

WILEY FINANCE

# Governance Reimagined

Organizational Design, Risk,  
and Value Creation

DAVID R. KOENIG

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Additional Praise for  
*Governance Reimagined*

“If there’s anything that’s long overdue for a little reimagination, it’s governance. Not only does this book contain new ideas, it is a delightful read, full of analogies, metaphors, and linkages to common everyday situations. I know I will refer to this book again and again.”

—Don M. Chance, Ph.D., CFA, James C. Flores Endowed  
Chair of MBA Studies & Professor of Finance,  
Louisiana State University

“David Koenig has always been on the vanguard of innovative ways to think and practice risk management. I have known David for over a decade and saw him make the link between environmental sustainability and corporate governance way ahead of his peers. Readers will greatly benefit from his “out-of-the box” and multi-disciplinary approach to how reimagined governance can help create value in these turbulent but exciting times.”

—Richard Sandor, Chairman and CEO, Environmental  
Financial Products LLC and author, *Good  
Derivatives: A Story of Financial and Environmental  
Innovation*

“*Governance Reimagined* presents material about which I have thought long and reawakens memories of intellectual voyages in the past like Complexity Theory at the Santa Fe Institute. This is a well organized, presented and written book. The writing is exceptionally jargon free and user friendly. It should be a great success.”

—Robert A. G. Monks, Lens Governance Advisors and  
author of *Corporate Governance, Corporate  
Valuation for Portfolio Investment, The New Global  
Investors, Corpocracy, Capitalism Without Owners  
Will Fail, Power and Accountability, and The  
Emperor’s Nightingale*

“In the context of thinking that “the organization” is the most important innovation of mankind, writing a book titled *Governance Reimagined* is quite ambitious. But, David Koenig has delivered! I will recommend this book to friends and people I meet on my way.”

—Knut Kjaer, Chairman, FSN Capital, former President, RiskMetrics Group, and former Chief Executive Officer of Norges Bank Investment Management, the Norwegian Sovereign Wealth Fund

“*Governance Reimagined* is an insightful exploration into the design, practice and underpinnings of how organizations best use and manage risk in this post-financial crisis period. The book begins and maintains a focus throughout, just where it should: on the motivations and drivers of people, and groups of people, making risk/reward decisions big and small. It is a book that will benefit anyone involved with designing or managing an organization, no matter what the focus of that enterprise.”

—Michael A.M. Keehner, Columbia Business School  
Adjunct Professor, Board Member Oppenheimer Holdings

“A fast-paced, informative, witty and eminently readable guide. *Governance Reimagined* provides an excellent road map for creating organizations that use larger, freer collaborations to transform how we think about our work and about the value we give and get from each other – a way to better fulfill your mission and unlock the full value of your organization. Anyone building or managing a for-profit, charitable, political or even social organization will benefit from David’s perspective on governance.”

—Jean Hinrichs, former Chief Risk Officer, Barclays Global Investors and Lecturer, Haas School of Business, UC Berkeley

“David Koenig provides a fresh call to action in this comprehensive and stimulating discussion of organizational design and risk governance. His enthusiasm and straightforward style makes the wide-ranging illustrations drawn from economics, complexity science, behavioural finance, systems and network theory both easily accessible and stimulating as a different way to think about governance. A thoughtful work for those involved in leading and managing organizations in today’s world.”

—Ruth M. Whaley, Member, Board of Directors, Nuclear Electric Insurance Limited, Principal, Barset Consulting LLC

“David Koenig has masterfully broken down the complex components of governance and risk and challenges us to rethink our governance framework. This excellent book dares to break old governance models and re-govern with flexibility, and inclusivity, while bringing empowerment to all stakeholders.”

—Jennifer R. Sawyer, Principal, Rebound Enterprises and Sustainer President, Junior League of Minneapolis

“There are two sides to this book that make it extremely valuable. First, the book presents enlightening examples that illustrate the nature of risk which are unmatched by technical texts. Second, it addresses the major issue of governance in its relation to risk - unlike many of the classic texts that debate governance without a focus on this critical relationship - most notably in financial firms. The variety of approaches taken by David makes the book immediately relevant - once you start reading, you cannot stop until reading the end. Professionals will immediately absorb the substance. Academics will find the variety of approaches and the examples unique. Students will gain a new perspective on governance and risk. This is a bright text that readers will highly appreciate.”

—Joel Bessis, Professor of Finance, HEC Paris and author, *Risk Management in Banking*

“This is an excellent book -- David Koenig has presented some very important and complex ideas in a simple manner and is a must read for board members and managements. The ideas of networked and distributed governance, along with the management of risk capital as commons are very powerful. These ideas are important for corporations, governments and non-profits that must be accountable for profits, people and the planet and be more sustainable. The current crisis has exposed weaknesses in governance that need to be fixed, so this book comes at a very important time, not in a negative sense but in a positive, forward looking manner.”

—Saurabh Narain, Chief Executive, National Community  
Investment Fund

“*Governance Reimagined* is brilliantly simple to understand. The relevance to today’s corporate boards and C-suite executives who have gone through the worst period of economic turmoil in nearly a century jumps out at the reader in every chapter. The author’s risk management background, combined with a philosopher/psychologist’s eye for understanding how human’s operating in clusters and individually make decisions sets this book apart from all other economic, finance and risk management books. Every board member and CEO who worried over unfathomable explanations of what can or did go wrong in an organization needs to read this book.”

—Allan M. Grody, President, Financial InterGroup  
Holdings Ltd, founder and retired Partner-in-charge of  
Coopers & Lybrand’s Financial Services Consulting  
Practice; adjunct professor New York University  
Stern Graduate Business School; Editorial Board  
Member, Journal of Risk Management in Financial  
Institutions

“David Koenig is equally at home explaining what subtle factors drive you to buy an apple, for example, as why complex organizations can break without warning. What’s amazing, however, is how he weaves common sense with thorough academic knowledge to create a rich fabric that will enable readers to use governance for what it was intended: Creating value.”

—Jon Lukomnik, Managing Partner, Sinclair Capital,  
Executive Director, IRRIC Institute, past Deputy  
Comptroller, City of New York, and Co-author, *The  
New Capitalists*

“David Koenig lives and breathes governance and in this book he presents valuable perspectives along with contemporary examples that illuminate his innovations. The book is full of great citations and current situations spice up every chapter. He connects the entire governance social network, including potentially conflicting groups, and demonstrates how establishing appropriate missions and values complemented by diversity, a collaborative open culture and transparent governance process will improve chances for healthy long term success and increased enterprise value. *Governance Reimagined* is a great read that does not disappoint. It should be required reading for senior corporate management and boards.”

—Mark C. Abbott, PRM, Managing Director, Head of  
Quantitative Risk Management, Guardian Life &  
President, Buy Side Risk Managers Forum

# Overview

Under the right circumstances, self-organized groups of people can do amazing things. We can create products and services that never existed before as well as invent new and better ways of performing both simple and complex tasks. Whether in for-profit or nonprofit organizations, in political economies or informal associations, given the right setting, we can create things that are of substantial value to others, while also creating value for ourselves.

But in order to create things, we must be willing to take risks. *Governance Reimagined* offers one of the most detailed looks at a new way to govern effectively the interactions of organizations that take risks in the pursuit of value.

Written by David Koenig—an internationally recognized expert on governance practices and risk management—this book brings together a highly diverse set of ideas to put governance in a new perspective. Divided into four comprehensive parts, this reliable resource will walk you through the surprising ways that value is created, the role that perceptions, behavior, and group dynamics play in the success of your organization and the steps to take in designing the right governance framework to enable any organization to generate the most value from the initiative that caused it to form in the first place.

With this book as your guide, you'll gain essential answers to some tough questions, including:

- What do we know about the governance of complex systems that can help us realize the potential of groups and avoid the complexity collapse that so many large organizations experience?
- Can governance structures be designed to address the varying needs and beliefs of those whose perceptions of us are critical to our organization's success?
- How does viewing risk as a “commons,” in a networked and distributive environment of governance, allow organizations to deliver more utility and live longer?
- What is the role of trust in what we do, and what is its specific impact on how systems create value?

Once you establish an environment in which people can create things that are of value to others outside of your organization, while also creating value for those on the inside, you've succeeded. *Governance Reimagined* skillfully outlines a practical, and innovative, approach that will help you achieve this elusive goal.

Written for directors, corporate executives, elected officials, regulators, students and those involved the governance of risk-taking at all forms of organizations, there is no other book quite like it.

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# Understanding Value, Values, and Value Creation

**T**he reason that any organization exists is to create value. Whether serving the needs of the clients of a nonprofit charity or generating market or intrinsic value for the owners of a company, the creation of value is the primary objective that all volunteer groups, management committees, and supervisory bodies necessarily pursue. Most organizations, however, don't fully recognize the differences or the connections between value, their values, and the elements that drive value creation.

## **HOW MUCH IS THAT DUCK IN THE WINDOW?**

One of the most difficult steps in developing this appreciation is to define the meaning of *value* to an organization. Most typically, we measure value in financial or economic terms. Hence, most businesses understand the notion that their products and services, marketed and sold or utilized successfully, will generate value. However, the story only begins there.

Whether you realize it or not, all of us encounter simple situations in our daily lives that demonstrate where value has been created. For example, I'm hungry, so my brain decides that I should walk two blocks to the local co-op for some food. As I enter the store, I'm greeted by a beautiful display of various fruits including kiwis, nectarines, oranges, and apples. But how should I choose?

I've decided, or someone has convinced me, that I should prefer something healthy to eat. After all, it's better for my body and carries the promise of lower health costs and longer life (so I have been told). Therefore, my brain decides to opt for fruit. Since the fruit on display is organic, my brain tells me it's even better. For some reason, I'm drawn to the apples. Red Delicious, Braeburn, Gala, and Honeycrisp are all on offer. What colorful names! My brain jumps into action.

I check the prices and see that Honeycrisps are on sale, but still cost about 10 cents more per pound than my old standard, Red Delicious. I remember just how good Honeycrisp apples are and that they normally cost almost one dollar per pound more. I am thinking that this could be the right time to buy, but then wonder: what is the cost of the same apple at the grocery store down the road? Another person enters the store, politely excuses himself, reaches past me, and confidently grabs a Honeycrisp. I buy one, too. Delicious! Hunger satisfied, I march on with my day.

At this very moment and in this very situation, I found the value of the Honeycrisp to be high enough to justify whatever price the store charged. At that moment, the Honeycrisp apple that I chose had a certain value to me, which was at least as much as the amount of money I paid for it. The same is true for the person who selected Honeycrisp before me and for any others who purchased Honeycrisp that day. But what determined that value? Why didn't my brain tell me that it was too expensive? Why wouldn't everyone agree to buy Honeycrisp in the same situation? Some purchase Gala apples, while others go past all of the apples and choose kiwis or oranges instead. Why?

The answers to these questions are not simple; actually, they are very complicated and even *complex*. The decision I made, and decisions we all make every day, are a result of our current desires, the influence that others have on us, as well as our *values* and the intersection of opportunity with all of these factors.

Think through your most recent purchases. What made them valuable enough to you that you were willing to part with your money? This question is also considered by the other side in the transaction. What is it that makes a product sell? What drives the perception of value, and what is the value of a good or service that a company offers to end users or consumers of that product or service?

To begin to understand how value is determined, we have to start with some basics. If you have something I want and I have something you want, we can possibly agree on an exchange—some amount of what I have for some amount of what you have. If we are successful in our negotiation, this barter of physical goods or services determines their value to each of us at that very specific point in time.

When more than two people participate in the discussion and more than two goods or services are involved, the determination of value has a changed dynamic. Another person may also have something that we want. There will be a barter rate of exchange at which you decide you want what he has more than what I offer. That point of substitution is usually determined by the respective values the third person ascribes to the item(s) we individually offer to him.

You can imagine that as the number of people involved in the discussion grows, the determination of the value of what we have can become very complicated. This type of bartering, or haggling, between two parties who only have goods to exchange with each other, was an early form of trading and helped the growth of small economies.

But trading of physical goods can be difficult. For one, suppose someone offers you three live ducks for four of your shoes. If you only own four shoes, you may be willing to part with just two of them, because you don't want to walk around barefoot. But how can you exchange one and a half live ducks for two shoes? It's messy, needless to say, and the indivisibility of a live duck may actually cause the transaction to fail.

Enter a common medium of exchange: money. For the moment, let's ignore why money has value overall and just look at its usefulness in facilitating an exchange. If you are only willing to sell two of your shoes and the other party is willing to give you one live duck and five dollars for those two shoes, you may find a way to transact your desired exchange without the sacrifice of an indivisible live duck.

Money has given us a way to determine in a fairly precise manner the value of shoes and ducks, at this particular time, in this particular quantity, and between these two people.

Now, let's look at another way to determine the value of money. We're going to leave out some critical elements in this next examination of value, so just consider it a mental exercise for the time being. We'll get back to the details later in the book. Suppose your cousin Louie wants to borrow \$1,000 from you. Being a good cousin, he offers to pay you back in one year. Remove your long-held feelings about Cousin Louie's poor grooming habits from the equation and simply look at what choices you have to consider in determining if a loan to sloppy Louie is a good value to you.

First, if you lend the money to Louie, you will not have that money for one year (in this example, we're going to guarantee that Louie will pay you back). That money is not available for Red Delicious, Honeycrisp, Gala, or any other kind of apples for that whole year, and you will not be able to use it to buy shoes or live ducks, either (or any other items, for that matter). Because of this loss of use, you're going to potentially lose something of value to you.

Let's assume that you neutralize this part of the equation by concluding it's worth the trade-off to help a member of the family. Still, you realize that you are investing in Louie, and while in this story it's guaranteed that he'll repay you, you might also choose to invest your \$1,000 in a savings account, insured Certificate of Deposit, Treasury Bill, or even the stock market. In this case, you will (except if you invest in stocks) be almost certain to have more than \$1,000 given back to you at the end of one year.

So, it only seems fair that Louie should give you more back than he borrows, and maybe more than the bank or U.S. government would. But how much is the right amount?

Louie has a sense of what the \$1,000 is worth to him. He has some need and some appreciation for the value of satisfying that need. You, by looking at your alternative investments, have a sense of what Louie should pay you in additional interest in one year to make you feel like he was a good investment. If the value of the loan is high enough to both of you, you'll lend him the money and he'll agree to borrow it.

We can begin to see that goods, services, and even money can have a determined value when two or more people discuss what they would be willing to give in exchange for their use. Ultimately, we can substitute any of the items in the discussion to describe the value of the other item. It might be worth one and one-half ducks, two shoes, or \$15.

To make things a little more interesting, now consider that someone offers a service, like cleaning your house, once every week for one year. But, they want to be paid in advance. Cousin Louie might even offer to clean your house in exchange for the \$1,000 loan, but because he's a slob, we'll leave him out of this part of the story. In any case, in order to determine how much you are willing to pay for the cleaning services, you have to take several factors into account.

First, what is the value of having someone clean your house for you? Second, will the person really provide the service every week for one year? Third, what other things could you do with your money during the year that might be of value to you? You might think that it's worth \$100 to have your whole house cleaned, but if you have to pay \$100 in advance for the cleaning job to be done nearly one year from today, that might not seem fair.

Being astute, you discount the value of future cleaning jobs by some amount that makes you feel comfortable parting with your money today in exchange for a series of scheduled cleaning jobs at your house.

In effect, what you have done is exactly the same as what you did when you decided how much Cousin Louie should have to pay you in one year, only in reverse. You've determined today's value of something that will be received in the future. In the case of Cousin Louie, the value today is \$1,000, but you'll be getting more than that from him in one year. From the cleaning person, the value is a regular stream of services, each of which has value, but each of which you'll receive in the future.

If you've ever invested in a U.S. Treasury Bond or a corporate bond, you've done the same thing. These financial instruments usually are an agreement to pay some amount of money at regular intervals, called a coupon payment (people used to literally have to take coupons in to get them redeemed), and to pay a large lump sum at the end of all of the coupon

payments, which is the return on your investment. The government or the corporation has agreed to give you something of value at specific points in time and you have agreed to lend them money today.

Bonds and loans to Cousin Louie are investments. They have common features, often including the payment of some amount of cash to the investor at various points in time in exchange for money given today. Stocks may pay dividends. Apartment complexes may pay rents. Hedge funds may provide capital gains when you redeem your interest in them. Choosing from among these options is the equivalent of choosing between apples, or perhaps more accurately, choosing among apples, kiwis, nectarines, and oranges.

You see, there is a way to convert all of these choices into a common measure of present day value, even though what they give to us in the future may be highly diverse and of varying degrees of uncertainty.

Finally, let's consider a concept that's even more abstract: the value of something "good." For many people, giving to charities or benevolent organizations is a normal part of their lives. In fact, for many faiths, giving to charity is an expectation. If you are predisposed to charitable contributions, either of your time or your financial resources, how do you choose which ones to support and how much to give?

One element of your decision might be an analysis of the value of that charity. (Those running the charity might be interested to know that, too.) Charities don't typically sell their services, so we're left with some difficult approximations to make. The value of donations made might provide us with some measure, but often charities' work is highly dependent upon the volunteer time of their supporters. So, perhaps we need to add to the value of donations some metric of the value of volunteer time. But, still, that seems to leave much to be desired in our valuation of something noncommercial. We're really trying to get at our live-duck-for-shoes valuation, but in this case, we're dealing mostly with intangibles, for which we try to find a tangible substitute.

## **ARE WE ACTING ON OUR BELIEFS?**

Value and values are different. The former is an attempt to quantify the worth of something and the latter is more frequently associated with intangible concepts like principles and beliefs. An organization's values, therefore, often go beyond monetary measures and are described by its board of directors, or organizing body, as part of its business planning process or its foundational documents. These may be simple mission statements, which reflect general beliefs, or they may be elaborately developed business plans and conduct policies that describe the objectives of the

organization and boundaries of behavior that are allowed in pursuit of those objectives. In any case, the extent to which an organization can fulfill its values may be a more appropriate measure of value. When a company has return on shareholder equity as its only value, then we have no problem reconciling value and values in a monetary fashion. But, rarely is it so simple. Still, the objective is the same: to turn the degree to which we fulfill our values into some kind of measurable value.

As individuals, our values are what we believe to be good; to phrase it differently, what is good is often seen by us as being valuable. In other words, it is what forms our belief system. In effect, we use our values to determine the value of a choice. We decide to support a charity by making the decision to part with our time or wealth in support of its mission. Similarly, if the enjoyment I get from eating good-tasting fruit is one of my values, it may have signaled my brain to make me walk to the local co-op and buy something tasty (and healthy). As individuals, we might even have negative influences on our perception of value when we believe that other values are bad, which then impacts our actions in determining how to use our resources to get things of value to us.

Again, our belief systems influence our perception of value when we make a choice. Whether that choice is to substitute charity for consumption of goods or services, investing or saving, our values collectively determine the value that we ascribe to something. Case closed, right?

Well, it turns out that our values are not quite as constant or pure as we might think them to be. In fact, our values may even change just because of what we see others doing. Professor John Darley of Princeton University has spent a good deal of time studying how people behave in groups versus how they behave as individuals, and we'll look at some of his work later in this book. For now, just note that one of his findings is that when we see others in a group to which we belong doing things that we might individually find to be against our values, we are more likely to engage in similar bad behaviors, even failing to recognize that those actions are inconsistent with our values.<sup>1</sup> On a more positive side of our changing values, if we hear that one of our friends is supporting a particular charity, that piece of information may influence our choice to support it as well. There is an amplification of actions when we see others doing something, good or bad, and that amplification can change our behaviors and perceptions of value, sometimes radically.

Let's consider four types of organizations whose value we might wish to measure: for-profit businesses, charities, political economies, and self-organized groups without any formal corporate structure (think of a time you got together with some people to do "something"). In this latter case, it may be that some set of values spontaneously, or with some initial

leadership, stimulated a collective action by people with similar values. In all four cases, their values can be described, and in all four cases we seek a way to measure the value that each creates and how we might maximize that value.

## **ECONOMICS AND THE CREATION OF VALUE**

To pursue objectives, every organization needs resources like cash, people, connections, or even goodwill (not the accounting kind), all of which can be used in pursuit of our values. In business-speak, these items are called capital. Capital can be described in financial terms like cash, debt, or equity, or we can use common business vernacular like human capital or political capital.

As Economics is the study of how people use their limited resources in an attempt to satisfy unlimited wants, we'll group these forms of capital under the umbrella of *economic capital*—a label that tries to capture the simultaneous condition of limited availability and desirability of these resources.

Economic capital, like most resources, is scarce. In other words, those who want it have to compete to get it and if they do not use it well, it can go away, often very quickly. Quite infamously, and over a matter of days, companies like Bear Stearns and Lehman Brothers, once among the venerable leaders of Wall Street, effectively disappeared in terms of ongoing operations when key parties to their successful pursuit of corporate values denied them their needed economic capital. Still others in the same business were recipients of additional economic capital from the same key parties. Something made these successful firms different from those that failed.

I mentioned earlier how duck and shoe trading was a form of bartering, which helped with the formation of early economies. The study of economics is a social science, meaning it looks at how elements of societies, organized or not, interact in the process of allocating scarce resources and thus determining their value. If you have attended college in the past 20 years, you have probably had some introduction to economics, most likely through an introductory course in *Macroeconomics*.

Macroeconomics, or studies of big social interactions like “the economy,” has fallen generally into two major schools of thought. The first, influenced by the writings of Adam Smith and Milton Friedman, consists of those who believe in something called the Invisible Hand. In short, this group believes that an open market or trading process is highly efficient and is superior at determining how scarce resources are allocated to maximize the total value of all transactions. In some almost invisible way, the

availability of information and the rationality of the members of the economy move resources to the place where they can be most effectively used.

The second group tends to believe less in such a “market god” and more in a hierarchical structure of economies, believing that there is a greater role for institutions like governments to play in ensuring that economies produce better results by intervening in how resources are allocated by the market. The writings of John Maynard Keynes are among the most influential for this group, whom I label the Interventionists.

Neither school of thought has managed to take hold entirely, in part because both seem to fail with great regularity. In its review of the impact of the financial crisis that began in 2007, *The Economist* said, “Of all the economic bubbles that have been pricked, few have burst more spectacularly than the reputation of Economics itself.”<sup>2</sup> It turns out (and many said this early on) that some of the assumptions behind the effectiveness of the Invisible Hand are simply not found to be true in the real world. At the same time, the notion that a hierarchical structure can be agile and insightful enough to allocate resources in something as elaborate as a large economy challenges credulity even to the untrained person. Picture one person trying to organize all of the activities of even one neighborhood, let alone the entire town, state, or nation! Parents, I need only point out how hard it is to keep your children’s schedules, let alone get them to do their chores or pick up their clothes when you tell them to.

A third group has emerged in the past two decades with evidence that they can explain some of the issues facing the Invisible Hand crowd and can make the Interventionist crowd a bit better at what they do. The works of Herbert Simon, Daniel Kahneman, and Amos Tversky are among the most influential in this group, commonly labeled the Behavioralists. *Behavioral Economics* looks at how simple factors can bias people’s actions, assumptions, and thoughts and can lead to less than perfectly rational behaviors. Further, work in this area incorporates research from the field of psychology on how people feel about risk and perceived risk’s effect on their decisions to allocate resources like economic capital.

If you took an introductory Macroeconomics course in college and you paid attention, you probably recognize the Invisible Hand group and the Interventionists but are not likely to have been greatly influenced by, or even exposed to, the Behavioralists. The first two groups are quite entrenched. Entrenched entities, by their nature, are resistant to change and, until very recently, the Behavioralists were usually marginalized by the first two groups. This is one reason you may not have heard of the Behavioralists and may not be fully realizing the value of your work.

Nevertheless, no one set of economists can claim the mantle of full knowledge, not even the Behavioralists. Because of this realization and

the openness of some economists to new ideas, a fourth school of economics called *Complexity Economics* is emerging. Labels like Complexists or Complexitists do not seem to roll off the tongue. Therefore, for now, we will simply refer to their emerging way of thinking as Complexity. What makes the Complexity group unique is their focus on explaining and showing how value is created: how groups of things work in systems and how those systems interact to make more out of a scarce input like economic capital than existed before. It's a blend of economics, psychology, biology, physics, and other sciences, and it is contributing to one of the most important developments in finance and economics, ever.

You know already that our world is full of complicated systems. However, not all complicated systems are complex systems. Complex systems are those that create something that is more than the sum of their parts. A car, for example, is a complicated system. When taken apart, it is just its parts. Don't try this at home unless you really know what you are doing, but if you do, you can see parts like the fuel injector, spark plugs, and steering wheel, laid out in front of you, and you can reassemble these parts to get the same car with which you started. However, a business or an organization formed for the pursuit of its values produces, through the interaction of human agents with other resources, many intangible innovations and tangible services that go well beyond the sum of its input parts. If you disassembled the parts of an organization and put them on the ground in front of you, you would see much less than what you see when you view their output as a whole. Again, don't do this at home because some of the components are people and much like live ducks—they don't divide very well.

The magic here is in the way in which the agents interact in such complex systems, creating something more that is beyond the sum of the inputs. That "something" is often worth more than the resources used. When it is, their activities have created value.

## **ONLY ONE EQUATION, I PROMISE**

Fear not—read on! This is the only equation you will find in this book. And because it is an important one, I insist that you endure and have a good look at it!

The following equation is a *present value* equation. Remember when we tried to determine how much it would be worth to us today to have someone clean our house one year from today? We were determining its present-day value or present value. The same thing applied to

Cousin Louie's loan, the corporate bond investment we made, and the apple I purchased.

$$\text{Value} = U_0 + \frac{U_1}{DR_1} + \frac{U_2}{DR_2} + \frac{U_3}{DR_3} + \dots$$

Our present value equation has three components that matter. First, the numerator (the bit on top) is the amount of something we get at some point in time (the  $U$ 's, with each separate time you get something denoted by a sequential number). It may be a series of "somethings," like coupon payments or clean homes, but they come to us at some point in the future. If we change nothing else in the equation, the more we get at each point in time, the higher is their present value today. Suppose our cleaning service offered three grades of service: Ten-Year-Old-Boy Clean, Cousin Louie Clean, or Hospital Clean. For which one do you think you should pay the most? You get the picture.

$$\text{Value} \uparrow = U_0 + \frac{\uparrow U_1}{DR_1} + \frac{\uparrow U_2}{DR_2} + \frac{\uparrow U_3}{DR_3} + \dots$$

Similarly, if the somethings we get will happen more often, then we will usually be willing to assign a higher value to them. Suppose you could have your house Hospital Cleaned twice each week for a year, or the service was still offered weekly, but for five years instead of one if you paid up front. Again, you would be getting more from this service that you value, hence you would usually be willing to pay more for it. (By the way, bowls of ice cream is one example of when this notion doesn't always work. Think about having a bowl of ice cream after every meal—breakfast, lunch, and dinner—and then forget about that temporarily. Yuck.)

Back to the equation: the three dots suggest that you continue to receive the somethings into the future. The more times you expect to receive these, the higher the value of this equation today.

$$\text{Value} \uparrow = U_0 + \frac{U_1}{DR_1} + \frac{U_2}{DR_2} + \frac{U_3}{DR_3} + \overset{\rightarrow}{\circledast} \dots$$

These first two parts are relatively simple. You get more and so you are usually willing to give more. Now comes the tricky part. How do you translate these somethings that you get later into something you have today and might be willing to trade for the somethings in the future? The method used is called *discounting*. In effect, you always have the choice to take what you have today and invest it to buy things later. Suppose, for example, you thought it a better idea to make an investment today that would give you \$100 every time the house was about to be cleaned. You'd be able to pay the cleaning bill, exactly, each time.

But, we all know that investments of most kinds are risky. Maybe you'd have more than \$100 some times and less another time. However, if you choose to prepay for the cleaning service, you also have risks. Maybe they won't clean as well if they have your money already. Perhaps they'll go out of business before they give you all of the cleanings they promised. Or, even worse, what if it's a scam and they will never show up, skipping town with your money?

In effect, what we have to do is find an investment that has the same risk as we perceive the risk of the cleaning service to be. We can then translate the value of the cleaning service into an equivalent value of an investment. We can translate cleaning services into ducks, shoes, or corporate bonds—if we can match their risks. In short, we can determine the value of any of these things through the use of this present value equation.

One other aspect of this part of the equation is that perceived risk is on the bottom (the denominator, the *DRs*, or discount rates—they can be different in each time period, so each is denoted with a sequential number to identify each *DR* with the timing of the somethings). So, if the risk of something goes down, its value will go up and vice versa. If something is without risk (and there is no inflation), then each *DR* is equal to one and today's value is just the sum of the value of each something received in the future. If the perceived risk is large enough (approaching infinite risk), the value today will be close to zero. This understanding of the inverse relationship between perceived risk and value is critical to our analysis and is probably the most underappreciated element in terms of its impact on the value of anything we do or have.

$$\text{Value} \uparrow = U_0 + \frac{U_1}{\text{DR}_1 \downarrow} + \frac{U_2}{\text{DR}_2 \downarrow} + \frac{U_3}{\text{DR}_3 \downarrow} + \dots$$

As you'll see later in the book, value need not be just a monetary measure. Overall, we're looking to understand the extent to which we effectively fulfill our organization's values, which this equation will also allow us to do. Value can gauge both how effectively you use capital—usually a monetary measure—as well as the extent to which you are able to fulfill your beliefs in a measurable way.

Okay, one equation down, none to go. But remember, this is an important equation and we can use it to value just about anything. So, don't forget it, okay?

In simple terms, remember these three things about the *Value Equation*:

1. When the amount of the “somethings” you receive grows, the value today increases.

2. When the number of times you receive the “somethings” is expected to grow, the value today increases.
3. When the risk that you won’t receive the “somethings” in the equation shrinks, the value today increases.

Effective governance of our human organizations is about making these three things happen.

## **NOTES**

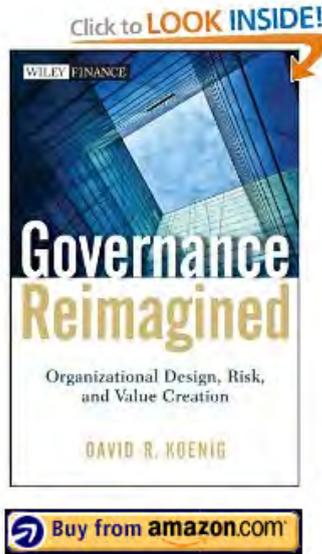
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1. J. M. Darley, D. M. Messick, and T. R. Tyler, eds., *Social Influences on Ethical Behavior in Organizations* (Mahwah, NJ: Erlbaum, 2001).
2. “What Went Wrong with Economics, and How the Discipline Should Change to Avoid the Mistakes of the Past,” *The Economist* (July 16, 2009), [www.economist.com/node/14031376](http://www.economist.com/node/14031376).



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