies are legal entities that own themselves the same way humans are. William Lazonick (Lazonick, 2017; Lazonick & O'sullivan, 2000) argues that the idea is ludicrous since the reality is stock markets, that is shareholders, are insignificant suppliers of capital to corporations and agency theory upon which most corporate models are based does not fit the current economy. He makes a point with new issues minus repurchase and mergers and acquisitions since the 1980s has been generally negative and since the 2000s massively negative. From 2007 through 2016 net equity issues of nonfinancial corporations averaged a negative $412 billion per year.

Regardless of whether there is an ownership issue or not, there will still be a need to determine the legitimate role of the business from society’s perspective, and continually monitoring it as it evolve. The conceptual model is useful regardless of ownership paradigms.
6.3.1 Changes to current model

There is the increase in “socially responsible investing” where not doing harm is a greater desire than total return on investment (Adler & Kritzman, 2008). Also suggestive is that 34% of Fortune 500 are now using a triple bottom line accounting concept for annual reporting (Glavas & Mish, 2015).

The rise of Philanthrocapitalism (Bishop & Green, 2010) also indicates a shift towards appreciating business’ ability, and perhaps responsibility, to address social issues. Again, the normative function (doing good) is being performed by existing societal entities, so why (positive) are the new forms and older forms with new behavior being rewarded for the same / similar work. This is seen in the new sources of capital for these new forms (Hwang & Powell, 2009) and encouragement of similar behavior in traditional forms.

Lastly, from a purely economic positive perspective, the new forms discussed earlier appear to utilize underused resources, creating innovative value for underserved markets resulting in higher levels of societal wealth and additional academic research (Alberti & Garrido, 2015; Haigh, Walker, Bacq, & Kickul, 2015).

6.3.2 New Model of Business - Donaldson and Walsh

Donaldson and Walsh made an initial attempt at an empirical and normative theory of business (T. Donaldson & Walsh, 2015) to address the initial issues that initiated this study, why does business increasingly disappoint society? Donaldson and Walsh begin with “value creation” (though it morphs back and forth with “well-being”) as the purpose of business. Donaldson and Walsh also reference the role of business in the economy. Their concept of “the economy”, as is others, is incomplete as has been discussed earlier in this report. Lastly, Donaldson and Walsh in some ways give up on the fundamental issues of
the question they asked. They finally revert to a philosophical argument of Eudaimonia\(^{203}\) as the purpose and role of business. The issue of this approach is measurement.

There are many issues with Donaldson and Walsh’s approach common\(^{204}\) among the theory of business and business ethics research, for example (Scherer, Palazzo, & Matten, 2014; D. L. Swanson, 1999). With Eudaimonia Donaldson and Walsh were trying to incorporate into their new model of business the “social economy” where there is little rigorous definition of value and little success in “monetizing” some representative artifact of value. Donaldson and Walsh’s discussion of business did not include individuals, microbusinesses, and networks that are self-reliant, decentralized, and trust based. Donaldson and Walsh, with their Eudaimonia outcome, implying a human involvement, for business, which is not necessarily true.

In an earlier research effort, I suggested several areas that Donaldson and Walsh did not address or could benefit from extension. From their paper, the following attributes of a new model of business need to be incorporated:

- An operational semantic framework for “value”

\(^{203}\) Eudaimonia (also known as Eudaemonism) is a Greek word, which refers to a state of having a good indwelling spirit or being in a contented state of being healthy, happy and prosperous. In moral philosophy, eudaimonia is used to refer to the right actions as those that result in the well-being of an individual

\(^{204}\) Based upon the limited amount of reading done in support of this study and earlier degree work.
• A recognition and resolution process that addresses the different decision processes for commercial and social value

• A broader and more generalized representation of the environment (economy) of business, and the potential forms a business could take in these other environments.

• Some form of governance guidance from within the Model of Business

• Alternative approaches to purpose, accountability, control and success for entities manifested from the model of business

• The importance of measurement – its definition and use.

• The expanded risk profile associate with so many additional degrees of freedom in decision making and outcome generation

The research attempting to address the issues of the role of a business in a society with theory of business and business ethics approaches are indicative of the interest and need in this area. Most resort to something like Donaldson and Walsh’s Eudaimonia concept to represent what the conceptual model addresses with its rule sets and community knowledge bases.

6.3.3 Old model of business revisited – Colin Meyer

As discussed in the previous section on adaptations being observed in practice, there is increasing interest in the behavior and contribution of private firms. Colin Mayer’s research (C. Mayer, 2013) typifies this.

When Mayer defines the purpose of the firm he says, “Its first and foremost objective is not to its shareholders, or to its stakeholders. It is to make, develop, and deliver things and to service people, communities, and nations. It does this through engaging
investor – creditors as well as shareholders – and stakeholders – employees, suppliers, and communities.”

This line of research suggests that commitment to others whose cooperation is needed is as important as control such as held by managers and owners is at least if not more important to the operation of the firm. He and others shift focus from incentives, ownership and control to governance and management models based on obligations, responsibilities, and commitment. He argues this is accomplished by defining the values of the firm; true independence of the board of directors from the owners; restrictions on the transfer of property. It is the last which is interesting.

The restriction of selling ownership is based on research around the contribution of early corporations, which were organized around social activities such as roads, canals, railroads, long trade voyages, and, family businesses. The idea being if an owner is bound to the enterprise, then they will take a sustainable long-term view in their decision making and be precluded from opportunistic short-term activities such as quarterly performance manipulation or activist shareholder break up approaches.

His concept of values of the firm, which extend the obligations and responsibility of the firm beyond those held in contracts is consistent with the conceptual model. His approach is that these values would be held by the long-term owners or the family in the case of family owned businesses. It is not just the personal values of the owners, but the long term continued association with the firm in the context of society. An owner is less likely to encourage a short-term action with negative social consequences if it may come up in conversation later. This is wholly consistent with the ideas in the conceptual model.
of a shared knowledge base. In fact, the owners become a population in the conceptual model’s perspective as they would share a significant collection of rules.

Mayer also argues that the societal response to the outcomes associated with shareholder theory behavior, laws and regulations, may be worse than the bad behavior. By the nature of being laws and regulations they impose a great deal of uniformity on corporate conduct. This creates homogeneity when society needs a great deal of diversity in its economic agencies. This too is very consistent with the evolutionary rule approach of the conceptual model which should generate as much diversity in enterprises as the genetic model generates life forms.

6.4 Societal Evidence for the model – detectable artifact instances

Trying to build more quantitative support for the conceptual model was difficult. The stage of development had no specific artifacts to look for as the model describes a process assume behaviors and artifacts generally found in complex adaptive systems. What could be discovered are behaviors in society that reflect something like the conceptual model was in play. To do that a Culturomics (Michel et al., 2011) was used. The Google Ngram corpora of books was the basis for most of the work, restricted to English. Lexis Nexis provided annual reports for parsing. Access World News provided newspapers and magazines for parsing.
6.4.1 Evidence for the Differential Function Systems

The conceptual model says that ideas (memes)\(^{205}\) form in each of the 10 systems as part of their function. These ideas compete in emergent markets when there is an opportunity to increase wellbeing in some manner by an exchange. Over time successful ideas diffuse and adapt across some or all the systems, generally in the form of framing rules. However, there is an underlying assumption of the 10 systems.

Below is a Ngram graph (Figure 21) representing the 10 systems and their preeminence in society over time. This goes back to the 1800s simply because evolution among social systems is a slow process. I believe this is an improvement over Roth’s first attempt to do this (Roth, 2014).

![Ngram graph](image)

**Figure 21: Detecting the 10 differential function systems**

\(^{205}\) The markets also deal with resources, goods and services, and experiences. An idea might be “exchanged” for any of these. Exchanged is loosely a quid pro quo based on a value determination that takes place in the market. I may give up time in order for you to receive my idea.
All 10 systems are visible. Several things are interesting and consistent with history. One is the significant decline in the religion system’s influence though it is in an upswing. Also, observable is the growth of government or the political system and then the impact of the Reagan Presidency. Others are the importance of the economy after WWII, and the expansion of public education after the first public school was opened in Boston in 1821.

6.4.2 Sensitivity to rule trajectories (memes)

This experiment was meant to see if a meme, in this case the general idea of caring for the planet, could be tracked in its evolution and diffusion across systems and populations. The first graph shows this with important dates flagged.

Figure 22: Detecting sustainability rule trajectory with Ngram

Rachel Carlson published *Silent Spring* in 1962 and it was serialized in New Yorker magazine. The effect in terms of awareness was significant, although it also shows that it takes time for a meme to work its way from its origination system to others, in this case the political system, the Congressional hearings on the effects of leaded gas and the passage
of the Clean Water Act. The publication of the Bruntland report by the United Nations put climate change and sustainability on the agenda for public discussion. With enough compute resources it could probably be shown that there is a large media system effect here. Clearly it triggered the sustainability discussion and morphed the meme from just pollution to survivability of the planet and mankind.

On test would be to see if different populations could be distinguished. The next two figures represent the same analysis only one is restricted to American publications and the other to British publications.

Figure 23: Sustainability meme US
Several things to notice here. First is the lack of the silent spring effect. It is not that the book wasn’t available there, it wasn’t referenced. What this shows, from the conceptual model perspective, are two very different rule trajectories with adaptations in the rule sets in two different populations in the terminology of the conceptual model. Also notice the Green Movement. It became a political entity in Great Britain, a rule set adaptation, whereas it stayed an environmental movement in the US. The similarity in the environmental movements is likely a function of the boost provided by the United Nations.

The next graph shows how quickly a rule trajectory can act as well as how quickly a rule set can evolve and how long it takes a rule set to move to another function system.
After the Club of Rome report Corporate Social Responsibility was associated with primarily environmental concerns. With the Enron event, that shifted to primarily issues of integrity when Enron started trading electricity in the West. Notice the impact on shareholder wealth creation and the length of time it took the political system to respond to where society already was. Enron was getting so much mindshare the counts had to multiplied by .002 to fit the graph. One of the discussions around culturomics is that the patterns are more significant than the absolute values as the interactions and influences can be very subtle.

6.4.3 Shareholders and Stakeholders

The next graph tracks the “shareholder wealth” meme that is discounted later in this report in Chapters 7 and 8. In the popular press and academic literature Milton Friedman is given all the credit or blame, depending upon your point of view, for the only purpose of a business is to create shareholder wealth. His 1970 New York Times article is given credit for the transition of American management to shareholder wealth creators. Turns out that probably isn’t correct. He did write the article, and it got a lot of press. But, the idea had been around for a while, often in juxtaposition with Drucker’s “create a customer.”
Nothing really changed, until Jack Welch took over at GE and began getting a lot of column inches and air time on his philosophies on running a business, the two most notable being create shareholder wealth and get rid of the bottom 10 percent. Other events are Freeman’s publication of stakeholder theory and the start of the financial crisis in 2007.

Figure 26: Shareholder versus Stakeholder

Chapters 7 and 8 discuss the issue that not only is stakeholder an essentially contested concept (Gallie, 1955), so is shareholder. The following figures are support for the discussion in Chapters 7 and 8.

Figure 27: Models of share ownership
This does not show the amount of stock ownership, though it is close. It shows mindshare in terms of occurrence rates in books. Case in point, hedge funds only own about 3% of the market, but they gather an inordinate amount of mindshare. This supports the idea that what people are thinking about (memes) presages actions, or at least considerations about future actions.

The next figure shows the shift from investing to trading as discussed in Chapters 7 and 8.

![Figure 28: Shift from investing to trading](image)

To reinforce the idea that shareholders today are not what they are thought to be, the following figure shows the mindshare difference between short term and long-term perspectives. It reflects what is taught, be a long-term investor, buy and hold.
Figure 29: Long term versus short term investing

Two different memes or rule sets and two different behaviors. Long term investment ideas were a hard sell in an economy with 20% interest rates and the resulting stagflation. Traders are trading in the current moment, and trading strategies adjust but are not different in a “bad” economic environment. But, the next chart shows very few people would buy and hold today, because of the preoccupation with the market as a source of income rather than wealth or wellbeing.

Figure 30: "Share selling"

The company K. Aufhauser & Company, Inc. started the first online brokerage with “WealthWEB” in 1994. They were later bought by TD Ameritrade. Online trading and day
trading are not the same, but they change people’s rule sets about the stock market to reflect a much shorter orientation than in the past. As describe in Chapter 7 and 8, the shareholder wealth creation meme exacerbates the situation, encouraging even more short term behavior and a failure of the role of business to generate value in support of Wellbeing per society’s role assignment.

6.4.4 Traversing Function Systems

One behavior that would be expected at the macro level of the conceptual model is a delay as rule trajectories or memes work their way through populations and are incorporated into community memory. The following figure demonstrates this.

![Figure 31: Lags among differential function systems](image)

You can see the environmental movement gaining mindshare. With roughly a five-year lag, you see the political / legal response. This is not the enactment of law, it is the discussion about laws. It is only after the laws are in place or coming that business begins reacting. One of the arguments for developing the conceptual model is that business governance cannot afford to wait for society to formalize business’ role in law and needs to be in the idea markets much earlier.
6.5 Future Evidence Research

The next steps with the conceptual model is to build it out to a finer level of detail. That will require more than the simple n-gram\textsuperscript{206} analysis. Below are four of Allstate’s annual reports spanning 12 years showing how the conceptual model can be used to discover the rules of the agency known as Allstate. This is not a complete analysis, it is just meant to show how it may work. Advances in natural language processing (NLP) as discussed in Chapter 11 offer an automation of this process within the next 5 years. Such advances would support continuous analysis rather than the slow labor-intensive approach here.

Figure 32: 2005 Allstate annual report NLP analysis

This is the 2005 annual report. There are five tools displayed on the screen. The upper left is how the tool believes the report is structured in terms of key ideas. Obviously, they are

\textsuperscript{206}Ngram is the Google tool for doing n-gram analysis against their corpora
focused on financial performance this year. The upper middle tool shows relationships among words. It is useful for extracting sentiment as well as unstructured reoccurring themes. The upper right tool breaks down the document into its best guess of segments, or groupings of emphasis. You can select how many segments you want to use, but it will try and figure out the correct segmentation based on the material. The lower right shows relationships of phrases and allows you to click through to examine them in more detail. The lower left is just a summary of words or reoccurring phrases. Without going through all the analysis, it was clear that they were concerned about their balance sheet. 2005 was the year of hurricane Katrina.

Figure 33: 2009 Allstate annual report NLP analysis

In 2009 things are better, but finances are still a concern. The customer is now getting some focus. A lot of turnaround, things going to get better, also the lower right is showing the correlation tool so you can see how words are being used in common sentences. The upper left is a word cloud with size showing usage in the report.
2013 finance issues have disappeared, they are the caring good hands people once again. The bubble chart gives you a flow of the ideas in the document. They used a professional writer this year, at least a good one, as can be seen by the segment structure symmetry.

Figure 34: 2013 Allstate annual report NLP analysis

Figure 35: 2017 Allstate annual report NLP analysis
2017 completes the sequence. The transition from 2005 to 2017 showed progressive focus from internal issues to external engagement. 2005 was finances, 2009 was agents and channels, 2013 was customers, 2017 was brand.

It takes a while to go through these manually, but the future of this research would be to begin automating at least the preliminary coding and highlighting year to year differences. It is also more valuable comparing across companies to be able to begin to build community knowledge bases by populations, or rather determine populations by commonalities of rule bases. This is a good way for determining emerging ecosystems and perhaps accelerating their formation. Here is Ford’s 2017 report.

![Figure 36: 2017 Ford Annual report NLP analysis](image)

There are differences from Allstate, immediately around the significance given sustainability. intuition says an insurance company and a car company might make a good ecosystem match, but not if there are big disparities in the rule sets.
6.6 Summary

This was not a traditional hypothesis testing validation of the conceptual model. In the future I hope to have an agent based model version to test its performance against real world observations. Until then, the intent was to find enough support to justify continuing to work on the model and the ideas it contains. I think the evidence presented here is sufficient to continue with the research and further develop and test the conceptual model.

I think that the evidence of what is going on in the real world supports the underlying ideas in the model, at least the approaches that have been used to develop it.

Research around new models of business, as opposed to business models, seem to revolve around theories of business, business ethics, and organizational theories. There is also the return to history theme seen in Colin Mayer’s work and others. The organizational theories address issues arising after mission and purpose have been decided upon so were not part of my governance and strategic management radar. There is a relationship between theories of the firm and theories of business. The fit, or not, of the conceptual model with theories of the firm are discussed in Chapter 7.

Donaldson and Walsh represent the ethics approach to generating a new model of business. I think most of them fall when they must revert to a normative call for doing the right thing. I think the advantage of the conceptual model here is its ability to provide insight into what is, as opposed to what ought to be, in establishing the roles of a business and all of the associate obligations and responsibilities. If over time the model can establish an ability to detect rule trajectories and translate them into a “sense of the public”, then I see a very synergistic relationship emerging with the ethics approaches.
Colin Mayer’s work fits in with a group of researchers who are challenging shareholder theory directly and calling for a return to earlier forms of business where the emphasis was on social obligation equally with returns for investors. Other examples would be Lynn Stout (Stout, 2012) and David Bollier (Bollier, 2007) to just name two. Many seem to have congregated to the *evonomics: The Next Evolution of Economics* community. These approaches - whether it is based upon family businesses, early joint venture companies of a resurgence of the commons – have this idea of a community memory of what is the right thing to do and action by silent consent based upon common knowledge of what is right. This community knowledge arises out of a joint commitment to the firm and all the participants of the firm, internal and external. All question the divergence of ownership from commitment.

While the conceptual model does not address the ownership issue, it is very much in line with more formalization of a community knowledge of right and wrong. While the return to the past approaches get there implicitly via extended relationships, the conceptual model proposes a way to get there analytically and without disrupting the ownership paradigm. Though, as discussed in Chapters 7 and 8, there is a need to curtail the maniacal focus on shareholder wealth creation in some way.

The empirical evidence is encouraging. It shows that foundations of the idea, the differential function systems, or something like them, can be seen in the literature of society for extended periods of time. The empirical evidence can be said to show behavior that

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would be expected if something like the conceptual model was operating. That by no means says that what is happening is the conceptual model, only that is what would be expected.

Though not proof of any sense, this evidence justifies continuing work on the model.
CHAPTER 7 Relationship to Governance and Strategic Management

While the technological foundations of our world are changing exponentially, firms’ ability to adapt is still following “a linear path.” (T. L. Friedman, 2017)

How does one compare and manage, from the perspective of economic and societal value allocation, a food cooperative and a grocery store? Both deliver food to individuals. One operates primarily as a social entity, the other as an economic entity. One pays workers and generates market flow and market value; the other leverages volunteers, perhaps restricting economic (monetized) velocity but supplying happiness (doing something perceived to be good and self-satisfying) and perhaps utilizing underused resources (the volunteers’ time). One is considered more equitable, with “value” received by direct participants (labor theory of value) versus investors (capitalism). But one could not exist without the other paying taxes to support infrastructure like roads, government services, financial systems, agricultural agencies, and other non-economic resources that it “freely” consumes.

From differential-function systems theory, we see that every element of human endeavor—be it economic, scientific, educational (an argument could even be made for the religious element)—has developed a breadth of enterprises to consume or use some form of value (resources, goods, services, ideas, and experiences) to create another form of value. Public and private corporations from individuals to multinationals, whether for profit or not for profit, with and without an investor wealth-creation focus; governments and their
agencies, NGOs, charities and more transform and transact value. In the past, there has been some level of separation between “church and state”. Forces such as globalization, technology, the ubiquity of information and access, and a general increase in global wealth are causing these domains to increase their interactions to compete and even to begin to merge.

As discussed in the practitioner perceptions, the concept of “the economy” is incorrect. There are multiple economies. There is a “market economy” that focuses on the formal exchange of goods and services for some form of monetized value (profit). Most academic business study has focused on the more visible formal businesses operating in the “market economy” as opposed to those operating in the “social economy”. Most practitioners only think about, make decisions incorporating, and intentionally participate in the “market” economy.

However, business choices impact personnel, clients, suppliers, and competitors, even as company operations influence the communities they operate in, governments, and the environment—sometimes internally, but mostly unintentionally. The broad social and non-economic effects of business are mostly easy to see, yet they are often hard to gauge and measure. Understanding the impacts organizations have on society and the planet is key to sustaining the environment, society—even the economy and the business itself. Companies need to have and exercise the ability to address existing and emerging social-impact issues or society will do it for them—at the expense of the business, through regulation, legislation, civil suits, and all the means Granovetter refers to as embeddedness (Granovetter, 1985). This creates great risk to the enterprise across all its functions and activities.
With great risk comes great opportunities. First is the interdependence of business in society. Business has focused on creating economic prosperity. If it also created social prosperity, resulting in a healthier society, it would get a healthier economy in return, which is “good for business.” This is Porter’s concept of “shared value”: “Corporate policies and practices that enhance competitiveness of the company while simultaneously advancing social and economic conditions in the communities in which it sells and operates” (Michael E. Porter & Kramer, 2011). There are also opportunities around unsolved problems or concerns, opportunities in markets that are poorly served or overlooked, opportunities to innovate new ways of doing business, new business models and models of business, and new concepts of value.

Corporate governance and strategic management are responsible for all three of the following issues. Do not be bad by understanding the impacts the business is having and by doing no harm. Do good by repairing or compensating the intentional or unintentional “bad” outcomes. Be good by always adding value—economic and social—in everything the company does.

These things are easy to say but difficult to do. The first problem is, what is social value? The second problem is, what is bad and what is good, and when, where, and for whom? The third problem is, what are the acceptable tradeoffs and who decides? The

208 Legally, it is increasingly the case that intentional ignorance, choosing not to consider something in a decision, ignoring “externalities”, is considered an affirmative act and any resulting consequences considered intentional. “A reasonable person should have known.”
fourth problem is waiting for society to formally agree and answer these questions through its legal, political, science, or education systems is a slow, error prone, too little, too late process.

Consider just the first question. The “social economy” suffers from little rigorous definition of value and little success in “monetizing” some representative artifact of the intent of the term value. It also suffers from more esoteric concepts associated with wealth creation and storage (political, social, institutional, and individual), such as favors, chits or challenge coins (common in the military). There are practical obstacles to generating a measurable social value, as social value is often the marginal difference it creates from existing value rather than the absolute value (however measured) it may have. For example, consider the non-economic value (doing good) of an electric car versus the costs of fossil-fuel consumption to produce the electricity. Or, what is the social impact of a business slow-paying a developing-country supplier? Social “investments” or value creation, the important questions are often these: What difference is this choice making compared to alternatives? Or what would have happened if the value wasn’t created? One approach is to monetize social and non-economic value and create markets to bridge or shoehorn social value into economic markets (e.g., carbon trading). Whether or not this is the right way, it is important for businesses to account for positive and negative social-value creation, and not only because it “is the right thing to do”, for study suggests that high-performing social-value creators are also high-performing market-value creators (Gomez, 2012; Hudon & Perilleux, 2013; Schmit, 2013).

All of this comes down to a single, though very wicked problem (Rittel & Webber, 1973): What is the role of a business in a society? What expectations and responsibilities
does society require from a business in exchange for its legitimacy to exist in society? What freedom to act is granted a business by a society in exchange for meeting those expectations and responsibilities? What is the differences between what a society says in its formal statements (e.g., laws, regulations, morals, ethics) versus what it believes and how it acts (e.g., protests, boycotts, terrorism)?

It is hard to even think about where to begin. Every society and every business is different. Business and society constantly evolve. So how does one formulate the problem in a researchable form? This study has shown that there is no “equilibrium” between business and society. So there is no “answer”—only ways to improve or worsen. Society is a complex adaptive system. Thus, intervening anywhere has far reaching, unpredictable, and potentially large effects elsewhere. With no common frame of reference for all the participants, beneficiaries, and victims of an intervention, what constitutes an appropriate intervention is in the eyes of the beholder.

The conceptual model developed in this study begins to bring some understanding, insight, and clarity into these problems. Developed to support a comparison of stakeholder theory and shareholder theory as paradigms for corporate governance and strategic management, this study suggests moving beyond law and regulation as a basis for governance. By understanding how and why roles for enterprises in a society are created and evolved by a society over time, firms can better incorporate and address the “social”-value creation responsibilities they require for legitimacy and pursue societal opportunities. If sound economic value-creation principles were integrated with sound value-creation principles from all the differential function systems of society and practiced by all the
agents and agencies of the systems, then optimal\textsuperscript{209} wellbeing for society and its participants would be a reasonable expected outcome.

This requires the engagement of corporate governance and strategic management.

### 7.1 What is being governed and for whom?

This study and its conceptual model are exploring the emergence from society of roles for a business (firm) and how governance (of the firm) must understand these roles and guide strategic management (of the firm) in fulfilling them. It would be helpful if there was agreement on what a firm is.

Early economics did not really consider the question of what is a firm. Adam Smith talked about the laborers of the pin factory, but he did not consider the factory itself or the non-laborers (management) that made it all work. The first real discussion was in the 1937 article, "The Nature of the Firm," by Coase (Coase, 1937). Coase says that the firm exists to reduce market costs. His shows that it is cheaper to enter into long-term contracts for labor and supplies than it is to continuously go to the market to get them\textsuperscript{210}. This is a particularly fascinating idea in the context of the frictionless economy narrative, where transaction costs effectively disappear, from the practitioner perspectives.

\textsuperscript{209} Again, reinforcing the difference between optimal and maximal as discussed throughout this report.

\textsuperscript{210} He also pointed out the market was not under its control (e.g., sales taxes, bargaining, sunk costs of asset specific market infrastructure and hold up), but its internal allocation of resources are.
This theory of the firm is a concept which assumes that firms exist to maximize profits. Coase also argues that, because firms introduce their own transaction costs, they tend to grow bigger to improve their advantage over markets—which again relates to the scale efficiency basis of profit in the frictionless economy narrative. These three ideas (market costs, bureaucratic costs, and wealth maximization) directly lead to agency theory (Shankman, 1999) and the need to reduce agency costs. This introduces the perspective of the firm being property, owned by shareholders, who are rational wealth maximizers, and it gives rise to shareholder theory. Shareholder theory extends these profit-maximization ideas with the argument that investors are more important than other stakeholders because their factor of production (capital) contribution is the most important. Production capital is the most liquid (easily moved elsewhere) while the firm is operating, and invested capital assumes more risk than other stakeholder contributions because invested capital is last in line for return at liquidation; therefore, shareholder interests are primary. There is also the practical issue of the simplicity of making the right calculations for expected results for shareholders versus any other contributors to the firm. On the other hand, this may be a McNamara-fallacy perspective.

An extension of these ideas leads to the idea that a firm brings workers together who are more productive working together than they would be at arm’s length through the market, thereby introducing more efficiencies than just costs (Alchian & Demsetz, 1972). Now the firm emerges, because extra output is provided by team production. The firm is now defined by the abilities and skills of its people. The firm is now also dependent upon the willingness of its people to apply their skills. Its success depends on the firm’s ability to manage the team, thereby reintroducing the agency issue.
One part of Coase’s approach is that the firm is a “nexus of contracts” (definititional), put in place to secure resources from the cost, inefficiencies, and vagaries of continuously going to market. Agency theory, and its response to dependency upon others, also begins to define the firm in terms of contracts meant to overcome information asymmetry.

But contracts cannot anticipate every possible contingency, and trying to do so increases both agency and bureaucratic costs, thereby defeating the profit-maximizing theses. Recognizing this, Grossman and Hart (Grossman & Hart, 1986) developed the “incomplete contracting” theory. They argue that if contracts cannot specify what is to be done for every possible contingency, then uncontracted contributions (e.g., not just the hands but the minds of the workers) are the most important. One consequence of this is the idea that the party (any stakeholder) with the more important investment decision (e.g., capital, resources, labor, land, time, reputation, and access to markets) should be the owner, as ownership influences the incentive to invest.

As the academic perspectives of the practitioner perspectives began to form in the study, it was clear there were problems with these theories of the firm. The first is the assumption of the superordinate importance of capital, which the frictionless-economy narrative challenges. The second is the internal inconsistency of ownership of a “nexus of contracts.” A nexus cannot be owned, as it is just connections. There can only be owners of the production factors, and there are more of them than just capital, so can there be one owner of a firm? If firms exist only when it is more efficient to acquire resources internally than in a market, then there is no point to a firm in a frictionless economy. The academic perspective study also shows that people are not rational. Nor are they wellbeing or wealth maximizers.
What does resonate with the study is the idea that a firm exists to facilitate the gathering and application of competence and capability to generate more value than was invested in the process. If this is the case, then maximizing profits is less important than ensuring that each participant is willing to engage with the firm (Fontrodona & Sison, 2006). The study shows that people are not motivated solely by economic interests, so the firm must also appeal to non-economic interests to provide at least a minimal motivation for people (agents and agencies in the conceptual model) to engage. Just as businesses have socially legitimized roles, so do individuals. For example, a lawyer could also have roles the firm could support as a participant in multiple differential-function systems: church (religion), community (political), school (education), officer of the court (legal), partner in firm (economic), defendant’s advocate (sport), and family provider (health).

The narratives of the different economy models in the practitioner perceptions support Yochai Benkler’s (Benkler & Nissenbaum, 2006) argument of the increasing importance and success of “commons-based peer-production” systems, questioning the concept of a physical firm (permanently aggregated factors of production), questioning the inefficiency of constantly going to the market for resources, and even questioning the idea of firm ownership. This suggests that the firm has various members rather than owners. The members are not only pursuing economic value, but value in all the differential function systems. Member self-interest must be optimal rather than maximal to keep other members engaged. Maximizing shareholder wealth is replaced by optimizing stakeholders wellbeing— not unlike it is done in the open-source movement, the makers movement or even an Amish barn raising (Goetz, 2003).
The conceptual model supports the governance and strategic management with any of these versions of a firm. Its value is in being able to provide governance and strategic management with a framework for thinking about the many non-contractual\textsuperscript{211} roles and role components that may compose the business. At some point, that framework may emerge as tools that can inform and educate.

### 7.2 The Problem

\textit{In a world where many players are all adapting to each other and where the emerging future is extremely hard to predict, what actions should you take? (Robert M. Axelrod & Cohen, 1999)}

Coming to the fore are new business models, new models of business, and ever-changing demands by society on businesses to create not only economic but also “social” value and do it all while causing no harm and otherwise being good. For older business models, laws and regulations are added and placed upon them every day to accomplish outcomes like those of the new business models and models of business.

Governance and strategic management in corporations are either trying to adapt or are being forced to adapt. As the study reviewed the literature, it was found that academic approaches to governance tend to be are single-issue and narrowly focused. Their recommendations are generally tied to geographies, technologies, industries, and corporate functions or respond to legislation and regulation. Practitioner approaches, for the most

\textsuperscript{211} Beyond contracts, “contractual” obligations include regulations, laws, explicit expectations and norms.
part, are focused on legal and fiduciary responsibilities with some (e.g., corporate social responsibility) tangential consideration to new societal expectations.

What seems to be missing is an underlying understanding that succinctly describes what is going on, explains why it is going on, and provides practical insights and projections\(^{212}\) of what might happen and how to influence it. This study approaches these needs by developing the conceptual model this report describes.

A primary focus on shareholder wealth creation and primacy\(^{213}\) has resulted in many unintended consequences (Corning, 2011; Hawken, 2013; Storr, 2009) that are the source of the new expectations of business by society, thereby creating significant societal

\(^{212}\) Complex systems such as discussed here are not predictable, but one can reasonably project probabilities (Voros, 2003)

\(^{213}\) The 1919 Michigan Supreme Court case, Dodge v. Ford is the source for the concept: “A business corporation is organized and carried on primarily for the profit of the stockholders. The powers of the directors are to be employed for that end. The discretion of directors is to be exercised in the choice of means to attain that end, and does not extend to a change in the end itself, to the reduction of profits, or to the non-distribution of profits among stockholders in order to devote them to other purposes.”

Common lore attributes popularity of this to Milton Friedman when he wrote (M. Friedman, 2009) that a company should have no "social responsibility" to the public or society because its only concern is to increase profits for itself and for its shareholders and that the shareholders in their private capacity are the ones with the social responsibility.
challenges to business (Meyer & Kirby, 2012). Yet, shareholder wealth creation continues to be the major paradigm in corporate governance despite this (Denis, 2016; Lazonick & O'sullivan, 2000). Business assumes that its role is to create shareholder wealth; society is now on another page.

Why is this not just an economic issue? Are not give-back and remediation programs sufficient? The answer reflects the interactions of all the components of a society. A bad business decision can have significant health implications. A bad legal resolution can disrupt business, and a bad law can kill innovation. Every part of a society is interconnected, interrelated, and interacting. Because of this, even a small disturbance in a remote part of society in any of its function systems can result in huge consequences elsewhere in society that may be beyond any form of remediation. To deal with this, governance must be able to understand the roles society assigns to the business. It must be able to monitor the evolution of these roles and detect new ones as they emerge. It must be able to translate these roles into expectations to be met, responsibilities to keep, permissions to act, and boundaries to stay within for strategic management. It must then fulfill this role to maintain the legitimacy of the business.
This study is meant to formally address the fact that business—particularly enterprise governance—has been relying on this one-dimensional, shareholder-wealth-generation perspective (like Mercator projection maps and simple navigation lines) for too long (and for too many of its decisions around resource acquisition, allocation, and reward distribution) while giving short shrift to other social legitimacy concerns. Most of us think the world looks like the Mercator projection even though we “know” that Greenland really is not that big; likewise, business sees the world in terms of ROI, RONA and their surrogates, even though they “know” they have social responsibilities these are not counting. Governance needs new perspectives and understanding if it is to reason about the issue and to seek the analytical tools to help address this shortcoming.
This is a wicked problem (Rittel & Webber, 1973) from any perspective with incomplete, contradictory, and changing complex interdependencies. Metaphorically, by Heisenberg’s principle, there’s a limit to the certainty and degree to which any of the proposed system and role states can be simultaneously known. Also, the very act of generating the conceptual model or some other approach and then intervening to make things better may cause the real systems to adapt, thereby changing the nature of the problem. The problem of governance and strategic management is not, “here is the model, now give me data,” but instead “here is my data, what is my model?” The most optimistic outcome of incorporating complex adaptive systems, economic externalities, and social-system theories into a conceptual model useful for governance and strategic management is that the model will improve business’ value allocation from and to society.

As stated earlier, one governance issue is the implicit or explicit belief that, by generating profits, a business fulfills its obligations to society\textsuperscript{214}. This is the shareholder wealth-maximization/shareholder-primacy assumption, and it has long been a source of

\textsuperscript{214} This is the classic position established by: “The Social Responsibility of Business is to Increase its Profits” by Milton Friedman, The New York Times Magazine, September 13, 1970. It is argued that social welfare is maximized when all firms focus on maximizing their own firm’s value. Firms increase overall social value by creating products or services that are worth more than the cost to produce them and in effect creating a larger pie for the entire society.
debate (Mulligan, 1986; Shaw, 1988) with many challenges to what the Dodge v. Ford\textsuperscript{215} court ruling really meant and the legal uncertainty of a duty to maximize profits. This is an isolationist non-contextual idea that ignores the fact that society is made up of many systems (Roth & Schütz, 2014) that interact and are interdependent and that any action in one is reflected positively, neutrally or negatively in the others. The problem facing governance is that years of organizational habituation around this old and failing role need to be reversed given sensitization to the new emerging roles.

The second issue facing governance concerns these questions: Who are the stakeholders of the business? And for one specific class, who and what are shareholders? The idea of equating shareholder and owner is becoming less valid, as described in section 7.1, as there is a question concerning whether a firm can be “owned” as property. If there is or is not an ongoing ownership paradigm, what is the nature of a “shareholder”? Chapter 6 provides some evidence that the nature of ownership of a firm is radically changing—

\textsuperscript{215}“Dodge v. Ford Motor Company, 170 NW 668 (Mich 1919) is a case in which the Michigan Supreme Court held that Henry Ford had to operate the Ford Motor Company in the interests of its shareholders, rather than in a charitable manner for the benefit of his employees or customers. It is often cited as affirming the principle of "shareholder primacy" in corporate America.” (Wikipedia (Dodge v. Ford Motor Co.)

The contemporary challenges hold that shareholder wealth maximization is an \textbf{aspirational standard of conduct} for officers and directors, \textbf{not a legal mandate}. The business judgment rule, which was also upheld in Dodge v. Ford, protects many decisions that deviate from this standard.
especially in separating voting rights from appreciation rights. Colin Mayer’s study (C. Mayer, 2013) suggests that voting shareholders should be held to long-term commitments that reduce their rights to sell. There is the rise of “ownership” bifurcation\textsuperscript{216} and even pure-appreciation models like initial coin offerings.

Also, a shareholder, as \textit{shareholder} is used by business, is probably a fiction. Details are provided later, but to put the issue in perspective\textsuperscript{217}, note that 34\% of stocks are owned by households, 20\% are mutual funds, 9\% are pension funds, 8\% are government retirement funds, 14\% are international investors, 3\% are hedge funds, 4\% are ETFs\textsuperscript{218}, and 8\% are other. Each of those stock holders likely has a very different conception of “wealth creation”.

A third consideration is that businesses eventually self-destruct and cause collateral damage to society if too few and too narrowly focused metrics are used in pursuit of shareholder wealth maximization. Focusing on a few measures to gauge success can be catastrophically compounded by turning those measures into goals or control mechanisms (Goodhart’s law, Murphy’s law, Campbell’s law, McNamara fallacy and Lucas critique, as described in Chapter 1 Introduction). Such metrics focus attention so narrowly that any total perspective is lost and one ends up with aberrant success-selection criteria, as argued

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\textsuperscript{216} Classes of shares, appreciation units, initial coin offerings
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\textsuperscript{217} http://www.businessinsider.com/chart-stock-market-ownership-2013-3
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\textsuperscript{218} These numbers are from 2013, since then ETFs have increased volume from 15\% in 2013 to 23\% in 2016.
\end{flushright}
by Meyer and Kirby (Meyer & Kirby, 2012). This exacerbates unintended consequences by not considering impacts outside of those measures.

Fourth, while business—both academic and in practice—has well-defined frameworks and processes for decision making around business considerations, it is less knowledgeable and experienced about non-business externalities and what metrics, considerations, and processes to use in choosing in non-economic domains. Consequentially business ineffectively and rarely, if at all, incorporates them into decision making, as is suggested in the third case above.

A fifth issue for governance concerns the accelerating divergence between legitimacy (what society expects and permits) and legality (what the political and legal subsystems of society expects and permits). There are many examples of this divergence. Consider the recreational drug market and its rise in popularity despite its continued illegality. Consider support for executives performing illegal acts for the “right” reasons—such as Ross Perot’s extraction of employees from Iran (Follett, 1984). Consider disdain for executives legally doing “wrong” things, as in the recent price increases on EpiPens. Legality is an interesting problem, as the legal constructs of the company's existence have historically focused on a limited number of potential stakeholders – shareholders, creditors, and directors—rather than on employees, customers, suppliers, or others treated on a transaction basis. Society’s view of legitimacy has created new stakeholder constituencies and new stakeholder rights, thereby setting up expectations which governance does not currently fulfill. This has fueled new forms of litigation. Only by understanding both the socially emergent roles of the business (and the likely out-of-date, wrong, and certainly irrelevant formalized roles in law and regulation) will governance be able to address all the
elements of the society it depends upon for legitimacy and the formal and informal interactions of those elements with the businesses.

Lastly, current practices, models, and theories of business do not recognize that contemporary and emerging forms of business operate with hybrid economic principles from environments ranging from gift economies to command economies. Instead the focus is to universally analyze based upon momentary transactional market paradigms while ignoring longer-term dependency, consequence, obligation, and relationship considerations of decision making. This focus is further compounded by a propensity for business decisions to be temporally constrained to overweight, short-term results.

The key for governance and strategic management success in the future will be in understanding how ideas, beliefs\textsuperscript{219}, values\textsuperscript{220}, and value\textsuperscript{221} are transmitted and received in and among the many interactions of business with the many systems of society, their agents and agencies.

7.3 Governance, Strategic Management and the roles of a business

There are two elements to the problem of determining the legitimate role of a business in a society. The first is this: How does such a role emerge and become legitimized? It is a knowledge-creation problem. The second is this: How can a business sense that role and act consistently within it? This is a sense-making problem. Understanding the first problem facilitates addressing the second problem.

\textsuperscript{219} Doctrines, statements or experiences a person holds as true

\textsuperscript{220} How to evaluate right versus wrong

\textsuperscript{221} A measurement of impact or benefit
The role of enterprise governance as “best practiced” today consists of three main areas. The first concerns decision making of significant strategic importance, such as the organization’s mission, vision, and strategies. The second concerns oversight of the management structure and team on the part of the shareholders. Those in a governance role are legally responsible for the actions of the firm in lieu of owners, so there is a focus on reporting and monitoring. The third concerns policy making, which is the mechanism used to accomplish the other two. In performing this role, contemporary governance focuses on selection of the management team, monitoring the financial affairs of the firm, and ensuring that legal and regulatory obligations are met.

Other than tangentially in mission, very little consideration for the roles of the enterprise is given. This study suggests that detecting new roles, understanding these roles, and monitoring the evolution of the roles assigned to the business by society will constitute...
the primary focus of governance in the future. It is based on role understanding that the other three functions work.

Governance is responsible for the sense-making problem. Before many of the scenarios discussed in the practitioner perceptions, the pace of governance was slow, and it could rely on the formal mechanisms of society’s other function systems (political, legal, education) to inform it of the enterprises’ roles through regulation, laws and curriculum. As this report points out, this slow pace of governance that depends on others is no longer effective and new approaches will need to be developed. In terms of the conceptual model, governance will be responsible for detecting the roles society is forming for the enterprise and for understanding the framing and the structural and production rules so that it can formalize them in its decision making, oversight, and policy.

Strategic management translates the outputs from governance into forms that can be executed by the organization. Operational management is responsible for this execution. While governance is primarily concerned with the expectations (outcomes), obligations (how to be a good member of society), and responsibilities (tasks) society has implied in the roles, strategic management focuses on commitments (must accomplish) and contributions (improvements to wellbeing). Strategic management must ensure that operational management has the plans, goals, resources, and standards it needs to accomplish the role and that operational management does not exceed the degree of freedom in action granted the role.

As discussed in Section 7.2 and again in 7.4, the transformative issue for governance in most organizations will be a shift from the convenience of governing the firm for a non-existent hypothetical abstraction: the shareholder. It is shifting from one
relatively-easy-to-measure-and-manipulate criterion of success (shareholder wealth creation) to another more difficult and reasoned balance across many real individuals and populations.

The best way to do this is to look at individuals and populations as competing investors. The point of the conceptual scheme is to rethink the evaluation and decision-making processes involved in selecting investors to optimize the firm’s ability to create value, return that value back to the investors, and optimally increase their wellbeing.

The study suggests that governance and strategic management need to begin addressing two forces. The first is the co-evolution of society and the economy. There are new evolutionary niches into which new forms of business and governance that better meet society’s expectations and the needs of its agents and agencies are emerging. The second is the emergence of new evolutionary niches for companies to perform non-economic functions. These are functions that society heretofore assigned to other means such as government, charity, and philanthropy.

Both directions—as discussed in the evidence for the conceptual model—are achieving economic success despite the reduced or nonexistent focus on shareholder wealth creation. These ideas are also attracting the best and the brightest—another indicator of the trend. Harvard Business School reports that nearly half of applicants to a program for early-stage social entrepreneurs in 2011 classified their businesses as hybrid models (non-shareholder value maximization) whereas only 37 percent had done so five years earlier (Lee & Battilana, 2013).

As is pointed out regularly in both the business (Meyer & Kirby, 2012) and popular press—including social media, with its expectations and role in the business-value
discussion and debate (DeLuca, Lawson, & Sun, 2012)—society is dissatisfied. Contemporary governance and strategic management approaches—with their justifications, their analyses, and their communications of assessing investments and returns—are not serving us well any longer.

Governance and strategic management are responsible for establishing the environment in which a firm’s managers operate. The focus of management prioritizes things that drive performance based on how they get measured. Many recommendations made by business scholars and consultants concerning how to build an environment such that managers can better create economic value may have had merit. In many cases, that environment led Goodhart effects resulting in economic value creations at the expense of other dimensions of value that is important to society, such as clean air. Governance and strategic management must begin to address this problem, and the conceptual model is a potential first step.

7.4 Conceptual Model Contribution

What does this mean for governance and strategic management? To begin with, the conceptual model eliminates the forced separation of positive facts, for example “this will increase ROI 7%”, from normative opinions, for example “we have an implicit social contract to our employees”, in governance and strategic-management decision making. It brings values and relationships with stakeholders up to first-order considerations in decision making via evolutionary rule sets. It introduces a meso-level analysis to support the anticipation of future states by providing a way to identify emergent rules and rule sets originating in the micro level before they emerge as embeddedness (Granovetter, 1985) at the macro level. While not predictive due to the path dependency and retrospective
causality of complex adaptive systems, such a model can be probabilistic and anticipatory, thereby allowing management to identify and assess potential future outcomes based upon an opportunity set of choices.

The study behind the conceptual model suggests several points at which contemporary governance and strategic-management processes place the sustainability of the business and the elements of society at risk and therefore need to change.

By focusing almost exclusively on short-term economic value\(^{222}\) and assuming perfect information, perfect rationality, perfect equilibrium, marginal utility, and diminishing returns in making well-defined decisions, management has maintained the status quo and sought financial gains by cost-cutting, greater efficiency, and financial engineering, thereby resulting in a deteriorated business performance. Every year, Deloitte produces The Shift Index. It is designed to detect three long-cycle waves of change in the economy. One is foundational: It includes things like infrastructure, policy, and technology. The second wave addresses the flow of capital, talent, and knowledge across organizational and geographic barriers. The third wave is a study of performance: What organizations are harnessing the first two waves and how. In the 2016 Shift Index\(^{223}\), “Figure 12. Economy-wide ROA” shows a continuous return on assets decline in U.S.

\(^{222}\) Complete discussion on this in the shareholder value evaluation section

\(^{223}\) https://dupress.deloitte.com/content/dam/dup-us-en/articles/3407_2016-Shift-Index/DUP_2016-Shift-Index.pdf
firms from 4.7% in 1965 to 1.3% in 2015. Topple rate\textsuperscript{224} is accelerating. Worker passion is at a low 13% of the work force.

The following statement appears in both the 2011 Shift Index and the 2016 Shift Index:

\textit{The world of the Big Shift demands resilience and emphasizes learning over predictability and the status quo, scalable learning rather than scalable efficiency, and participating effectively in knowledge flows within and across companies.}

Most ideas occur to more than one person at more than one time, but one person usually becomes the poster child of an idea. The idea that the sole purpose of a firm is to make money for its shareholders is always traced to an article by Milton Friedman in the \textit{New York Times} on September 13, 1970—perhaps coincidently with a 50-year decline in corporate performance\textsuperscript{225}. Contemporary, western, capitalist management thought has focused too much on the importance of capital and shareholder-wealth creation to the detriment of both society and shareholders in the long term. The conceptual model provides a framework to begin addressing this.

Second, the conceptual model shows how traditional theories of economics and business provide limited, though historically useful, tools and models for strategic

\begin{footnotes}
\item[224] Rate that big companies lose their leadership positions
\item[225] To be fair, Jensen and Meckling are probably more guilty (Jensen & Meckling, 1976)
\end{footnotes}
management and the governance of a business enterprise, though they are becoming increasingly less useful and even disadvantageous (Gorzeń-Mitka & Okręglicka, 2014; David J Snowden & Mary E Boone, 2007; Wollmann & Steiner, 2017). This should increase awareness of the limits of current analytics and provide impetus for new tools.

Third, by using complex-adaptive-systems approaches from systems, evolution, sociology, economics, and business, the conceptual model argues that real-world decision making, individually or collectively, is not based upon the mechanical processes of rationality, self-interest, and maximization of utility assumed by contemporary theory and practice. The conceptual model provides an alternate perspective, a new paradigm, that Meadows says can lead to “shared social agreements about the nature of reality, common system goals and information flows, feedbacks, …, and everything else about systems.”

The study does not argue that the focus on capital and shareholder return is either bad or wrong but rather that it provided an adequate and appropriate mechanism for competition and survival when capital was the constrained resource of production. For hunter-gatherer societies, land was the constrained resource of production. For agricultural societies, labor was the constrained resource of production. For industrial societies, it is capital. For information societies, it is entrepreneurship.

The conceptual model argues that societies and their embedded economic systems evolve just as biological ecosystems evolve. They exhibit variation in the types of enterprises across all the social systems—including economic ones—that arise. They exhibit heritability as successful enterprises spin out new enterprises either directly or through shared information and experience. These enterprises compete within the constraints of the environment, thereby resulting in the differential survival of those
enterprises. It also argues that, like biological evolution, societies and subsystems like the economy exhibit punctuated equilibrium (a clue that the system is about to transform), with periods of rapid evolution occurring during environmental transformation when the nature of economic frictions (constraining factors on production) and the nature of value (perceived usefulness of what is produced versus perceived costs of its production) shift. The conceptual model takes this argument and proposes that we are entering such a transformation—as is indicated by the accelerating growth of new businesses and business models, the increasing laws and regulations, and the changing social and economic behavior constraining business. Such transformations will occur more rapidly and will do so with increasingly finer variations with chaotic effects (e.g., consider the butterfly effect from chaos theory).

In this context, the conceptual model offers insight into governance. The first is the concept of increasing fitness instead of increasing profits. Fitness, in biological terms, is not an indication of health but instead reflects a capability to pass genes (or the rules and rule sets that define the business in the conceptual model) to the next generation. This does not necessarily translate into size, strength or even speed of action. Instead, it reflects what is most valuable to the sustainability of the business at that point in time. What is most valuable may be the pursuit of shareholder wealth creation, or it may not. It most likely will be a balance across many forms of value.

Second, it is not about “survival of the fittest” but instead is about being “fit enough” to survive. This is generally a reflection of adaptability to the changing environment. Historically, these have been smaller (consuming fewer resources, e.g., asset light business models) or highly reproductive (spin outs, innovations, and variation.
opportunities, e.g., Alphabet née Google) and opportunistic (omnivores versus specialized diets, e.g., Amazon). Lastly, all results are a product of a complex set of trade-offs. Nothing is perfectly or even adequately engineered but instead emerges from the many interactions of nature/society and the constraints already evolved. There is no equilibrium.

Add to this one additional insight: A complex human system such as a society and its subsystems—including the economic one—exhibits one difference from most other complex adaptive systems: The agents of a human system are capable of collectively establishing order in the system. Whether consciously or unconsciously, attempts will be made to bring stability. This means that the restriction to retrospective causality is somewhat relieved with the potential for predictability via individual and collective agreements and acts. However, as Snowden (Snowden, 2003) has said,

When conditions of uncertainty are reached, the order can breakdown or artificially persist beyond its usefulness. By implication it is argued that the dogma of scientific management, hypothesis based consulting and the generalization of best practice from multi-client or multi-project studies are inhibiting factors in progressing to the new levels of conceptual understanding required in the modern world.

In the end, this study argues that the societal-fitness function of “wealth”—which past focus on shareholder wealth creation famously delivered—has shifted to the societal fitness function of “wellbeing”. This has created increasing uncertainty in the role of business, per Friedman’s quote at the beginning of the chapter. Governance must change to reflect this.
To help, the conceptual model offers the promise of being general—working the same way across all the systems of society, enabling governance and strategic management better understand and fulfill the roles society projects on them.

The implications of this for governance and strategic management are disruptive. It means a shift away from absolutes and best practices—including “rational” and “utility-maximizing” one-dimensional decision making—to observing and adapting and a continuous flow of interacting and evolving rules and rule sets. Narratives become as important, if not more important, than “facts,” which are entangled with values anyway (Putnam, 2002). Experiences, values, beliefs, obligations, and mutual commitments all outdo a simple return on invested capital.
CHAPTER 8 Evaluating shareholder and stakeholder theories

Economic activity is carried out by individuals in organizations that require a high degree of social co-operation. (Fukuyama, 1995)

The conceptual model was developed as a framework for comparing stakeholder and shareholder theories. The comparison is of their suitability as guides for corporate governance and strategic management—now and in the future. One reason for building the model is that past performance does not indicate future returns and that the relative performance of stake and share in the past might not go forward. As discussed elsewhere in the report, the nature of the system under study assures that past performance will likely not reflect into the future, as the system is constantly changing. Consider, for example, that many states are liberalizing their laws and courts are updating their interpretations of the obligations of directors and rights of stakeholders. Another reason for pursuing a model approach rather than an historical-performance analysis is the notion that much of the value created by stakeholder-governed firms may not appear in economic measures (Harrison & Wicks, 2013).

As the study progressed and the conceptual model formed, the comparison emerged from the process.

8.1 The Meta Problem – Contested Concepts

Shareholder and stakeholder are “essentially contested concepts”. Gallie (Gallie, 1955) originally introduced the term to categorize the sorts of abstract, qualitative, and
evaluative concepts such as beauty, fairness, security and social justice in which there are genuine disputes which appear intractable with various uses and criteria of the concept in conflict. Everyone agrees to the concept because it is the only term used, but they cannot agree to its definition, as it is used differently with different interpretations when it is used. The conflict could be due to dogmatism with respect to the concept, it could be due to skepticism about the concept, or it could be simply that multiple viewpoints are better. No single use of the concept is standard. No one would agree to a single definition.

Shareholder is an essentially contested concept, as discussed in Chapter 7, around considering what a shareholder is, who are shareholders, and even the concept of the ownership of a firm. Likewise, stakeholder theory’s central idea of what constitutes a stakeholder is very contested (S. Miles, 2012). Miles found 885 different definitions of stakeholder theory, which means that it is a rich expressive concept but is difficult to study and reason about.

It seems that shareholder is easily defined, but this is not the case, as discussed in Chapter 7. The issues for understanding both stakeholder and shareholder are similar. Who or what are they? What is the basis and nature of their relationship with the firm? What influence or impact do they have on the firm (and vice versa)? What is their stake or share and how does it relate to others? What is the objective of the relationship with the firm?

Miles identified four classes of stakeholders as influencers, claimants, recipients, and collaborators. Miles then organized these into 16 definable combinations. Based upon the shareholder analysis offered in Chapter 7, there are six classes for shareholder: long-term active, long-term passive, short-term active, short-term passive, surrogate, and automated. Surrogates are active on behalf of passive investors, automated shareholders
are algorithms that initiate over 50% of stock trades (Guo et al., 2017). The number of combinations is likely equally large as that for stakeholders given demographics, stage of life, and other factors; but there is no clear way to systemically determine that count. Most practitioners and academics use a very restrictive taxonomy of common, preferred, institutional, and individual shareholders. As discussed in Chapter 7, this obscures a great deal of complexity in the population of shareholders and is misleading.

All shareholders are stakeholders, but not all stakeholders are shareholders. It is also likely that shareholders are multiple types of stakeholder.

Lastly, the study rejects the argument that equity owners are special because they risk significantly more than other stakeholders because they are the last to receive any benefits from the firm’s dissolution—even behind those who are servicing the liquidation, the government, debt holders (including suppliers and employees as well as financiers), and parties harmed by unfulfilled contracts. The ideas is based on the supremacy of capital as a factor of production (which no longer holds) and a singularly limited view of the value of the firm (Sroufe & Ramos, 2015) that ignores the equally at-risk value investments of other stakeholders.

Given that it involves theories about essentially contested concepts, the study tries to address issues at a level above the debates and to explain what is meant if there is the possibility of confusion.

8.2 Introduction

One could argue that stakeholder and shareholder theories are both normative theories which say what the role of an enterprise should be. One problem is that the two theories do not agree on what is right. The second problem is that most practitioners do not
see shareholder theory as a normative proposition or an “ought” but rather as an empirical fact: If I do this, then I get that. Also, one can easily measure shareholder theory (because it is a science and there is one right answer) with simple equations like ROI, IRR and RONA, but one cannot do that with stakeholder theory, as it is all subjective. Many practitioners also believe that shareholder theory is law\textsuperscript{226}, which it is not (though there is much tradition), as is discussed in both Chapter 3 and Chapter 7. The third problem is that practitioners do not see stakeholder theory as practical. They do not know who the stakeholders are, how to measure their contributions, and how and what to return to them.

One historical and facile explanation of the profit-maximization norm in governance is convenience (Robson, 2015). Because profit can be quantified, it is viewed as a readily available and consistent measure of firm value. In contrast, determinations of other stakeholders’ values are inconsistent, and overall impact on the firm is hard to quantify. Executive compensation plans also encourage a profit-maximization norm: If share price goes up, they must be doing their job well. Absent a clear relationship between non-shareholder interests and increases in firm value, there is little economic incentive for executives to consider such interests. Economists such as Friedman supported the profit maximization norm. The idea is that social welfare is maximized when the most potential profits are produced which can be shared with society, or, simply by creating products or services that are worth more than the cost to produce them. A bigger pie for all approach.

While such measures are easy to make and challenge the need for more complicated forms of organization and governance - such as that involved in stakeholder theory - the

\textsuperscript{226} Dodge v. Ford
expectations and motivations of customers have changed. These changes reflect new values and requirements with respect to the enterprise. The same is true of workers, suppliers, financiers and new types of investors who are looking for more than mere financial returns. Likewise, the governments that permit and regulate business are evolving their expectations and demands. The communities in which enterprises operate, from which they draw their resources, and into which they trade their value expect more from their corporate citizens (Brammer & Millington, 2008). This shifting focus on the nature of return is highlighted by Meyer and Kirby (Meyer & Kirby, 2012) in *Harvard Business Review*. This view has been encouraged by the financial crisis in the United States of 2007-2008 and the following Euro-zone debt crisis. These crises only exposed the structural flaws in advanced economies largely based on the ideology of capitalism and free markets and stirred up fierce debates about the lack of innovative social institutions that would serve modern societies well (Shiller, 2013).

These changes have set the stage for a more volatile, uncertain, complex and ambiguous collection of roles for business. Governance is responsible for translating these roles to something the firm can deliver through vision, understanding, clarity, and agility. Can either shareholder or stakeholder theories deliver the framework that governance needs?

### 8.3 Historical perspective

The superordinate reason for examining corporate governance by comparing stakeholder and shareholder approaches is to definitively address the popular narrative from practice: “It’s just business.” Society is changing its expectations of business: They
are to be more than mere means of economic value creation. Legitimacy is granted to business by society in exchange for its fulfillment of these roles.

Historically the idea that “it’s just business” was acceptable, operable, and even efficient and effective when business was delivering the “goods”. But in today’s society—which is increasingly satiated with decreasing marginal value in new goods and services, better informed of the total costs of those goods, and increasingly interconnected and integrated to share perceptions of value—it is less acceptable. The previous premise of “it’s just business” that drove firms in the struggle toward market domination and profitability is no more. As Castells (Castells, 2011) says,

\[\text{We live in confusing times, as is often the case in periods of historical transition between different forms of society. This is because the intellectual categories that we use to understand what happens around us have been coined in different circumstances, and can hardly grasp what is new by referring to the past. I contend that around the end of the second millennium of the common era a number of major social, technological, economic, and cultural transformations came together to give rise to a new form of society.}...\]

Castell’s new form of society also requires the new forms of business that are evolving and emerging, as discussed in Chapter 6. Thinking systemically, all human institutions, individuals, and the environments in which they exist are inextricably interconnected in a complex and elegant global web of important, mutually influential relationships and obligations. These relationships have value and need accounting. Any business transaction, regardless of size, causes ripples across all the society – consuming,
destroying, using, transforming, storing, exchanging, and creating all sorts of value. But little of this value (as little as 20% by some measures (Sroufe & Ramos, 2015)) is reflected in the contemporary accounting, functioning, or decision-making of the business world.

### 8.4 Contemporary perspective

Only recently have companies begun to report on and hold themselves accountable for all the impacts of their activities, consolidating financial, social, and sustainability information into a comprehensive and accurate picture of the firm’s true consumption, acquisition, exchange, destruction, storage, and creation of value (Meyer & Kirby, 2012; Sitnikov, 2013; Sroufe & Ramos, 2015). Traditional commercial enterprises are expanding their reporting—if not their obligations—to social issues. There are new forms of governance for profit-making enterprises to be obligated to social objectives. Traditionally, socially driven enterprises (e.g., charities, NGOs) are to adopt profit objectives to sustain their activities. Society is recognizing that business is necessary for economic growth and international development and that it has a necessary role in addressing complex, wicked, global challenges like hunger, poverty, inequality, unemployment, and climate change. No better example of this can be seen than the rise of philanthrocapitalism (Bishop & Green, 2010).

Another change in the contemporary governance environment is in the rise of collaborative models that are visible in marketplaces such as eBay and enabled by capabilities like PayPal. This change can also be seen in new areas like social lending (Kickstarter), peer-to-peer accommodation (Airbnb), peer-to-peer travel experiences, peer-to-peer task assignments (Amazon Turk), or travel advising, car sharing (Uber) and many other areas (Schor, 2016). Additionally, many of these businesses may be hidden from...
formal statistics yet interact with and impact all areas of society without having well understood consequences (Zervas, Proserpio, & Byers, 2014), thereby raising additional questions about legality and legitimacy discussed earlier. As these forms of “businesses” are both growing and outcompeting traditional businesses, governance must also be able to account for them and for the reasons why they are succeeding—especially given their apparently better interaction with society.

Business is very different from what it was when current best practices for governance and strategic management were developed. Today, almost every successful new business is remotely executing and global, always on, and endlessly configurable. It is concurrent, which means that everything happens at once. It is self-configuring, meaning that it constantly reconfigures itself on the fly, and it is increasingly also self-organizing, self-architecting, and self-healing. All this systemic behavior in the context of the economy and all the other systems that comprise society provide the major challenge for governance and strategic management.

8.5 Analysis of stakeholder theory

Compared to stakeholders, shareholders are easy to understand. According to some practitioners and academics, a shareholder is a rational, utility-maximizing contributor of capital who is best served by maximizing the return on their capital contribution. They are easy to identify and easy to measure. The beginning of the chapter suggests why this is all wrong. Nevertheless, shareholder is an easier concept to grasp than stakeholder.

8.5.1 Overview

Stakeholder theory is attributed to R. Edward Freeman, who first published when Strategic Management: A Stakeholder’s Approach 30 years ago (R Edward Freeman,
In many ways, it is more a goal statement than a theory. The 1988 Sloan Colloquy, in its “Consensus Statement on Stakeholder Model of the Corporation” recommends that firms, “attempt to distribute the benefits of their activities as equitably as possible among stakeholders, in light of their respective contributions, costs, and risks.”

Stakeholder theory is not yet a general theory. There are many versions of stakeholder theory, which makes it difficult to critique (Miles, 2015). It is an essentially contested concept. It is subject to perpetual debates concerning the best instantiation of the term. As discussed in the meta-problem section, different attempts to characterize stakeholders have emerged to serve different purposes (R Edward Freeman, 2010), each of which focuses on attributes that are relevant to the context under consideration.

All of this has proven valuable. Stakeholder theory provides a vehicle for connecting ethics and strategy (R. Phillips, 2003). Firms that diligently seek to serve the interests of a broad group of stakeholders create more value over time (Harrison & Wicks, 2013) As Samantha Miles points out (Miles, 2015), there are many different interpretations of basic stakeholder ideas. This in turn has inhibited theory development (Scherer & Patzer, 2011).

A major issue is in the need to establish the “interests” of the firm and the “interests” of the stakeholders. The historical approach to stakeholders has been primarily economic. Shareholder wealth creation from value contributed by all stakeholders has been regarded as the singular or most senior interest of the firm. Once shareholder needs are met, the board of directors split a firm’s economic surplus (i.e., investment returns in excess of the risk-adjusted cost of capital) between employees, customers, and other stakeholders. Many
corporate-social-responsibility programs are organized like this. There have been attempts to work this out through a traditional economic-equilibrium model (Magill et al., 2015).

Another more-recently emerging viewpoint is that the interests of the firm are to maintain the firm’s relationship with primary and secondary stakeholders to ensure that the firm’s legitimacy and continued access to the resources needed to produce value are preserved. Implicitly, value would be shared among stakeholders. This makes the firm a first-order actor in society as opposed to a property.

Legitimacy is an issue in stakeholder theory—both for the firm and for the stakeholders. Society grants legitimacy to a firm, either informally by engaging with them or formally through the political and legal systems. It is not clear how legitimacy is granted to a stakeholder.

The biggest issue with the more contemporary view is that it suggests that the purposes of a company might be decided by those affected by a company rather than by those who directly contribute to it. This involved versus committed viewpoint, in which benefit is provided without contribution, could damage future enterprise performance.

The more contemporary view suggests that the enterprise has no inherent interests beyond its relationship to primary and secondary stakeholders—assuming they can be determined. This is not unlike the theory of the firm perspective discussed in Chapter 7: that the firm is a “nexus of contracts”. For a company to be a first-order actor with respect to others in society, there must be more interests than just the firm’s dependence upon the stakeholders for resources (Frooman, 1999) or their acquiescence (Baron, 2001) to the firms activities. Otherwise, there is a confusion of purpose among the stakeholders and among any decision-making delegates (such as management) as to why they are together.
This potential lack of purpose suggests a need for an organizational identity to which to attach social value such as reputation or legitimacy (Whetten, 2006). Stakeholder theory does not provide a mechanism or explanation of the identity or mission of the firm—be it a momentary balance of stakeholder interest or a singular purpose. It does not propose a mechanism for such a mission or purpose to evolve and morph over time. Stakeholders are addressed in a mission or purpose once it is established (van Nimwegen, Bollen, Hassink, & Thijssens, 2008). Similar issues arise in contemporary ideas around the theory of the firm (Alchian & Demsetz, 1972; Benkler & Nissenbaum, 2006; Grossman & Hart, 1986).

In fairness, stakeholder theory is often asked to do more than it was originally intended to do. It is not an advocacy for societal interests. Like the shareholder theory of focusing on creating shareholder value, it focuses on creating value for the firm and the firm’s stakeholders with societal benefit as a side effect (R Edward Freeman, 2010; R. A. Phillips, 2011; Walsh, 2005).

8.5.2 The issues of stakeholder theory

Summarizing the gaps in stakeholder theory has provided some guidance as to the issues that need to be addressed in a comparison of the conceptual model and stakeholder theory:

- It is not always clear who stakeholders are or whether that determination should be internal or externally driven, and there is little theoretical guidance as to what each group’s mutual rights and obligations are with respect to the company. Freeman’s characterization—“who can affect or is
affected by the achievement of the activities of an organization”—does not provide actionable guidance.

- There is little specificity, thereby making it difficult for practitioners to operationalize or to offer decision-making criteria to guide corporate governance (Elms, Johnson-Cramer, & Berman, 2011; Key, 1999).

- Shareholders demands on created wealth are easily assessed (percent ownership). While expanding the demand on created value to other human and social accounts, stakeholder theory fails to establish how to measure and compare those stakes.

- Stakeholder theory suggests that the enterprise has no inherent interests beyond its relationship to primary and secondary stakeholders—assuming they can be determined. For a company to be an equal agency with respect to others in society, there would need to be more interests than just its dependence upon the stakeholders for resources (Frooman, 1999) or their acquiescence (Baron, 2001). Otherwise, there is a confusion of purpose among the stakeholders and any decision-making delegates.

- The previous weakness suggests the need for an organizational identity to which to attach social values such as reputation or legitimacy. (Whetten, 2006).

- At the same time, stakeholder theory does not provide a mechanism or explanation of the identity (be it a momentary balance of stakeholder interest or a singular purpose) to evolve and morph toward over time.
• To placate many heterogeneous stakeholders, the purpose of the enterprise can be confused, and the enterprise itself can be unmanageable.

• There is no guidance for dealing with heterogeneity in firm and stakeholder interests, thereby to balance or address interests in a non-mutually exclusive way. For example, consider traditional institutional requirements of the business such as maximizing market value or mandated environmentally friendly processes and mechanisms for management incentive.

• If the purpose of the enterprise is confused, then the measures of success are also unclear. Also, whether these measures are to be internally or externally defined is unclear.

• The previous weakness points to the lack of a definition of success associated with a purpose for existence. Traditionally, there was a fallback to profit (the mission of the firm is to create shareholder wealth), but the new models and demands of society point to other unique purposes (be profitable while accomplishing a mission).

• Competitors are stakeholders in stakeholder theory, but there is no practical framework from the theory to account for and deal with the rise of business ecosystems and competitor collaboration (sometimes called coopetition) or the constructs of the sharing economy (Adner, 2017).

• Stakeholder theory suggests no mechanism for stakeholder’s representation or how to protect their interests.

• Unlike emerging ideas around ecosystems, stakeholder theory fails to establish a framework of reciprocal obligations and responsibilities among
the stakeholders versus those which obtain between the enterprise and each stakeholder. It also does not make clear a possible distinction between participants (contributors of value) and potential beneficiaries (receivers of value) who may be objectives of the firm’s mission. This is the problem with the 15 categories of stakeholders developed by Miles (Miles, 2015).

- It is not clear how to go about measuring the stake of a stakeholder, the value contribution to the enterprise, and the demands on value created by the enterprise. Equally complicated is translating that stake into a relative weight of influence on the activities of the enterprise.

8.5.3 Summary

Contemporary stakeholder theory (R. A. Phillips, 2011; Post, Sauter-Sachs, Sachs, & Preston, 2002) calls for the redefinition of the corporation around a collaboration of multiple interested parties (stakeholders) to create organizational wealth within a moral, and value-based framework. This is not dissimilar to the framework of the conceptual model, though it abstracts morals, ethics, and value to rules and rule sets. Each stakeholder chooses to enter a stakeholder relationship either by commission (selling a service, applying for a job, making an investment), omission (not creating a blocking regulation), or default (association with another stakeholder). The conceptual model’s narrative schema may provide a way to better understanding of these decisions and offer insight into the systemic interaction of business with the other systems of society.
8.6 Analysis of shareholder theory

Milton Friedman is credited as the father of shareholder theory and the idea that the sole responsibility of a business is to increase shareholder wealth. It assumes that management is the agent of the shareholders running the company for their benefit. Management is legally and morally obligated to serve their interests, which is maximizing wealth creation. The only real qualification on the guideline to create as much profit as possible is “conformity to the basic guidelines of the society, both those embodied in legislation and those embodied in ethical custom” (M. Friedman, 2009). Credit for the “proof” of shareholder theory belongs to Jensen and Meckling, who showed that not pursuing shareholder wealth creation deprives society of benefits by creating agency costs (Jensen & Meckling, 1976).

Any analysis must start with the legal discussion. It is textbook law that a corporation’s board of directors must act in good faith to maximize shareholder value. There is something called the business-judgement rule, which presumes that directors always act on an informed basis and in good faith, believing their actions are in the best interests of the company. There is no liability if the outcome does not result in maximizing shareholder wealth. However, the standard of conduct is wealth maximization.

Problems occur when there is disagreement on the timing of the wealth creation. This temporal issue has been the feedstock for activist investors. Chapter 6 discusses Colin Mayer’s study on the short-term death spiral this one requirement of corporate governance has on companies. There are also statistics regarding the negative effects of this focus in Chapter 7. But it is the law, with some business-judgement options.
There are positives to shareholder theory. In theory, ignoring the evidence in Chapters 7 and 6, shareholder theory should result in increased returns, because this is what everyone is supposed to be focused on. It does provide strategic consistency and clarity in decision making. Does that corporate jet increase shareholder wealth? If yes, buy it; if not then go search Travelocity. It is rational and prevents emotional or impulsive decisions, like those concerning that jet. It is easy to measure. It is still considered best practice (Stout, 2012). It is constantly evolving with new tools and techniques like shareholder-value analysis (SVA). It is a completely coherent specification of a corporate objective function (Jensen, 2001).

There are also a few negatives. The statistics in Chapter 7 are bleak. Not only is shareholder return declining over the long term, but many companies are disappearing. Jeff Smith (H. J. Smith, 2003) thinks shareholder theory is, “geared toward short-term profit maximization at the expense of the long run.”

It assumes that a business is a standalone, self-interested entity that is exclusively responsible to its investors. This is inconsistent with the study conducted in building the conceptual model. A business is interconnected, interrelated, and interacting with all elements of society.

It assumes a generic rational, utility seeking, wealth-maximizing shareholder who does not exist. This is discussed in Chapter 7.

Freeman, Wicks, and Parmar (R. Edward Freeman, Andrew, & Bidhan, 2004) not only disagree with Jensen and the concept of a “corporate objective function”; they also assert that shareholder theory “involves using the prima facie rights claims of one group—shareholders—to excuse violating the rights of others.”
So, the negatives are that the evidence shows that it does not work; that its three major assumptions around the generic shareholder, standalone business and singular objective function are wrong; and that it has a few scandals (like those associated with Enron, MCI, Peanut Corporation of America).

Using the conceptual framework developed to do this analysis adds two key issues.

### 8.6.1 Risks of singular focus

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*The market may have had all the information it needed...what it has lacked is the right kind of judgment in evaluating its knowledge. Benjamin Graham*\(^{227}\) on efficient markets

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A single dimension of financial return pervades current practices, models, and theories of business without recognizing that contemporary and emerging forms operate on mixed gift\(^{228}\)/command\(^{229}\)/market-economic principles and environments. Therefore, business decisions are analyze based upon momentary transactional (market) paradigms while ignoring longer-term dependence/consequence and obligation/relationship elements of decision making. This starts a systems-theory sub-optimization-principle process in which continued optimization of a subsystem results in the sub-optimization of the overall system.

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\(^{227}\) Common Sense Investing: The Papers of Benjamin Graham


\(^{228}\) Or “sharing economy”

\(^{229}\) As represented by regulation or legal requirements
system. In this case, economic activity versus societal wellbeing is at issue. This comes from a propensity for business decisions to be temporally constrained and to weigh short-term results too heavily, as the owners are no longer business stewards but are purely financially motivated (C. Mayer, 2013) commodity traders. This is also a reinforcing cycle. Brochet and Serafeim (Brochet, Loumioti, & Serafeim, 2012) studied 70,000 earnings calls over six years and coded them to reflect short-term and long-term statements. The results were then compared with the companies’ actual stock performance in terms of return volatility, the cost of capital, and how long investors held the stock. Short-term companies were highly volatile in their performance and attracted short-term investors. They also attract activist investors: the ultimate short-term investor who is pushing for buybacks and break ups.

It is not just focusing on shareholder wealth creation that causes problems; it is also using only one metric, share price, to determine it. First, this is a McNamara fallacy. It is easily measured, but it assumes an arbitrary representation: It represents the value of the company. This is based upon the efficient-market hypothesis. The implication in Robert Solow’s Nobel Prize work of 1987 is that the presence of economic growth implies the absence of perfect markets. Daniel Kahneman won his Noble Prize with the idea of prices being contextual rather than based on fundamentals, thereby implying that perfect markets and humans cannot coexist.

230 Activist Influence at U.S. Corporations Continues to Rise
Because share price is believed to measure how well management is delivering shareholder wealth creation, it is only logical that increasing share price becomes a goal for management. Now Goodhart’s law is violated. Turning a measure into a goal defeats its ability to measure. There are three consequences to this. First, you get aberrant behavior on the part of management to achieve a goal that does nothing for the health of the enterprise but increases share price. Consider short-term financial engineering to financial innovation to financial manipulation to fraud, for example. Second, you have put a powerful reinforcing feedback loop into the system. These create growth, but without an equally powerful balancing feedback loop, you get explosion, erosion, and collapse in the system (Meadows & Wright, 2009). Examples include Enron, MCI, and the recent financial collapse. Third, the relationship between the measure and what was being measured is severed: Share price no longer represents the company’s value. The changing nature of the shareholder makes things worse, as is discussed in the next section.

A study\textsuperscript{231} by McKinsey and Company reports that over 60 percent of business executives feel pressure to deliver short-term financial performance and that the percentage is increasing. Graham, Harvey and Rajgopal report that 78% of executives admit to sacrificing long-term value for a short-term lift in share price. They also report that long-term projects would be delayed if they risk quarterly earnings expectations (Graham, Harvey, & Rajgopal, 2005).

All of this works to a point. Past this point, however, one gets to financial innovation for the sake of manipulating balance sheets or income statements or worse.

\textsuperscript{231} http://www.shareholderforum.com/access/Library/20131226_McKinsey.pdf
Then you have a problem. This study suggests that the complex-adaptive-systems nature not only of society and its economy but of the business in it as well. One characteristic of a complex adaptive system is the butterfly effect: A small action somewhere in the system can have large catastrophic effects elsewhere in the system later. A simple reporting change to improve the analysts call this quarter can end up as the next Enron; one trade by one person sitting at home can crash the entire market\textsuperscript{232} (Kirilenko et al., 2011).

8.6.2 The shareholder fallacy

A challenge to shareholder theory to emerge from the study on the formation of business roles in society is the fact that the shareholder theory taught in school which provides the basis for much practice and thinking is a myth. This is borne out by what was discovered in the supporting evidence for the model considered in Chapter 6 in the study of Mayer (C. Mayer, 2013) and the rise of “ownership” bifurcation\textsuperscript{233}.

This creates a basic problem: there is really no such thing as shareholder value because different shareholders have different values. The biggest conflict in governance is between the interests of the short-term investor—who cares only about what happens to stock prices in the next few months, or at most the next year—and the longer-term investor, who is trying to save for retirement or college tuition or wants to buy a house or achieve some other long-term goal. Enter financial engineering, which provides ways to run a company to pump the share price up in the short-term without improving long-term

\textsuperscript{232} https://www.bloomberg.com/view/articles/2015-04-21/guy-trading-at-home-caused-the-flash-crash

\textsuperscript{233} Classes of shares, appreciation units, initial coin offerings
performance—perhaps even harming it in the long-term—and the advantage shifts to the short-term trader. A short-term trader sees the stock rather than the company. The focus of the short-term trader is not on shareholder value but on share-seller commodity movements. As discussed in the second-economy section, this is even truer with respect to the short-term trader when 60% to 70% of the stock trades are performed by algorithms which have no clue about the company.

As previously discussed in Chapter 7; 34% of stocks are owned by households, 20% are mutual funds, 9% are pension funds, 8% are government retirement funds, 14% are international investors, 3% are hedge funds, 4% are ETFs$^{234}$, with another 8% left over. With little exception, the managers of these stock portfolios are rewarded based on their short-term performance, leaving households and maybe pension and retirement funds focused on the long term. Compounding this, the stock holders who are rewarded in the short term (the investment banks and fund managers) also have the most access to and influence on company executives by their positions and the size of their holdings.

Another myth is that the shareholder lives on Main Street. Gallup's annual economy-and-personal-finance survey, conducted each April and including more than 18,000 U.S. adults since 2001, shows that family ownership dropped from an historical average of 62% to 52% in 2016. Worse, only 21% of households under $30,000 owned stocks, while 89% of those over $100,000 owned stocks. The Gallup study also shows significant drops in stock investment by people under 30.

$^{234}$ These numbers are from 2013, since then ETFs have increased volume from 15% in 2013 to 23% in 2016.
There are two suggestive implications. One is that, at best, long-term shareholder value creation has a very small and disproportionate impact on a very small population of society. This challenges shareholder theory’s assertion that generating maximal shareholder value is the best social purpose of a business. Second, the income generated by stocks is short term, either through share appreciation (and taking profits off the table) or bonuses for those who are managing the portfolios or the companies for short-term performance. Trading has replaced investing and share “holders” lose.

This idea that the market has shifted from share “holders” to share “sellers” reinforces a previous point concerning the real relationship between share price and the value of the company to share “holders”. Perfect information about the company is replaced with projected information by share “sellers”. There are gamblers who influence the price by betting on current events and trends. There are speculators who influence the price by their technical analyses and rumors about what might be happening. There are the non-participating shareholders who are indifferent savers which, in lieu of a savings account, buy passive ETFs, mutual funds, and indices that proportion the funds algorithmically across companies regardless of their current value. All of which break the relationship between share price and share “holders” value.

8.7 Comparison and Conclusion

Capitalism is often compared to a Darwinian crucible of the survival of the fittest framed in terms of the “market” being the most efficient and effective allocator of resources for creating wealth and wellbeing (Bergman, 2001). This view is probably wrong by virtue of reducing the “market” to strictly economic aspects of transactions. Most importantly, it is wrong from the perspective of Darwin’s On the Origin of Species. In a speech delivered
in 1963, a Louisiana State University business professor named Leon C. Megginson, speaking at the convention of the Southwestern Social Science Association, said that, “According to Darwin’s Origin of Species, it is not the most intellectual of the species that survives; it is not the strongest that survives, but the species that survives is the one that is able best to adapt and adjust to the changing environment in which it finds itself.” What we are now seeing are enterprises beginning to react to changes—not in their markets (though that is also happening), but in society and in the role or ecological niche they play in society.

The study considers how two contemporary theories of corporate governance, and strategic management by its delegation from governance, offer guidance for understanding and dealing with these changes.

8.7.1 Pre-model analysis

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Enron was viewed as a company that always made its numbers.
(Norris, 2001)

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Much like the study, the process of comparing stakeholder theory and shareholder theory emerged through the multiple rounds of study, model building, model testing, correcting, and cycling through again. From this, an analysis without the model’s

235 “It is not the strongest of the species that survives; nor the most intelligent that survives. It is the one that is most adaptable to change.” Is often attributed directly to Darwin, but there is no evidence of that. This is the earliest reference that is generally known. Retrieved from http://quoteinvestigator.com/tag/leon-c-megginson/
framework emerged (*fait accompli*) rather than being formally conducted after completion of the model. This does not diminish the value of the model, because the development of it led to the information in the comparisons. More importantly, the model offers some explanatory power for the non-model based comparison.

As the study progressed, a side question kept coming up: Does this idea that corporations are supposed to be run to maximize shareholder value actually contribute to better corporate performance? Does it contribute to shareholder value?

### 8.7.2 Shareholder theory is not working

Over the past three decades, a real change in the way we run our corporations has occurred. It was initiated with a change in the way we compensate executives to try and give them greater motivation to focus on share price in the (mistaken) belief that share price is a surrogate for shareholder wealth (a fiction). The SEC changed the proxy rules to try to give shareholders—especially after Enron and others—more power (Silvers & Garland, 2005). This had the unintended consequences of attracting activist investors and an increasing focus on short-term performance for value extraction rather than value creation.

This was accompanied by a change in the beliefs of board members about what it is they are supposed to be doing: maximizing shareholder value (typically measured by share price) as opposed to creating value through strategic control, organizational integration, and financial commitment (Lazonick & O'sullivan, 2000). Lazonick makes the important distinction between creating value for a shareholder and creating value for a share-seller.
Another impact that is driving many companies toward a more short-term focus is the way companies compensate executives since the U.S. Congress changed the tax code to require that executive pay be tied to objective metrics. Share price provides an easy and favored metric.

The results are questionable. Between 1997 and 2008, the number of companies listed on stock exchanges declined from 8823 to only 4501, so the population of public companies has declined 40% in a ten-year period. According to Steve Denning at Forbes, the life expectancy of a typical public corporation has declined from 75 years in the 1940s to 15 years. Lazonick and O’sullivan show that this is a result of shareholder wealth creation focus, resulting in a shift from “retain and invest,” which benefits shareholders, toward “downsize and distribute,” which benefits share-sellers (traders). As a paradigm, it has not worked for the companies as entities (Willmott et al., 2016).

As discussed in the introduction to this report, Enron, MCI, Peanut Corporation of America are a small sampling of moral hazard risks associated with shareholder value creation and theoretically linking management rewards to it.

What about real holders of shares? Executive pay from all sources has risen while shareholder\(^\text{236}\) returns have declined (Bebchuk, 2009). On the other hand, traders have done much better than investors, performing two to four times better than buy-and-hold investors (Dahlquist, Martinez, & Söderlind, 2016). While investor (long-term) returns went down, executive pay (driven by short-term share-price incentives) has gone up (Mantel, 2017). Roger Martin at the Rotman School in Canada has calculated that, between 1933 and 1976, traders seem to have done better.

\(^{236}\) Traders seem to have done better.
shareholders who invested in the S&P 500 enjoyed real, compound average, annual returns of 7.5%. After 1976, this average dropped to 6.5% (Martin, 2011).

8.7.3 **What does the conceptual model say?**

By the time the conceptual model was useful to inform about the roles of a business, how they emerge, how they evolve, and what factors into them, the shareholder stakeholder question was well answered as discussed above. But the exercise is still worthwhile.

Most companies are still primarily governed under the rubric of shareholder-wealth creation today—despite compelling evidence that it is not working. One reason is that boards think they are legally bound to do so, ignoring all the case law which says otherwise. It is the common wisdom which tells business people that it is best practice to run their companies this way—not unlike bloodletting, which was a medical best practice from antiquity up until the nineteenth century. Another reason is that it is easy: Crunch a few numbers, and you know where you stand. Even better, if the numbers are not so good, you are in control of most of them (e.g., perform layoffs, outsource, offer discounts, and sell leasebacks). If that does not work, you are also in control of how you count them (financial engineering), but only in the short term. The study suggests that what was once an ideology with widespread acceptance of a simplistic idea that corporations are run well when their run to maximize shareholder value—which is almost always ultimately measured by share price—has turned into a self-destructive cult. But it really is not a cult. The problem is that the business is comprised of people under pressure to run their corporations this way. It is not evil people on Wall Street. It is not evil shareholders. It is not evil executives. It is a system that is now structurally designed to produce maximal results for a few in the short-term but that really produces suboptimal results in the long run.
Overall, the conceptual model suggests, like evolution, the long-term survival of the most adaptable. Using one measure (wealth creation) for one population (short-term traders) is not unlike a predator species with only prey that is evolving to be poisonous to the predator. In its strictest interpretation, shareholder theory says that a company should maximize shareholder wealth creation by all legal means. The conceptual model shows that society changes its expectations of a business much more quickly than those expectations can navigate from their origin, into the political system, into the legal system, then into the education system to be implemented by a business. The rate of social change is increasing; the processes and production of the political and legal systems are becoming slower. Companies will be out of business before they get formal notification from society that the rules have changed.

But it is not a win for stakeholder theory either.

8.8 Summary Considerations

Profits and shareholder wealth creation are embedded in our society. It is hard for us to change, even when it is for our own good. I am going to lose 30 pounds and reduce my blood pressure and bold sugar and increase my energy and sleep better…. Someday.

The two graphs below show the occurrence of the terms stakeholder and shareholder in literature in the context of business. We clearly talk a good game in thinking about the importance of stakeholders compared to shareholders—or at least we spend more column inches on the concept.
Figure 39: Google Ngram of Societal interest shareholders versus stakeholders

But shift the inquiry to outcomes—in this case profit versus social responsibility, again in the context of business—and our outcome interests are different.

Figure 40: Google Ngram profits versus social responsibility
Figure 41: Proportional usage of terms in annual reports

Figure 41 shows even more disparity when examining annual reports between a corporate perspective shown here and a societal perspective in Figure 39. Several cautions when looking at this. Generally, only large corporations electronically file their annual reports, yet small businesses and private firms are almost 50% of GDP and will not appear in these results. As discussed in Chapter 6, the SME (small medium enterprise) and private sectors are more innovative, invest proportionally more, and generate more growth than the large enterprises. Addressing their absence in the annual report data will be a future research activity.

Charles Duhigg wrote one of the definitive books on habits, *The Power of Habit: Why We Do What We Do in Life and in Business* (Duhigg, 2012). Habits are a three-step loop comprised of 1) cue (a trigger that tells the brain what heuristic to use), 2) routine (the
behavior the heuristic initiates), and 3) reward (a positive stimulus that says that was great; do it the same way next time). Society, or at least the economic subsystem of western society, has a habit to break. In the same way a drug habit can kill you, the evidence discussed in Chapter 7 shows that our short-term create shareholder value reward system is destroying shareholder value.

The conceptual model suggests that stakeholder theory constitutes a better approach for governance and strategic management. Stakeholder theory transposes well to the agents, agencies, rules, and the complex adaptive system that underlie the conceptual model. Therefore, stakeholder theory should show the co-evolutionary responses that are needed when society is evolving rapidly, when a variety of wants and needs explode, and when everything is interconnected. As suggested in Chapter 7, stakeholder theory is even better for shareholders, if not for share-sellers.

Stakeholder-theory approaches to governance and strategic management require much more complex cognition in identifying stakeholders, identifying contributions or obligations, developing relative rankings, and determining how to disperse benefits. Unidimensional shareholder theory requires looking up who owns stock and how much.

The evidence suggests that, as society evolves, stakeholder theory offers significantly broader and deeper payoff to shareholders, firms, and all the stakeholders affiliated with firms. The evidence—such as that found in the growth of the cannabis industry—suggests that it is more responsive to changes in society as they happen, pursuing legitimacy with permission while legality and the law catch up. The evidence suggests that stakeholder theory is better able to deal with ambiguity in value by thinking in terms of the total contribution of a stakeholder rather than just the last transaction. The evidence also
suggests less mischief. Within the software world, there is a meme called Linus’ law, named after Linus Torvalds the founder of Linux. It says, “given enough eyeballs, all bugs are shallow.” It means that the more transparency there is in any system (not just software), and the more participants who are engaged with that transparency, the less can go awry.

Society benefits more quickly, better, and with fewer failures.

But there is cost. Stakeholder theory requires much more effort. Stakeholder theory creates a higher perceived risk of failure in the beginning. Stakeholder theory introduces discomfort and disorientation as management has to conceptualize the difficult and “wicked” ideas. There is also the “risk” of being different when immediate “society” (Wall Street) rewards the firm’s leaders, in the short term, for not rocking the boat. The simplicity and superiority of shareholder theory in the short-term cannot be denied. But society’s best interests are for sustainability of the firm, which is needed not just to produce profits but also jobs, donations, taxes, and the actual products and services with a long-term orientation.

After so many years’ experience with shareholder theory, it will be difficult to change patterns of thinking and acting.
CHAPTER 9 **Boundaries of the Research**

*Our aim must be to make our successive mistakes as quickly as possible. To speed up evolution. Karl Popper*

This study is an abductive exercise in consolidating practitioner perceptions gathered over time, thereby synthesizing a comprehensive narrative of what those perceptions suggest is happening in society and its relationship with business. The initial goals are to develop a framework for comparing stakeholder and shareholder theories as bases for enterprise governance and strategic management. It morphed into laying a foundation for business to do a better job in relation with society—specifically, how to improve a business’ situational awareness and understanding of its roles, obligations, expectations, and responsibilities towards society (an area of extreme complexity and uncertainty), thereby to make better decisions.

As stated before, this is a wicked problem which requires broad multidisciplinary approaches and knowledge. It is also a first attempt to address the issues from a holistic societal perspective. Consequentially, this is exploratory research. It is broad research. It is speculative research. It is meant as a jumping-off point for further research.
9.1 Purpose and limits

In these days, when there is a tendency to specialize so closely, it is well for us to be reminded that the possibilities of being at once broad and deep did not pass with Leonardo da Vinci or even Benjamin Franklin. Men of our profession – we teachers – are bound to be impressed with the tendency of youths of strikingly capable minds to become interested in one small corner of science and uninterested in the rest of the world… It is unfortunate when a brilliant and creative mind insists upon living in a modern monastic cell. Claude Shannon MIT faculty talk (Soni & Goodman, 2017)

This study is primarily intended to evaluate shareholder theory and stakeholder theory as the basis for the governance and strategic management of a firm. The results are presented in Chapter 8.

I determined that an historical analysis of the success the two models would not be sufficient for four reasons. First, it is externally difficult to determine which model is at work in a firm, as it is sometimes not clear even internally. Second, shareholder theory has been the dominant model for enterprise governance for so long that there was a very high probability of encountering extremely different-sized samples and thereby increasing the potential for Type II errors. Third, my experience and the literature search indicates the systems being studied are complex adaptive systems. Thus, agent-based models provide a preferred analytic approach. Lastly, complex adaptive systems are extremely sensitive to initial conditions, are path dependent, and are only retrospectively causal. This means that historical results are of limited use in projecting future performance.

An agent model was therefore required. None exists, so the study involves developing one. Most of this report is on that development. I determined that it is internally consistent. It was relevant to the problem and is useful for the comparison.
The resulting model is described in Chapter 5. The approach to developing it is presented in Chapter 4.

Following a heuristic methodology (Moustakas, 1990), a compilation of conversations with business practitioners was incorporated with my own 30-years’ experience into a series of narratives on changes taking place in the economy.

As a result, the study became more an initial exploration and a search for understanding than an address of a traditional problem statement or question. There were four key observations to address: the decreasing societal satisfaction with business; the technological disruption of traditional economic activity; the increasing dissolution of commitment in ownership; a rebalancing of priorities among the systems of society. The problem became how to model all this in a form that could inform an analysis of shareholder and stakeholder theories.

A shared systemic understanding was needed across those four observations.

As the study of the problem progressed, it became clear that, as constructed, it is a wicked problem. As such, it requires a multi-disciplinary approach. The consequence of this is as follows:

The study quickly blurs the line between a positivist and a normative approach. As discussed by Putnam (Putnam, 2002), the fact-versus-value distinction collapses, and positive and normative arguments become interdependent. The conceptual model supports a mechanism for the positivist development (through rule-set evolution at all three levels) of norms; but this study does not adequately demonstrate it in action. It turns out that this is not a new idea. Foster (Foster, 2005, p. 873) proposes that the economic subsystem (as treated in the conceptual model) is a complex system with self-organizing structures that
“absorb and dissipate energy” and obey simple sets of rules. This also supports the evolution of rules from origination at the micro level into behavior observed at the macro level (being first accumulated at a population, or meso level).

There is also a tension between a reductionist and an empirical approach and between evolution and systems.

This study attempts to present several principles that appear to be valid though they are now are derived from a synthesis of theories from multiple domains and practitioner observations. The study includes a search for evidentiary support for the ontology and epistemology of the resulting system of business and social value exchanges.

Chapter 2 and Figure 9 describe the contributions of the multiple disciplines in the study that contributed to the conceptual model framework. The actual synthesis of the framework and model is covered in Chapter 5.

The framework was then compared against stakeholder and shareholder and other business theories to see if it explains or incorporates them.

One artifact from the framework—the “rules trajectory”—was chosen to see if it could be detected in the real world over time. A culturomics approach was used.

Several conclusions and observations were then made.

The transdisciplinary nature of this initial investigation of the practitioner questions means a high reliance on analysis and interpretation of primary studies to construct the

237 The conceptual model using the construct value where Foster used the concept of energy.
conceptual model and the reasoning framework. Original study is done to identify artifacts of that model in the world.

9.2 Potential bias in the data sets and analysis

One limitation of this study is in its lack of original data collection. Because it is a speculative and exploratory effort, the decision was made to use readily available data to both speed the process and in recognition that, until the exploration is complete, defining a suitable data set and collection method would be even more speculative.

Note in caution that, as in qualitative methods, coding is important. An examination of Figure 13 for example, just examining the economic subsystem’s predominance by its referrals would mislead a person into thinking it unimportant. The reason is that, in contemporary western capitalist societies, conversations about the economy (the system) are conversations about money (the medium used to transport value).

What follows is a discussion of the potential issues in the datasets used in the study.

9.2.1 Researchers network

The practitioners who contributed to the practitioner perceptions are not sample members selected from a sampling frame. They were initially practitioners in regular conversation with me as part of their respective jobs and interests. Over time, this group expanded with increasing presentations to the business and academic world of the narratives and the modifications they generated. Given that those presentations were part of conferences, workshops or consulting engagements, self-selection (interest in the themes) occurred.
9.2.2 Google N-gram data

It has been suggested (Pechenick, Danforth, & Dodds, 2015) that there is an inherent bias in the Google Books corpus—the foundation of the N-gram analysis used in this study—especially in the predominance of scientific literature over popular literature over time. Other concerns include word evolution over time and representing author proclivity rather than societal popularity in its counts. I did not consider these to be limitations, as the study is confined to recent time. Because the study is exploratory and directional, accuracy in magnitude and direction is more important than precision in count.

One suggestion from Pechenich et.al. is that there is a decade lag from when a meme or societal state begins to when it shows up in the literature (Bentley, Acerbi, Ormerod, & Lampos, 2014). Also, the Ngram data cuts off in 2008. This was a limitation as many new forms of incorporation and governance identified in the practitioner evidence for the model appeared and crew after 2008.

The decade lag can be seen here. In 1962 Rachel Carson published Silent Spring (Carson, 1962) and effectively ignited the environmental movement\(^ {238} \). Though there were precursors, sustainability solidified as a concept with the Brundtland Commission Report of the United Nations in 1987 (Butlin, 1989). One can also see the difference in the slower rational rule-set trajectory (sustainability originating in a government report, likely containing primarily production rules) and a faster experiential rule-set trajectory (pollution originating in a popular work most likely composed of framing rules).

9.2.3 Access World News

No information was found concerning the accuracy or potential bias of Access World News.

9.2.4 Lexis Nexis

Fortunately, this study is primarily conceptual, speculative, and exploratory and should be followed up with a more in-depth and rigorous study of the findings. The availability of Lexis Nexis made it an opportunistic data source. Study of it has shown that it is not the most comprehensive or complete source one might want. Weaver (Weaver & Bimber, 2008) finds that Lexis Nexis misses over half of the stories appearing in major English-language newspapers. It was primarily used in the study to address corporate reports and to compare “memes” to the Ngram results. Here, it is limited to larger-sized public companies. This means that it is missing many of the emerging forms of incorporation and governance identified in the evidence from practice. Consequentially, it is expected that the example rule trajectories (memes) are understated. These are also understated in Ngram, as much of the growth took place post 2008: the cutoff point in the Ngram data.
9.2.5 General Limitations

Some of the evidence from practice is best considered directional rather than established. There is still much mixed terminology around the concepts that make up the attributes of the new organizational models provided, as evidence from practice and the number of new forms and variations are growing (Cooney et al., 2014). This growth puts the validity of the data as a function of the research’s bias in term selection, search parameters, and sources.

What terminology there is in the literature and data sources, is not used consistently. For example, B-corp and benefit corporation (and benefit corp) are used interchangeably by authors and researchers, though they are different things. Complicating the issue, a benefit corporation can earn B-corp certification, and even without a B-corp certification, the B-corp process can meet the reporting requirements of a benefit corporation.

Regulatory and reporting bodies (statutory and voluntary)—such as individual secretaries of state, the Sustainability Accounting Standards Board (SASB\textsuperscript{239}), the International Integrated Reporting Council (IIRC\textsuperscript{240}), the Global Reporting Initiative (GRI\textsuperscript{241}), the Securities and Exchange Commission (SEC), or business associations—do not consistently report or even break out most of these new forms of ownership or governance entities in an easily addressable way to access and account for them.

\footnotesize
\textsuperscript{239} http://www.sasb.org/
\textsuperscript{240} http://integratedreporting.org/
\textsuperscript{241} https://www.globalreporting.org/Pages/default.aspx
Simultaneous with the emergence of the new enterprise’s forms and behavior, traditional forms have been pursuing the expansion of shareholders by extending ownership to other forms of stakeholders (McElvaney, 2011; Sesil, Kroumova, Blasi, & Kruse, 2002). No attempt has been made to incorporate or isolate those instances from any of the data.

9.3 The Fitness Function

The desire for economic prosperity is itself not culturally determined but almost universally shared. (Fukuyama, 1995).

The fitness function is not fully formed and detailed, and it is at this point not measurable. However, as attributed242 to Einstein, “Not everything that counts can be counted, and not everything that can be counted counts.”

The fitness function lacks precise definitions of its three components: what constitutes and represents value in each differential function system; trust in markets; wellbeing in agents and agencies. The fitness function lacks a quantitative mechanism for how agents and agencies weight framing and structural rules when executing transactional production rules. It is sufficient to exercise the conceptual model at this point, which requires only directional (increase, decrease) effects for value, wellbeing, and trust.

The purpose of the fitness function at this stage of the study is to show how the function might work, not to make it work. This will change as the study progresses and

242 It is a meme with numerous variations over time and only very tenuous connections to Einstein other than popularity.
when manifesting an executable fitness function is a requirement for the agent-based modeling discussed in the future-directions section. The current state of the fitness function is useful by providing a mechanism to discriminate between agents, agencies, and systems in thought experiments with the conceptual model. The fitness function is consistent with the rule trajectory model, in that it suggests that the fitness of a population would converge as the cohesiveness (commonality of rule sets) of the population increased. But it is theoretically derived and has not yet been empirically shown or tested.

9.4 Risk and Bias

I am cognizant of several risks inherent in this form of theory and model building. The first is researcher bias. My 30-plus years of practitioner experience has inclined me to look for systems-based issues and problems caused by the over-optimization of subsystems in composite systems (such as society), has yielded a jaundiced view of static or Wolfram Class 1 or 2 systems (Wolfram, 2002), and has created a bias toward the concept of a social contract (Skyrms, 2014). While these concepts appeared, or were implied in the study and analysis, the I did investigate if there are equivalently effective alternatives at each stage of model development.

Second are the tautological risks involved in a recursive model-building process and in the attempt to resolve an assortment of epistemologies, ontologies, and methods. There is always a high risk of just saying the same thing using different words. This was controlled for by using a grounded-theory approach and by systematically generating the model from conceptual categories gleaned from the practitioner narratives and theories used to address those narratives rather than by building on top of existing theories. This includes focusing in on key concepts (rules, agents, and trajectories) that often did not
appear in the included theories, structuring them as abstractions, and constantly comparing them to all theories and surfaced evidence. The risk of saying the same thing using different words was also controlled for by ensuring that synthesis across domains is the preferred approach rather than simply elaborating an existing theory or model.

9.5 Decision Making

Due to the need to focus on the process of role formation at the meso level, and given the role rule-set trajectory at the macro level and the lack of time available to delve further into the activities at the micro level, the study makes a significant simplifying assumption: It ignores actual decision making by agents and agencies. For purposes of this stage of the study and this stage of the development of the conceptual model, decision making is considered a black box of rules resolution and execution activity. This means that the model cannot currently directly support a decision-making and action-initiation process for governance and strategic management. This black box state limits the study to how the roles of a business in a society emerge and how a business could potentially detect them. The follow-up analysis and decision making is not included in the study now. That is a future study program.

However, decision making is not ignored in the study, as it is clear that further elaboration of the model is needed to extend the micro-level constructs—particularly with agents and agencies as complex systems themselves with their own macro, meso, and micro elements. Many concepts were researched and reviewed so that the model would not preclude the introduction of appropriate decision theories.
9.6 Rational Choice

Rationality and rational choice is quite challenged by this research. By introducing a new paradigm of complex adaptive systems and new assumptions around causality, bounded rationality, equilibrium, and other elements that enter a “rational” decision, the concept of *Homo Economicus* is questioned. The arguments made go beyond this and suggest that, because of the retrospective-causality and probability orientation of complexity, existing rational approaches have assumed away the messiness, narrowly focused on a few metrics, and fall victim to the fallacies discussed elsewhere in the report.

However, this “anti-rationality” is really focused on traditional economic theory and on assuming away externalities and assuming rationality in the pursuit of self-interest. One must also consider what is rational and in what context. This is the issue presented by behavioral economics (Kahneman, 2011; Moglia, 2016): Who defines rational? Is there a common definition of rational? What is the role of context (externalities) in being rational? Is there a temporal frame for rationality? Given the same inputs, is rationality the same for everyone? How to account for charity and altruism? Everyone, including researchers have anecdotal evidence and personal experience that economic actors (people) do not act rationally consistently, and even rationality itself is not consistent across different societies. What is missing is a psychology of motivation. Why make decisions at all? What considerations should be included in the decision making? What is the process involved? This is the realm of emotion, feelings, memory, intuition, passion, and drive—in other words, bounds on rationality (Simon, 1997). For this reason and others, the model avoids decision making and relies on the concepts of rule resolution and execution.
After reading “Thinking, Fast and Slow” (Kahneman, 2011) and “Predictably Irrational” (Ariely, 2008), one should disavow that any decision relative to the creation, exchange, consumption, use or destruction of value is ever rational. On the other hand, as Brian Arthur points out in his McKinsey article’s description of the second economy (W. Brian Arthur, 2011), more of these decisions are being performed by machines. So, while economics and business may have historically been more wrong than right about the rational utility-maximizing decision maker, technology may be about to change this; therefore, it must be accounted for in the new conceptual scheme. Also, as agencies grow—whether they are “automated” by a machine or simply policy and procedure—they increase bureaucracy and operate more rationally (following an approved compliant step by step process) though less humanly (Hamel & Zanini, 2017).

This means that rational choice and decision making cannot be dismissed. While the conceptual model assumes that decision making is a function of rule resolution and execution, it does not preclude the later introduction of decision theory—especially rational approaches. Whether they will apply at all three levels of the current model context is not yet decidable at this stage. The suspicion is that (in the current model context) it will be a micro process driving differential success selection at the meso level. But there is no supporting analysis of this. There are several reasons to make room for rational choice in the model.

First, it must be acknowledged that increasingly more business decision making is being turned over to machine “intelligences”. Whether it is algorithmic, as in the Wall Street “Algos”, or cognitive as in IBM’s Watson, or collaborative cybernetic as in the new augmented realities, or self-learning and pattern-identifying as in DeepMind by Google,
these tools are turning into agents (or perhaps agencies, as they increasingly integrate with each other) that are capable of behaving as such in the conceptual model, and they are making many choices in the past that were reserved for human actors (A. Agrawal, Gans, & Goldfarb, 2016; A. K. Agrawal, Gans, & Goldfarb, 2017).

Another reason for pursuing this study is to not only account for the AIs ability to be participants in different systems of society but to establish a potential model of human choice and balance in transforming and creating value they might user. The above issue becomes increasingly important as more and more business decision-making is transferred to cognitive technologies and AIs, which do not benefit from a “human gut” or from what the model would consider framing rules. It is critical to make these invisible considerations visible and to base them upon sound principles to avoid even more catastrophic unintended consequences (see Skynet\(^{243}\), Colossus\(^{244}\), M-5 Multitronic System\(^{245}\)) than those discussed in Chapter 2.

Second, beyond the assumption that bureaucratic policies and processes are rational, they most often manifest in terms of mathematical propositions used to support (and often make) a decision. They could be as simple as an ROI calculation or as sophisticated as a Black-Scholes equation. Also, much evidence-based decision-making and decision-support work is based primarily in rational activities and could be considered a progeny of Kuhn’s “normal science” (Kuhn, 1970). The implications of this are discussed


\(^{244}\) https://en.wikipedia.org/wiki/Colossus:_The_Forbin_Project

\(^{245}\) https://en.wikipedia.org/wiki/The_Ultimate_Computer
elsewhere (Chapter 4), but it is the predominant paradigm for both academics to build upon the knowledge base and practitioners to apply best practice approaches to decision making; thus, the model will need to incorporate it in the future. This is consistent with Snowden’s observation that human systems are different because humans may actively intervene as opposed to just respond.

Rational-choice mathematical propositions such as ROI, IRR, RONA and others will remain useful—especially for discrete-bounded subsystems of a business, economy or society. Other researchers suggest that algorithmic support for the rule-based approach should be offered by the research’s conceptual model. For example, a mathematical model for decision making in agent-based models are focused on a reinforcing feedback loop (Suvorov & van de Ven, 2009). Suvorov also provides a habituation model—which the current conceptual model considers to be rule retention at the micro level and de-coordination, re-coordination, and maintenance at the macro level. Additionally, “Kuhnian natural scientists” are beginning to expand and apply these rational analytic assumptions to increasingly complex problems such as those the study is attempting to define (Magill et al., 2015), but they are limited by their models in this case to simplifying assumptions such as this: only one firm in the entire economy.

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246 Special thanks to Dr. Plank of my committee for bringing this paper to my attention.
9.7 Other Limitations

9.7.1 Limits of the Researcher

I brought significant practical experience and knowledge to the problem and the resulting study question. I also brought a natural trans-disciplinary mindset for addressing it. Because so many disciplines were engaged to address this problem, there was insufficient time to acquire the highly detailed disciplinary knowledge to move the study any further than it went. Future study will benefit from more time to acquire the detailed disciplinary knowledge required by the problem. Adding collaborators who bring such knowledge and experience will also contribute significantly to the next iteration. The study found and described the forest; now more work needs to be done among the trees, the animals, the insects, and the dirt.

9.7.2 North American Focus

This study is limited by the fact that it uses only the English language and considers only the North-American region. A study conducted by Simon Dedeo (Dedeo, 2017) shows that the Americans, the British, and the Dutch think of capitalism in very different ways. The Americans, the British, and the Dutch are different populations with different shared rule sets. With different rule sets as the initial conditions, and the different life experiences creating different paths of rule evolution the different views of a common subject would be expected per the model. This will also be an issue when the study of the model is extended to other languages available in Ngram. An interesting question for follow-up study is whether they are varieties or different rules sharing a common term or vice versa.
9.7.3 Wicked Problems

Dopfer and Potts nailed the wickedness of this problem when, speaking strictly about the economic sub-system, they said that,

\[ T \]he representation of the economy as a complex open system, or more specifically, as a non-linear, quasi-entropic, differentially replicative, partially stochastic, non-integral, non-equilibrium, boundedly rational, learning-focused, behaviorally conditioned, self-organizational, strategically interactive, environmentally composed, path-dependent, institutionally structured, co-evolutionary, discovery-based, enterprise-driven, technology and resource dependent, topologically complex-adaptive ongoing process of variation, selection, and replication in the growth of knowledge.

Add that this study attempts to integrate a society’s other (than the economy) equally complex differential-function systems to show their interactions, and it is near impossible.

From any perspective, this problem can be seen as a wicked problem (Rittel & Webber, 1973) with incomplete, contradictory, and changing complex interdependencies. Wicked problems are unstructured, cross-cutting, and relentless (Edward & Anne, 2008). Rittel and Webber provided the following characterizations of wicked problems in their Dilemmas in a General Theory of Planning paper (Rittel & Webber, 1973):

- Wicked problems have no definitive formulation.
- It is hard, maybe impossible, to measure or claim success with wicked problems because they bleed into one another, unlike the boundaries of traditional design problems that can be articulated or defined.
• Solutions to wicked problems can be only good or bad, not true or false. There is no idealized end state to arrive at, so approaches to wicked problems should offer tractable ways to improve a situation rather than to solve it.
• There is no template to follow when tackling a wicked problem, although history may provide a guide.
• There is always more than one explanation for a wicked problem. The appropriateness of the explanation depends greatly on the individual perspective of the designer.
• Every wicked problem is a symptom of another problem.
• No mitigation strategy for a wicked problem has a definitive scientific test because humans invented wicked problems and because science exists to understand natural phenomena.
• A "solution" to a wicked problem is frequently a "one-shot" design effort because a significant intervention changes the design space enough to minimize the ability for trial and error.
• Every wicked problem is unique.
• Designers who attempt to address a wicked problem must be fully responsible for their actions.

These characteristics bind the study to the limits of what can be said and done. The goal of the study is to make a dent in the problem.
9.7.4 Transdisciplinary Problem

Transdisciplinary study practices which are grounded in responsive, ethically motivated, problem based approaches to study have the potential to foster the kind of innovation and engagement that is needed to produce useful study (for practice added). (Leavy, 2016)

Transdisciplinary/multidisciplinary approaches are both responses to contemporary study needs and responses to the perceived failures of academy to build useful and meaningful knowledge for practice. The problems of business and its relationship to society do not exist within the walls of any one discipline; consequentially, no one discipline’s epistemology, ontology and methods provide adequate solutions. It is an approach taken specifically to address complex problems where there is difference in the scientific and real-world perceptions and a need exists to bridge practical and academic knowledge and experience.

This requires substantial knowledge about the issue that is both practical and theoretical. Knowledge of formal approaches and knowledge bases of the domains of the investigation must be integrated and creatively and iteratively applied to the problem during the study process. The literature does not yet reflect a coherent theory or methodology for transdisciplinary research.

Transdisciplinary study is generally conducted by a team with representation from as many of the required disciplines as possible.

This study was conducted by a single researcher. Significant real-world experience in systems theories and business provided a strong foundation. The other domains involved and their epistemologies, ontologies and methodologies were acquired in a just-in-time manner.
The study has not been reviewed by experts in each of the domains incorporated into the study report (economics, sociology, semiotics, memetics, and business). Consequently, this report should be considered speculative.
CHAPTER 10 Conclusions

“Every single social and global issue of our day is a business opportunity in disguise” Peter Drucker (P. Drucker & Maciariello, 2015)

It is time to change the way we look at business organizations – what are they, what their role is in society, what are their intrinsic responsibilities and societal obligations? This research suggests the answer is yes, and the starting point is understanding where and how their legitimate roles come to be. But we also need to look at ourselves first.

It is time to change how we look at business organizations. They may or may not be property, but that needs to be resolved. They can perform all legal functions of a human, but you cannot own a human. If AIs become sufficiently advanced and begin running companies, what are the rules then? They are clearly about more than “just business”, but what is that more?

It is time to change the way we understand business organizations. As I was conducting this research I realized how barren a lot of business literature is of systems concepts. Not IT systems, but systems as Meadows, Snowden and Boulton talk about them (Boulton et al., 2015; Kurtz & Snowden, 2003; Meadows & Wright, 2009; Snowden, 2003; David J. Snowden & Mary E. Boone, 2007). Instead of researching and teaching business systems, we should be examining business as a system. A solid 10-minute conversation about the sub-optimization principle from general systems theory and suddenly “shareholder wealth maximization” makes no sense.
It is time we change how we teach business organizations. I was struck several times as to how relevant how Sumantra Ghoshal observations that the very theories, methods and practices taught by business schools are effectively amoral, release practitioners of moral responsibility, and are a direct cause of business failing its society (Ghoshal, 2005) was ringing true in the research. I was struck by the arguments of Lynn Stout (Stout, 2012) on the history of shareholder wealth creation, where it came from and the fallacies of its underlying assumptions. I was struck because, after 30 years in practice and a MBA, it was only the DBA program and this project that I learned about it. Even more frightening is this study showed me the hard evidence, as discussed in Chapters 7 and 8, for the first time.

It is time we examine the assumptions that make lazy thinking acceptable. It was bothersome in the research how many times “equilibrium” was treated as a bad word. It wasn’t because there isn’t a lot of “equilibrium” in the books, it was because there isn’t a lot of it in the real world. Likewise, the rational decision maker. We may be rational, but only if we understand every element of every fitness function that drives every aspect of our lives, and be quick because it all changes in the next infinitesimally small unit of time possible. We make these assumptions because they make the math easier. But that math is getting us in trouble. It is not because we make the assumptions, it is we do it so much we forget we are doing it. We have gone from the early days at O’Connor & Associates developing the early financial derivatives and requiring 2 PhDs and a hazmat suit to go near one, to 2007 and newly minted MBAs constructing asset backed securities, credit default swaps and credit debt obligations on top of mortgage portfolios using their Excel spreadsheets. The numbers, the math, have become the excuses mostly for not doing things,
but also for why things go wrong. Evidence based decision making is great, as long as you remember all evidence has context.

This report is not the completion of a line of research. It is the introduction to a coming lifetime of research. I believe the conceptual model as presented is the beginning for a framework for reasoning about the relationship a business has with society, its stakeholders, and its stakeholders’ relationship with society. Intuitively the logic of the rules and their taxonomy, rule sets, and rule trajectories can be generalized to the other differential function systems and their institutions. I also believe it can be specified to address many more specific problems in business. I hope to scale up this model, assuming the evidence continues to support it, to ever smaller business problems. While the first issues are in governance, then strategic management, the concept should extend to tactical and operational issues as well.

10.1 Shareholder versus Stakeholder

Not shareholder theory. The discussion in Chapters 7 and 8 make that clear. Shareholder theory is failing. Unfortunately, businesses are complex adaptive systems, stock markets are complex adaptive systems, the economy is a complex adaptive system, and society is a complex adaptive system. Consequentially the cause, shareholder wealth maximization, and the effects cannot or will not be tied together by practitioners. Hopefully programs like evonomics: The Next Evolution of Economics will make progress.

Shareholder theory also has its problems. They are not fatal like shareholder theory’s assumptions of rational utility seeking decision makers, the McNamara and Goodhart fallacies of a shareholder wealth maximization goal, and assuming a business is a standalone entity with just inputs and outputs.
Further, by examining contemporary literature from both academic and practice
you can see the issues and suggestions for potential courses of action to address the
potential consequences around increasing “engagement” with stakeholders and more
“human centric” behavior (Bishop & Green, 2009; Bowles, 2016; Corning, 2011; Gray &
focused on expanding the role of business from Milton Friedman’s (M. Friedman, 2009)

10.2 Study Review

As stated in the introduction, this research was speculative, exploratory,
descriptive, definitional, directional, and in the end suggestive rather than coming to any
real conclusions. The only real conclusion from this study is we know more now, and what
to do next.

It was speculative from several perspectives. It was a first-time research project for
me. It started with no real destination in mind other than an intense curiosity about
observations on business and society that did not match my expectations from years of
business education. It was too broad. It was too much for the time available. It looked
insolvable. It looked like I was trying to reinvent ways to address problems that others
already considered intractable.

Because it was speculative it became exploratory in the sense that if you don’t know
where you are going, you just start. The Cynefin framework for understanding a complex
adaptive system has a three-step process; probe the system; sense the system’s response;
then react appropriately.

As the explorations progressed a description of what might be going on formed up
into a conceptual model. The research moved beyond speculation as to how, systemically,
society establishes and legitimizes the role of a business into the exploration of existing paradigms and theories that might provide insight into that process. As stated earlier, this was a highly recursive process.

That is a wicked problem with enormous societal consequences across all a societies systems and participants. Information is incomplete, not obvious, and in many cases contradictory. There are as many opinions and theories as there are people considering the issue. There are many interconnected, moving and evolving parts to the problem.

None of which while known, was not understood and appreciated when the study began.

Knowing what we know, the next two steps are clearer:

- Formalize the model’s rule structure and process
- Design an experiment to test the proposed rule structure, simultaneously
- Develop an agent based model of the rule structure
- Iteratively run the experiments and model, modifying the model with each iteration, with the intent of convergence

Assuming that was successful begin research ways to apply NLP to populate the agent based model from available real-world streams of information.

10.3 Observations on Governance and Strategic Management

There seems to be a period of time before the 1960s where we managed and governed our companies differently, not necessarily better, but different. Sometime after that the idea of shareholder wealth creation enter the minds of executives and directors like an epidemic. If that is all you care about, then that is the only information you will seek.
Goodhart, and the others, suggest this is not a good idea. Here is a list of financial firms that failed within months of getting an unqualified audit opinion: (http://www.aacmi.org/Blog/Lists/Posts/Post.aspx?ID=6). In 2014 the GM board claimed to have no knowledge of the faulty ignition switch issues that would be costly. Employee hotlines do not work. Almost 60% of employees say they will not report misconduct for fear of retaliation.

Governance will need to change, and much more directly engage with the business and its environment, to respond to all the issues identified in the study. It is the critical focus of not only existing organizations but all the new models of business that are forming.

Strategic management needs to be left for another day. Before it can define the relationships among the enterprise and all the stakeholders and the partitioning or responsibilities and obligations, governance needs to inform strategic management as to who the stakeholders are and what expectations exist. Governance needs more focus now.

I think that Colin Mayer has hit upon something in his idea that separating ownership and control resulted in the disappearance of commitment. I think Lynn Stout has made great points on the fallacies around the legal obligation of putting shareholders first. Grossman argues that perhaps customers should own the firm. Even Benkler’s arguments that perhaps no one should own the firm makes sense considering the practitioner perceptions.

247 2016 Global Business Ethics Survey, Corporate Executive Board
Upon reflection, what is really needed is a new theory of the firm. Perhaps society keeps coming up with new roles simply because the economy hasn’t come up with a better model yet.

10.4 The Model

The conceptual model, despite its size, the many disciplines of knowledge engaged, and the breadth of the problem being addressed, is an exercise in radical simplicity. It takes the many lines of thought and converges them into one conceptual model, it reduces the number of assumptions required by the integrated theories and approaches and then suggests that the complex processes of a society that form the legitimate purpose of a business can be described in terms of the origination, adoption, adaptation, retention and transmission of rules. It also suggests this process is the same regardless of what domain of human thought (politics, economics, science, art, religion, law, sport, health, education, media) the ideas (rules) originate in.

The rule and rule set approach also explains the complex adaptive systems attribute of path dependency (retrospective causality) seen in real world economic decision making. Sen (Amartya Sen, 1994) called this menu dependent outcomes and used it to explain decisions not based upon rational self-interest (utility), as well as to describe how individuals when presented with the same decision situation have a set of alternatives that they can choose from (the menu) resulting in differing decisions. From the conceptual model perspective, this would be the notion of an Agent or Agency rule pool being a proper subset of the decision-making population’s aggregate rule set. It provides a mechanism for cooperation (from set theory - rule pool intersection) as well as the symmetric differences (from set theory - rule pool relative compliments) among the rule pools constraining
decision strategies that collaboratively coalescing into a decision. These shared rules provide insight into how and why individuals consider how other individuals might perceive a decision and thereby incorporate that into the decision process. This brings economic externalities back into the decision-making process.

10.4.1 Usefulness to practice

While it needs a different medium of communication. I believe this report offers a great deal to practice. Ongoing conversations with practitioners keep reinforcing the need for a new model of governance, or at least a beginning toward developing real missions and purposes. As one said, it would be nice if the mission and vision came from the customers and employees and not the marketing department. I believe the conceptual model starts down a path where that may become doable.

I was surprised how many executives had never heard of wicked problems as a formal thing. They had called many things wicked problems, but more an epitaph than a categorization. With reflection, I believe a process such as this study followed could be made more formal and teachable. That would begin to address some of the complaints about trying to use the Cynefin process in practice. This is a second research opportunity beyond developing the conceptual model.

Wicked problems cannot be “fixed”. But, developing the models and frameworks for reasoning about societal expectations and legitimacy of business can help in mitigating their negative consequences and preparing decision makers to move their enterprises in new and more socially acceptable directions. This mitigation is not an easy, quick, or solitary exercise. While traditional circles of entrepreneurship focus on speed and agility, designing for impact is about staying the course through methodical, rigorous iteration.
Due to the system qualities of these large problems, knowledge of science, economics, statistics, technology, medicine, politics, and more are necessary for effective change. This demands interdisciplinary collaboration, and most importantly, perseverance.

There is probably a business opportunity here.

However insignificant this research may turn out, it has been shared with enough practitioners who are now better armed to question decisions and practices we have wrestled with in the past about making the numbers. Whether the conceptual model succeeds or not, the process has surfaced ideas and information in contexts not seen together by managers. That may be its biggest contribution.

Taking a cue from both Rittel (Rittel & Webber, 1973) and Snowden (Kurtz & Snowden, 2003) on the limits of addressing wicked problems and defining the behavior of complex adaptive systems, managers can begin taking small steps toward improving by:

- The elimination or reduction of shareholder primacy
- The concept of maximizing enterprise wealth versus shareholder wealth
- Broader stakeholder contribution consideration, participation and rewards
- Make the mission profitable rather than making profit the mission
- And an implicit recognition of value consumption / destruction in other systems of society for shareholder benefit.

Lastly, the research wanted to address not only what, why and where the role(s) came from, but how could managers detect, identify, operationalize them in such a way to meet the firm’s obligations to and expectations of society. The study did not get that far, but the next round might if it can address the triple bottom line balanced scorecard described in Chapter 11.
10.4.2 Usefulness to research

This research has probably done a good job of defining the next round of research. The model did not get far enough along to be able to construct computer models to demonstrate the concepts working as I had hoped. Time, and loss of a resource, kept a complete natural language parsing mechanism for annual reports from coming together.

There are some things that I think have kernels of value in them.

I have not found where anyone else has tied differential function systems to stakeholder theory. I think at some point this will be the solution to many of the problems identified in Chapter 8 as well as providing arguments towards those who believe it is unworkable. I also think the conceptual model has some chance of contributing a way to measure it usefully.

This report found there is a discussion that is not taking place that needs to take place. Who really owns companies and why. This one report will do little, but it will be one more voice raising the questions. This research has taken the entrepreneur, diehard capitalist in me and has almost convinced him that corporations should not be owned for many of the reasons in this report. Whether that is the case or not, is irrelevant to the fact that the myth that our public companies are owned by the public is just that, a myth. At best we rent them for a time. This transitory ownership combined with the behavior shareholder theory encourages is risking the future. As a society, we need to be making better informed decisions about what we are doing, in the same way we needed to start making informed decisions about what we are doing to the climate.
With that discussion comes a rethink of the role and responsibilities of governance as discussed before. This report may have contributed a little toward defining what the future role of governance might look like, and what it might need to succeed.

I believe this report contributes nicely to von Bertalanffy’s legacy that general system theory should be foundational in all research. I could not even have begun to address the subject without that foundation.

10.4.3 Developing the Model

It is probably not a good idea for a DBA to pursue what in effect is a theory building exercise. I learned a great deal. Discovering Swanson and Chermack was a godsend. Practitioners may talk about building theories about things, but we really don’t. The amount of process and detail required, the infinite number of iterations all place it outside of a practitioner’s experience.

That said, there is a need for people who can connect sound theory to practice, who can inform theory of the gaps when applied in practice. Perhaps instead of dual PhDs we can convince people to combine a PhD with at DBA.

More importantly, further development of the conceptual model needs to be done by a team. A team that can bring more familiarity, breadth and depth to all of the domains of knowledge that can advance the concept to a working artifact of research.

10.5 Improving stakeholder theory

Some weaknesses in stakeholder theory were identified in Chapter 8. To get to the next step of a practitioner enabled process for governance and strategic management a few priorities need to be in place:
• An ability to identify stakeholders. Miles classification scheme is a good start (Miles, 2015).

• An objective function measurement for wellbeing, or some surrogate, so that performance can be measured.

• Some process that keeps the previous measurement from becoming a goal per Goodhart’s Law and the mess doing that with shareholder theory has caused.

• Supporting management methods, tools, and techniques to help arrive at community knowledge of the firm, its purposes, and capabilities. Given the move not only to ecosystems, but sharing models, and cooperative structures, these methods, tools, and techniques should be self-organizing for emergent and membership type structures with no formal management. Like open source and maker movement projects.

• Some meta value abstraction to represent stakeholder contributions as input into the wellbeing fitness function and to apportion future benefits.

As discussed in Chapter 11, the most interesting next step would be to marry the conceptual model against the B-labs impact assessments to discovery synergies or even integration potential. I think one contribution of the conceptual model at this stage is the beginning of organizing how to identify stakeholders, if nothing else but by acknowledging the differential function systems.

10.6 Generalizability

Generalizability is also highly contextually driven. Water boils at 212 degrees Fahrenheit, unless the thermometer is broken or limited in range, or we are on a high
mountain, or in a pressurized sphere under water, or you are using the Celsius scale. The point of this research is to find the commonality across all contexts where possible.

Over time I expect this work to result in evolution of stakeholder theory to support the proposed theoretical and emerging models of business in Chapter 6. I hope to spur discussion and further research around the issues raised in this report, especially in better incorporation of externalities from across society into business evaluation and decision making. In a year or two, turning this into an approachable book will hopefully inform practice as to how to govern their enterprises in such a way as to reduce not only the unintended, but also preclude the need for more societal responses, such as taxes and regulation, and improve performance as Chapter 7 suggests.

Lastly, I suspect this work will be generalizable to any enterprise or institution that operates primarily in any one of a society’s differential function systems. Providing a mechanism for dealing with externalities to the host system should be universally useful.

10.7 Lessons from Flatland

*Flatland: A Romance of Many Dimensions* was written by Edwin Abbott in 1884 (Abbott, 2006). It was meant to be a commentary on the rigid class structure of Victorian England, but it has become a successful metaphor for paradigm rigidity. There are even two movies now\textsuperscript{248} which I have used in some of my business model generation workshops. There are many lessons that can be taken from the story, some business, some social. Where it resonates with this research is in the obstinance of the Flatland authorities to refuse to

\textsuperscript{248} Flatland https://www.youtube.com/watch?v=C8oiwnNlyE4 and Flatland2 https://www.youtube.com/watch?v=O6LfuKKqXdU
even consider other dimensions. When I encountered all the arguments on why stakeholder theory would never work, I was reminded of the circles, the leaders of Flatland, arguing the third dimension was impossible but was illegal regardless. Not unlike the perceived legal binding of Directors to consider shareholders first.

When considering how to begin adapting the balanced scorecard as a vehicle for implementing and measuring stakeholder theory to help governance and strategic management, it was the Flatland analogy that suggested adding not just a third dimension but nine other dimensions to represent the business’ place in society.

10.8 Lessons from The Cathedral and The Bazaar

The Cathedral and the Bazaar was originally a paper (E. Raymond, 1999) that became a book (E. S. Raymond, 2001) by Eric Raymond. It has always appealed to me because of my background in software and open source. I did not reference it in this report, but it was always whispering to me over my shoulder during the research.

It is about Raymond’s discovery of a successful large software system development model with little to no organization in evidence. He likened it to middle eastern market, an open market that anyone can participate, no clear leader (though someone always controls the property), with a release early, release often mind set, that appears totally chaotic but manages to efficiently and effectively meet all the needs of a community. He compared it to the traditional way of developing software he was taught which he likened to building a cathedral. A closed environment, small group of leaders, larger group of developers and only stable releases. His surprise was the bazaar produced more code, more stable code,
more coherent code and better code faster than the cathedral. Raymond\textsuperscript{249} identified 19 lessons, some of which reoccurred to me as I conducted this research.

Raymond observed the best code came from “people scratching their own itch.” Managers try to duplicate this through “engagement.” I am reminded of Dan Pinks analysis of productive, creative, innovative workers (Pink, 2011). They want a sense of purpose, they want an opportunity to master something, and they need autonomy. This bodes poorly if the purpose is someone else’s wealth maximization. It bodes well for ecosystems where people come together collaboratively to achieve a common purpose. It bodes well for stakeholder theory, because everyone’s stake is clear in an ecosystem.

The best code came from the unofficial code developers, the users. Drucker said a business’ first duty is to create a customer. Perhaps customers are more important stakeholders that shareholders, they should get priority. Having hopefully learned the sub-optimization principle, we won’t put one stakeholder ahead of another again. The lesson here is all stakeholders are important.

My favorite lesson is, “Given enough eyeballs, all bugs are shallow”. Be transparent and let all stakeholder participate and even the wickedest problems shrink.

My second favorite lesson is, “Perfection (in design) is achieved when there is nothing more to add, but rather when there is nothing more to take away”. I always marry it up with Samuel Clemens’s, “If I had more time I would have written a shorter letter.” This is an argument for ecosystems made up of contributing stakeholders, each of which is

\textsuperscript{249} In full disclosure, the paper is an essay so it gets a lot of academic criticism for lack of rigor.
passionate about the one thing they are doing to create value in the ecosystem being superior than the monoliths that are emerging in the stock markets, another unintended consequence of shareholder theory.

10.9 Important Learnings

The amount that was learned to do this research would fill a book, but since it is already a book I will highlight a few of the most critical things learned.

First and most importantly, transdisciplinary work should never be done outside of a team. Even transdisciplinary work in a well-known, and well-defined area of knowledge will require new knowledge generation dependent on depth and breadth of the multiple domains that is impossible for one person to do. The other thing a team helps with is building a consensus of what is not important and can be dropped from consideration. I wasted a lot of time for that reason. I am disappointed in the results so far, but am looking forward to teaming with others in the future.

The second learning is to be aware of the trap of causality. Even with an avid interest in complex adaptive systems, I kept looking for or expected to find a cause or an outcome to analyze. We are trained to look for it, which is fine, if we understand in many cases it approximates what is going on.

I wish I had a better foundation before starting the research on what I think are the real “Philosophy of Business” issues. One is the science practice divide between practitioners and academics. I started this research believing it was more on the academic side because the focus on details and assuming away complications. I now believe that is perhaps more willful ignorance on the part of practitioners. I applaud the DBA program as it will make a dent. The second issue is the micro macro divide in business research. I never
noticed it before, but there are not many approaches that bridge micro and macro. Fortunately, a lot has been published about micro meso macro in the last few years, maybe longer but until this project I never encountered it. There are lots of times when it is unnecessary to look at a problem that way, but when it is, it is critical to understand the relationships. I am not sure we are preparing our students with that tool in their toolkit, at least at the master’s level. The third is the fact – value divide. I knew there was one, only to find out in this research that there really isn’t. Again, something that needs awareness, enough awareness to know when you might be running into it.

I hope the DBA program considers adding a combined wicked problems, transdisciplinary research, and complexity course. It probably would have kept me away from this project. Dr. Gills rugged landscape course is a start, but a broader survey in the context of some of the issues this research brought up that are very applicable to practice would be helpful.

Under the heading of I should have known better, I never put in enough effort to master the tools, especially EndNote, nor was I sufficiently organized in my papers, books, notations and directions to myself. Years of having administrative support had atrophied those muscles. A class early on in the DBA program, not just on the tools but the frustration at midnight not being able to find that paper you made those notes on. A little fear, uncertainty and doubt occasionally can be helpful.

Lastly, I am not sure you can be fully academic and fully practitioner at the same time. When I would speak with my practitioner friends I am able to communicate effectively, as soon as I start writing on an academic subject, the communication becomes dense. I am not that good writing as an academic either. I am neither pithy or precise. I am
always explaining to someone who might need more information to understand. I am always framing everything from the big picture. There is often a disconnect between an academic view of a problem and a practitioner’s need for a solution. There is often a conflict between narrow scope and depth of detail that makes something academically interesting and something broader and generalizable and sufficiently concrete to be acted upon. This will be a challenge.

10.10 Summary – Discovering a new word

“I motivation… some kind of desire to find out the answer, the desire to find out what makes things tick … If you don’t have that, you may have all the training and intelligence in the world, [but] you don’t have questions and you won’t just find answers.” Claude Shannon (Soni & Goodman, 2017)

I learned a new word, more a concept, during this research. I suspect it will define my work as a scholar practitioner going forward. The word is from Japanese. It is Sanpo-yoshi. It was the management philosophy of merchants from the Ohmi region of Japan from the 17th through 19th centuries. According to researchers (Tanimoto, 2013) it was based upon very hardnosed business experience passed down from generation to generation. There was no basis in religion, philosophy, economics or any other thoughts. It simply was what worked. It worked because it brought trust to transactions. It brought trust because it recognized the wholeness of the transaction, that it had a before and an after.

Sanpo-yoshi translates to “good for three parties”. Good for the buyer. Good for the seller. Good for the society.
This paper has been about discovering the role of business, but it has led me to the role of business research and education, facilitating a world where every transaction is *Sanpo-yoshi*.
CHAPTER 11 Future Directions

“My interest is in the future because I am going to spend the rest of my life there.” Charles F. Kettering

Below are ideas that emerged during the study for potential follow up later.

11.1 Three level research and instruction

Adding a three-level model of analysis (micro, meso, macro) at perhaps the Masters level in conjunction with systems education (not IT) as part of a standard curriculum would distinguish USF from other schools. Systems thinking will be one of the key management competencies in the 21st century. Expand that to include complexity and three level analysis and our students would have a competitive advantage. Every problem looks different when viewed as a system.

11.2 NLP based practitioner tools

My biggest disappoint was my inability to apply natural language processing to this study. There was not enough time to do it and the resources weren’t available. It is the area where this research can be the most benefit to practitioners. Stakeholder approaches will

250 American inventor, engineer, businessman, and the holder of 186 patents. Founder of the Kettering Foundation.
not take hold until they are within a magnitude of measurement ease of ROI or its surrogates. The key to that is NLP.

NLP systems are parsing twitter, Facebook and news feeds today. The first step would be to build a rule trajectory tracker based on current technology just to identify trending. Next would be to add information extraction to route key signals for humans to use. Next would be summarization that could then be used to directly feed a multidimensional balance scorecard.

One way to think about it is that today we are where the early stock tickers were in the 1860s. Comparing the speed of change today with then, comparing where traders’ desks are today compared to the ticker then, and the potential is exciting. And, ironic. Humans prefer numbers like ROI and RONA to make decisions because they are easy, yet we will rely on our calculators to make our companies more human.

11.3 Rule trajectory scanner

The nest steps in developing the conceptual models is to formalize it and experiment with it. Once it has shown reasonable applicability, the next step would be to develop the rule trajectory scanner referenced in the report. It would be NLP based with some cognitive skills for filtering. Its goal would be to be informative to governance as to how a company’s roles were being perceived in society.

11.4 A Triple Bottom Line Balanced Scorecard

Theoretically the balanced scorecard measures four areas, the primary dependent variable when implemented by most organizations is still financial returns. The other three areas just facilitate maximizing profits turning it into a variation of Jensen’s objective function for the business rather than a representation of the firm’s contribution of value to
society. It is effectively a continuation of the shareholder theory paradigm. However, if you created a balance scorecard for each differential function system, then the existing scorecard approach would hold for the economic system, but would now be on equal footing with the rest of the systems.

11.5 Marketing

It would be interesting to see if the conceptual model could be used as a foundation for marketing research. Specifically, can the ideas of rules, rule sets and populations as presented by the conceptual model be a finer grain and accurate representation of consumer preference market size than the rather coarse grain tradition of age, gender, location, ethnicity and others. This is likely to be an increasingly important investigation as society increasingly alters and dismiss its cognition of these characteristics of an individual and group / population formation is increasingly dynamic and decreasingly geographic as society becomes increasingly virtual. This is seen in the concepts of the reputation economy and serendipity economy put forth in the practitioner observations. The renewed interest in memetics has come about primarily from the study of internet memes and their impact on individual and group decision making. This includes product recommendation and selection, a fundamental goal of marketing.

Combining the Culturomics approach to identify evolution and transference of ideas across differential function systems boundaries over time with sentiment analysis of media feeds and customer requests might be the start of a real-time marketing approach suggested in the serendipity economy narrative.

Incorporating agent based modeling into the marketing process would also be interesting, replacing estimation with simulation.
11.6 Impact of blockchain

Blockchain is a fully decentralize, autonomous trusted transaction platform. While it is a technology, it is a major topic of conversation around money, personal information, health, security, insurance, and more. It is primarily a public immutable ledger of private transactions between parties. The interest here with the conceptual model is its ability to assure trust. At an exchange level, blockchain can assure that all parties perform their parts of the transaction without the need of a trusted third-party intermediary.

While it will take a while, what does the model look like if everyone can be trusted? Even without the conceptual model, a great deal of the economy is based upon trust mechanisms that would be unnecessary at some point. It is a future study possibility.

11.7 Reexamination of Memetics

For practitioners, the concepts of memes and are an understandable and approachable way to represent the resource exchanges among the systems, especially if the residency and focus on the meme is around the Agent, Agency or Population where it resides (De Block & Ramsey, 2016). Memes are also useful as both a metaphor and a perspective on how ideas propagate, especially for practitioners. It is also useful for transdisciplinary research (Beattie, 2016). However, despite a significant criticism of Memetics (Benitez-Bribiesca, 2001), I still reference them as surrogates for more technical constructs (rule sets, rule trajectories).

The next step in the research will be to formalize the rule structure for the conceptual model. In addition to the rule structure, at some point a way of monitoring their performance will be needed. Continuing the meme metaphor and borrowing evolution I have come up with a first cut of success measures. Pending more research using Gatherer
and Hales as a starting point (Hales, 1998) (Derek Gatherer, 2002) (Derek Gatherer, 2004)), for metric candidates include:

- Level of circulation (too little, too much)
- Variety / variations
- Breeding success (synthesis with others, spawn derivatives)
- Fecundity
- Longevity
- Fidelity
- Survival success (within / among systems, which, for how long, fitness, adaptability, competition)
- Modes of appearance / transmission (spontaneous, pontificate, education, etc.)
- Environmental (isolation, ties among the systems, agent distribution and overlap among the systems, in system versus out system interaction / cooperation, and resulting propagation models – vertical, desert island, Paleolithic, Neolithic, Contagion)

11.8 Performance measures

At this point the conceptual model is that, conceptual. The focus has been on how it would work for role formation and transmission, and how enterprise governance could detect the roles. At some point translating that information into a management structure with performance measurements will be critical. Clearly existing performance measurement systems based primarily on financial performance measures will not be suitable for measuring stakeholder success.
I did no research other than tangential encounters as researching other subjects. This will be critical after the model is working and validated.

11.9 Agent based modelling

As the conceptual model matures, I think one of the most exciting possibilities is to build and agent based modeling platform based upon the conceptual model. In such a framework executives, marketers, researchers, and others could enter in rule sets they believe are in play and observe multiple iterations of the model to see the probabilities of outcomes.

There are many social and business experiments that cannot be ethically done anymore, such as the Stanford Prison Experiment, but would still be informative and useful to society. If the conceptual model works out for the origination, adoption, adaptation, and retention of rules; instantiating and diffusing into a population; competing in emergent encounter markets then it could be used as a simulation for social experiments.

One of the objectives for the next round of research is to develop what this report refers to as the trajectory scanner. That same scanner could be modified to input data from behavioral experiments into an agent based model. The multiple runs of that model could then be used to test different theories around the behavior.

After formalizing the conceptual model rule structure, this is the most reasonable next step.

11.10 Genetic algorithms

An interesting development in agent based models is the use of genetic algorithms to replace all the parameterization normally used in an agent based model to drive the fitness function. Rather than parameter tuning the model, the model evolves on its own. It
simplifies the actual programming of the model and makes the model less deterministic. If possible, I would like to incorporate this approach into the agent based model discussed in the conclusions


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APPENDIX A

Concept Maps
NOTE: Transactions are simple low trust value exchanges. Interactions are multiple transactions governed by implicit / explicit contract with recource trust. Relationships are high trust combinations of transactions and interactions.

Why are there so many and such bad unintended consequences from business?

Can this be improved (fewer unintended consequences)?

By improving these processes?

And better defining this?

2nd Level of detail

3rd Level of detail

4th Level of detail

A Business

Executes & Optimizes

Operational Management

Incorrectly Encodes Decodes

Emergent Societal Roles

Decomposes into

Strategic Management

Governance

Transforms

Uses

Misguides

Guides

Misuses

Uses

Directs

Misdirects

Delivers

Mis-delivers

Delivers

Optimizes

Optimizes

Interacts

Fails

Relationship

Misuses

Inform

Provides legitimacy

Inform

Guides

Misguides

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