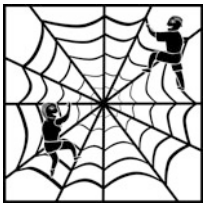
Proposition 85
On Networked Organizations

In a Word Hierarchy, market, and network forms of organization are not mutually exclusive: in the twenty-first century, the need for resilience, intelligence, speed, and flexibility demands that each organizational form finds requisite expression in individual organizations.



The Shape of Things to Come

Taking off the past, the future always starts today. Right now, three interrelated variables stand out from a wide array of forces shaping—with bewildering dynamism and complexity—human aspirations in the twenty-first century: separately

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and in confluence, they have to do with demography,[1] science and technology,[2] and globalization.[3]

In the Anthropocene, a term coined to mark the impact that human population and economic growth are having on the Earth's ecosystems, risks and opportunities are more pronounced and entangled than ever before. Sustainable development is of the essence but we cannot grasp its multitudinous dimensions.[4] Additionally, at the same time as we are annexing nature in ways that have no precedent, we are also invading human nature in unprecedented ways.

Table. Stylized features of organization

Key feature	Hierarchy	Market	Network
• Purpose	• Realize the mission of a central executive	• Provide a forum for transactions	• Advance the interests of a cooperative
• Agent of governance	• Authority	• Prices	• Trust
• Locus of decision-making	• Top–down	• Relatively autonomous	• Joint or negotiated
• Type of product and service	• Mass-produced from economies of scale	• Highly varied by virtue of spot contracts	• Customized from economies of scale and scope
• Basis of control	• Status and rules-based	• Price-based	• Expertise- and reputation-based
• Basis of relations	• Employment	• Contracts and property rights	• Exchange of resources

(continued)

[1]Notwithstanding the growing global population, predicted to swell over 10 years from about 6.9 billion in 2010 to approximately 7.6 billion in 2020, the pool of (skilled) workers is in fact shrinking. Labor force contraction is no longer the preserve of advanced, aging countries, e.g., Germany, Italy, or Japan: the People's Republic of China and the Russian Federation—two large emerging markets, are feeling a demographic pinch too, with more people retiring than are entering their workforces. In short, extraordinary shifts in the balance of populations are in motion that will factor themselves into economic, political, and social systems.

[2]The pace of progress in science and technology—whether through developments in additive manufacturing (or 3D printing), biotechnology, information and communications technology (and the digital networks it enable around image, text, and voice), nanotechnology, neuroscience, or stem cell technology—will accelerate over the next 10–15 years. On top, synergies across science and technology and other areas of human endeavor will presently lead to auxiliary manifestations in research and development, production processes, and the nature of products and services; their corollaries are expected to continue to inflate demand for a (highly) skilled workforce, raise productivity, and transform employment relationships, among others.

[3]The effects of globalization—marked as yet by mounting trade in intermediate and final products and services, expanding capital flows, quicker transfer of knowledge and technologies, and precipitously mobile populations—will further impact every diverse reach.

[4]The burning issues or wicked problems that confront mankind—in arenas like climate change, conflict, energy, health, hunger, pandemics, security, urbanization, and water—are born of intertwined webs of cause and effect.

(continued)

Key feature	Hierarchy	Market	Network
• Basis of transactions	• Routines	• Prices	• Relations
• Nature of transactions	• Long-term	• Short-term	• Medium- to long-term
• Basis of tasks	• Function	• Unitary	• Project
• Degree of dependence among parties	• Dependent	• Independent	• Interdependent
• Degree of vertical integration	• High and centralized	• Low and decentralized	• Variable
• Degree of commitment of parties	• Low	• High	• Moderate to high
• Assets and resources	• Highly specific, largely tangible, and not easily traded	• Moderately specific, tangible and intangible, and easily traded	• Highly specific, largely intangible, and shared
• Nature of organizational boundaries	• Fixed and rigid	• Flexible and permeable	• Discrete and atomic
• Approach to conflict resolution	• Administrative fiat	• Negotiation and legal systems	• Diplomacy and reciprocity
• Culture	• Subordination	• Competition	• Reciprocity
• Tone	• Formal	• Precise and suspicious	• Friendly and open-ended
• Nature of incentives	• Pre-specified	• High-powered	• Reputational
• Approach to information gathering	• Cursory, through specialized offices	• Information conveyed by prices	• Distributed

Source Author

Note Describing the open source phenomenon in the software industry, with perhaps limited applications outside it with the growing exception of information goods incorporating codified knowledge, some add bazaar governance to evolving forms of organization. Hierarchical, market, and network forms of organization are discrete structural alternatives for any transaction: in comparison, bazaar governance blossoms in conditions of open license and anonymity

It is not just the velocity of change but the snowballing multiplicity of interconnected actors that typifies our world. What traditional institutions have been in place since the end of the Second World War, including their guiding rules of engagement, seem less and less fit for purpose. In their guise, we increasingly make out intersecting megacommunities of hyperconnected individuals and (local,

national, regional, international, and global) organizations in the public, private, and civil (or plural) sectors.[5]

> *I think the next century will be the century of complexity.*
>
> —Stephen Hawking

Velocity, multiplicity, and interconnectivity make for complexity and unpredictable, sudden, and drastic changes. This much we know: the higher the complexity, the higher the risk of collapse. Hence, in converse of (habitually reductive) scenario planning, we will before long have to learn to backcast[6] rather than forecast. Proximately, it is through intense intra- and inter-organizational learning—akin to swarm intelligence—that, having discovered and studied the principles that govern complexity, we can hope to confront the challenges of the twenty-first century.

> *The crisis that the world finds itself in as it swings on the hinge of a new millennium is located in something deeper than particular ways of organizing political systems and economies.*
>
> —Huston Smith

Managing for change is not just smart: more often than not, it is to boot a matter of survival. "Whosoever desires constant success must change his conduct with the times," advised Niccolò Machiavelli. And so, because organizing is the process of arranging into structured wholes and organization is the concrete outcome of that, it is worth reviewing past and prevailing models of organization and what forms are emerging on account of the three variables flagged above—demography, science and technology, and globalization.

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[5]Much as the steel fulcrum that Max Couper displayed in Dusseldorf in 1997 and at the European Parliament in Brussels in 1998 to symbolize good governance, a balanced society rests on three legs: a public sector of political forces, a private sector of economic forces, and a civil sector of social forces.

[6]Forecasting is the process of predicting the future based on current trend analysis. Backcasting is the process of defining a desirable future and then working in reverse to make out policies, strategies, and programs that will connect the future to the present. Future Search conferencing is a methodology that enables diverse and potentially antagonistic groups to find common ground for constructive action.

Organizing to the Twentieth Century

Organizing is a key activity in life and organizations are its most visible manifestation. An organization happens when people come together and match up with commitment and trust.[7] So, why exactly do people form groups? Apart from the anticipated social, political, economic, and cultural benefits of cooperation,[8] a principal stimulus of organization is competition; after all, if resources were unlimited the need to organize would be minimal.

> *In the business world, the rearview mirror is always clearer than the windshield.*
>
> —Warren Buffett

The coordination of human interests and related activities can range from the innate, e.g., the breastfeeding of a child, to the very demanding, e.g., climate change mitigation. Where it requires unremitting, calculated attention, organization design refers to precisely how a collective entity—compromising between acceptability, economy, flexibility, reliability, and simplicity—seeks (and all being well achieves) the right combination of differentiation and integration of its operations given the level of uncertainty in the external environment. Conventional management theory tells us that combination is achieved by alignment of vision and mission, values and operating principles, strategies, objectives, systems, structure, people, processes, culture, and performance measures.

By and large, the early nomadic,[9] next, agricultural forms of organization structured work to secure the generic requirements of food, shelter, and clothing.

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[7]This is what "organization" means, at heart, usually in the form of a relatively durable, reliable, and accountable social structure with an identifiable label, say, General Motors. At sophisticated levels, it forms around shared purpose and principles that shape relationships, decisions, and human behavior. In 2012, the world's 10 largest public and private organizations by number of employees were, in descending order, the United States Department of Defense, People's Liberation Army, Walmart, McDonald's, National Health Service, People's Republic of China National Petroleum Corporation, State Grid Corporation of China, Indian Railways, Indian Armed Forces, and Hon Hai Precision Industry.

[8]Strictly speaking, cooperation and collaboration are not the same: to cooperate is to pool resources, as in an agricultural cooperative; to collaborate is to labor together. Cooperation and collaboration carry connotations that become important in the management context: unassumingly, these *Knowledge Solutions* use the latter terminology in what follows.

[9]In the wake of band society, beginning thousands of years ago, the tribe was the first form of organization to come into existence. Its core operating principle was kinship through ties of descent from a common ancestor, community of customs and traditions, adherence to the same leaders, etc.: it gave members a sense of identity and belonging. Today, tribalism still exists in certain regions but also, more prevalently, in such social expressions as civic interest groups, cultural festivities, fan clubs, sports, and nationalism. Some hold kinship to be so fundamental to human nature that tribalism is the primary fallback option when other forms of organization fail.

Nevertheless, in the busyness of time, work and its organization soon came to mean more than the orderly use of tools and techniques: in successive waves, beginning unambiguously with the multiplicative aftermath of the division (and coordination) of labor, industrialization,[10] and scientific management, consecutive technological improvements helped stretch the reach of the hand, magnify the power of muscle, intensify the senses, and fructify the capacities of the mind. From the mid-twentieth century, the computer and ensuing Digital Revolution in particular propelled social transformation: indeed, hitherto unimaginable changes are ongoing.[11]

> *That men do not learn very much from the lessons of history is the most important of all the lessons that history has to teach.*
>
> —Aldous Huxley

In spite of that, organizingand managing are still mentioned in the same automatic breath. If, as some contend, management is a maturing technology that has delivered few authentic breakthroughs since Frederick Winslow Taylor and Max Weber outlined its rudiments 100 years ago, the same can with like deduction be said of organizationalforms in the late twentieth century,[12] redolent as they were of eighteenth and nineteenth century command-and-control designs. Manifestly, if the marshaling of activities to achieve objectives is a function of the configuration of the host, the paucity of innovations in management is attributable to the lingering orthodoxy of organization design. To wit, forged by the experience of the Industrial Revolution and its long-lasting, life-changing consequences, the worldview that conditioned mechanistic perspectives to organizing throughout the twentieth century—aka the factory system—continued to be that (i) hierarchy maintains productivity and performance, (ii) specialization and division of labor maximize the quality and quantity of goods and services, (iii) every organization has an optimal

[10]To note, cities grew spectacularly as industrialization concentrated populations in the nineteenth century and engendered service economies. Accordingly, the modern business enterprise took shape circa 1870 and pioneering theories of business administration and organizational behavior surfaced shortly after courtesy, respectively, of Henri Fayol and Mary Parker Follett.

[11]To generalize, science and technology are putting astonishing knowledge and ability in the hands of people who have the same basic mental faculties as humans born, say, 10,000–15,000 years ago. Since their dispositions have not varied and are not expected to alter in the coming millennia —evolution works more leisurely than that, progress in the twenty-first century can only come from institutional and cultural development.

[12]Combining variously—subject to internal and external influencers—the six basic parts and people of any organization, e.g., operating core, strategic apex, middle line, technostructure, support staff, and ideology, Mintzberg (1989) drew in the 1980s seven broad configurations—entrepreneurial, machine, professional, diversified, innovative, missionary, and political—that for ease of reference others segregate simply into hierarchies and markets.

structure, and (iv) fine-tuning the organizational structure suffices to tackle emerging problems.

> *Leaders must encourage their organizations to dance to forms of music yet to be heard.*
>
> —Warren Bennis
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> *A system is a network of interdependent components that work together to try to accomplish the aim of the system. A system must have an aim. Without the aim, there is no system.*
>
> —W. Edwards Deming

The Once and Future World

If, supposedly, the outcome of organizing is superior to the sum of its parts, why is it the case here and there that twenty-first century individuals fight twentieth century organizations? Why is it that consistency is still the predominant principle of organization design? To recap, the select list of issues cited earlier—to which the after-effects of the financial crisis of 2007–2008, code-named the Great Recession, can be added—is proof-incarnate that the operating system of organizations is less and less compatible with many aspects of society in the twenty-first century. And yet, scientific management works for detailed, prescribed, and regular procedures—meaning, routine work—and will indubitably go on encompassing much of our lives.[13] For this reason alone, organizations are still regarded as corporeal and constant despite quickening tremors from demography, science and technology, and globalization. Where complexity perturbs the strategic, organizational, and operational dimensions of organizations, managers use techniques and styles that wish it away.[14] (What with bounded rationality, cognitive bias, personality, and free will, it is easier to make decisions with fewer variables and a partial understanding of cause and effect.) And, given that it is (in the short to medium term) safer to be wrong with the majority than to be right alone, managers likewise prefer to direct their efforts at strategy, structure, and systems, parameters that lie mainly within an organization's boundaries. Therefore, personnel are forever devising workarounds

[13]Without doubt, formalization, goal orientation, order, rationality, regularity, size, and—most definitely—standardization matter to the delivery of many goods and services. Notwithstanding, even for simple tasks, personnel craves motivation more than the carrot, never mind the stick.

[14]Indeed, it is testimony to the pervasiveness of scientific management that rules-based work is so deeply ingrained in our psyches that most of us take it as a given.

because machine organizations, what with restructuring, downsizing, and re-engineering, continue to rule the roost by force of inertia.[15]

> *We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly.*
>
> —Martin Luther King, Jr.
>
> *Purpose and principles, clearly understood and articulated, and commonly shared, are the genetic code of any healthy organization. To the degree that you hold purpose and principles in common among you, you can dispense with command and control. People will know how to behave in accordance with them, and they'll do it in thousands of unimaginable, creative ways. The organization will become a vital, living set of beliefs.*
>
> —Dee Hock

Even so, in today's dynamic and complex environment, enduring success in the public, private, and civil sectors[16] requires organizational agility across boundaries, not merely within them. In the century of complexity, organizations must be "in the making" and the locus of attention should become purpose, processes, and people. So, if intra- and inter-organizational boundaries need not be barriers, and may even be unavoidable even with permeability, how does an organization—on average hierarchical and at best collegial—that is explicitly or implicitly built for linear performance develop agility and resilience for iterative, decided change? In other words, how can it with fluidity—and without losing as a result the raison d'être of what act of organizingestablished it in the first place—both generate goods and services (that meet unequivocal or latent needs) in the present, and concurrently design for the future? In a

[15]The time lag should not surprise: what mix of organizational forms exists at any moment is the upshot of innovative responses to earlier environmental conditions. All the same, and in a show of unexpected resilience, some features of bureaucracy may just be naturally selected for survival simply because they promote efficiency more effectively while others pragmatically adapt to the imperatives of the "Age of Knowledge" in the form of professional organizations. (Pell-mell, topical notions of creative destruction, environmental imprinting, and organizational speciation come to mind.) More prosaically, bureaucracy also enables those in power to maintain control. Last but not least, if not first of all, vertical structure appears to be hard-wired in human nature, beginning with the family.

[16]The civil sector, the weakest of the three constituencies so far, may yet find it must lead forcefully to provoke reforms in the well-established institutions of government and business. Significantly, to this day, most organizations are either publically or private owned, meaning, not-for-profit or for-profit. (Public–private partnerships are funded and operated under contracts between public sector authorities and private sector companies but the distinction remains.) In April 2008, the State of Vermont in the United States allowed a form of low-profit limited liability company (L3C) to exist legally. An L3C is to operate as a for-profit corporation that generates at least modest profits even if its chief objective is to offer social benefits. (A dozen other states now authorize L3Cs and legislation has been drafted in many others).

blast from the past, some realize—since they cannot recall[17]—that collaborative (intra- and inter-organizational) networks[18] are the organization.

The (Not So) New Social Operating System

> *... a living system continually re-creates itself. But how this occurs in social systems such as global institutions depends on both our individual and collective level of awareness ... As long as our thinking is governed by habit—notably by industrial, "machine age" concepts such as control, predictability, standardization, and "faster is better"—we will continue to re-create institutions as they have been, despite their disharmony with the larger world, and the need of all living systems to evolve.*
>
> —Peter Senge, C. Otto Scharmer, Joseph Jaworski, and Betty Sue Flowers

Bill Gates was not wrong when he trumpeted business at the speed of thought at the turn of this century: brought into organizations, information and communications technology open up possibilities for re-punctuating operations throughout. In their more and more temporal environments—even if all too commonly after the fact due to the (heretofore) slow tempo of social consensus, along the lifecycle of formation, development, maturity, decline, and (perhaps) renewal, all organizations must refrain from future-proofing and strive for better fit in the coevolving realms of environment, economy, society, polity, and technology. In the digital economy, therefore, organizations must network to relentlessly gather, manage, and use data, information, and knowledge to try to make the grade (or last for more than a few years).

[17]The *Knowledge Solutions* on distributing leadership remind us that the original Homo sapiens enjoyed nonhierarchical and egalitarian social structures: individuals led when their know-how was needed.

[18]In a social setting, a network is an organic pattern of nonlinear, nonhierarchical relationships—characterized by nodes, ties, and patterns of connection among individuals and organizations—instigated by agency, opportunity, and exogenous or random factors. Its dynamics are framed by such influencers as brokerage, closure, heterophily, homophily, or prominence attraction, which in turn mold network architecture in terms of structure, e.g., assortativity, clustering, connectivity, density, and distribution, as well as content, e.g., numbers and types of flows. This four-fold analytical framework of components, drivers, dynamics, and dimensions, elucidated by Ahuja et al. (2012), helps understand how networks emerge, evolve, and change. Social network analysis seeks to understand networks and their participants and has two main emphases: (i) the actors, and (ii) the relationships between them in a social context.

Relationships are all there is. Everything in the universe only exists because it is in relationship to everything else.

—Margaret Wheatley

In the twenty-first century, the seven configurations of Henry Mintzberg are still readily recognizable but this may not hold much longer.[19] (At any rate, pure examples will become elusive.) A tipping point, or critical threshold, is reached when inertia cannot resist pressure from without or within: for at least a generation, frequent daily crossings of geographical and organizational boundaries by means of the internet have been commonplace; social media tipped the scales of electronic transactivity pronouncedly circa 2004 when Web 2.0 enabled many-to-many connections in numerous domains of practice and interest. The tools of social media are evolving fast and spatial proximity is no longer integral to information, communication, and decision-making processes.[20] Sped by the Internet and by ubiquitous mobile computing[21] quite recently, networks[22] are once again—but more extensively and multifariously than in the past—becoming the new social operating system: information and communications technology affords vastly expanded opportunities, away from the logic of efficiency that defined the Industrial Revolution and its aftermath, toward rapid mediation of decisions over production and consumption and the collaboration each usually entails. These days, a myriad of dense or loose networks geared varyingly for flexibility and responsiveness defines the social, political, economic, and cultural landscape[23]: even when piecemeal and transient, they are sources of value, usually intangible,[24] that imparts

[19]Not so long ago, for example, employees fretted about jobs being outsourced overseas. Today, virtual teams gather "in the cloud" to conduct research, offer services to clients, and perform many other tasks, a form of organization that could not have been foreseen in the 1980s.

[20]At first, the use of blogs, wikis, and other applications was understandably piecemeal: organizations selected one tool or cobbled a few together. Currently, many social media applications are moving toward the suite approach and tools are interoperable.

[21]From notebook computers to personal digital assistants, e.g., the BlackBerry and iPhone, to standard cell phones, mobile computing embraces a host of portable technologies that makes internet access on the go not only possible but, with portability, social interactivity, connectivity, and individuality, rapidly integral to everyday life.

[22]Alliances, communities of practice, joint ventures, partnerships, and face-to-face or virtual teams —among other forms of networks—have been around for a while. Of course, care must be taken to distinguish informal groups from, say, flat organizations operating on decentralized principles or temporary electronically sustained alliances. Critically, the normative, legal, or institutional embeddedness of networks can—and does—differ considerably.

[23]For sure, hierarchies and markets in industries such as aerospace, architectural practices, construction, design, publishing, research and development, shipbuilding, and software have for some time used temporary, team-based arrangements, aka projects, to accomplish their purposes.

[24]Intellectual capital is central to any discussion of networks: it comprises human capital, relational (or customer) capital, and structural (or organizational) capital.

competitive advantage to their members. Amplified individuals—newly equipped by science and technology and galvanized by the collective intelligence of their networks—can do things that only big organizations or no organizations at all could do heretofore. While organizingremains, formal organization wanes: it is no longer the defining feature of modernity. Had we not better, then, discuss business models rather than organizational models?

> *... there's no real evidence that one can become expert in something as broad as "decision making" or "policy" or "strategy". Auto repair, piloting, skiing, perhaps even management: these are skills that yield to application, hard work, and native talent. But forecasting an uncertain future and deciding the best course of action in the face of that future are much less likely to do so. And much of what we've seen so far suggests that a large group of diverse individuals will come up with better and more robust forecasts and make more intelligent decisions than even the most skilled "decision maker".*
>
> —James Surowiecki

Are Organizations Networks?

Our organizations are us: they reflect the way we see the world; they are representations to which people are drawn, hoping to benefit by association. The more dynamic the environment, the more fluid organizations must become. No form of present-day organization can solve the momentous issues facing society because none has the resources, talent, or time to do so on its own, or even in collaboration: their dense social spaces cannot handle complexity. Conversely, networksgarner micro-contributions from scores of people to deliver large impacts.

> *I must create a system, or be enslaved by another man's; I will not reason and compare: my business is to create.*
>
> —William Blake

Even as (slow-moving) hierarchies and (creative but volatile) markets are being complemented, not replaced, by networks, a "living systems" perspective on organizingis enriching the previously dominant "engineering" model. This said, the greater the capacity to identify, create, store, share, and use data, information, and knowledge, the more complex the organization. In view of that, attempts to deal with complexity will not succeed if they aspire to simplify or assert control: one had better harness the creative energies of complex situations and encourage the emergence of innovative solutions by probing, sensing, and responding. By

opening themselves to stakeholders and communities—thereby displaying corporate social responsibility—and becoming networks of networks, organizations can step up and extend their core expertise to raise their game with economies of scale and scope that better meet needs. Thus, organizations should at the outset, not as an afterthought, weigh up what relationships and reciprocities make the most sense, bearing in mind that collaboration taxes partners as interdependence intensifies.[25] Internally too, organizations should not be so fixated by formal structures that they discount informal ones.[26]

Building the Networked Organization[27]

In the language of organizations, a network is a set of connections that allows interactions to form and influences to flow among people. Networksfavor linking over leading, convincing over controlling, and dealing over doing: what typically ties a group together are social relations, viz., affective, cognitive, kinship, and other relations, as well as similarities, viz., attribute, location, and membership. (Not to forget, networks both include and, we shall see, exclude people.) If this sounds otherworldly, a network can be considered a collective of individuals and entities that, by stimulating know-how and know-who, hone capabilities and leverage resources across a domain, community, and practice to achieve a specific

[25]The *Knowledge Solutions* on learning in strategic alliances note that partners consistently crack down on initial conditions and ignore the dynamic and interactive learning dimensions of strategic alliances. Successful strategic alliances are highly evolutionary and grow in interactive cycles of learning, reevaluation, and readjustment.

[26]Organizational silos appropriate and sequester resources: personnel who want to collaborate must shin up the organization before they can cross it. Sadly, organizations that cannot pull expertise together because of silos—or, say, lack of brokers, talent pools, or knowledge markets—are often reduced to contract or procure from the outside what already exists inside. In the same vein, the contemporary necessity for organizational speed prompts greater acknowledgment of informal authority.

[27]Other overlapping definitions are ambidextrous, boundaryless, flexible, hybrid, knowledge-creating, network-centric, post-bureaucratic, post-entrepreneurial, postmodern, reengineered, and virtual. (Most of these formulations, which hark back to the 1990s, sometimes the 1980s, derive from case studies of organizational innovations: some captured the paradigms of embryonic forms of organization; others focused on aspects.) Drawing insights from institutional economics, new institutionalism, organizational ecology, and strategic management, to name a few instrumental disciplines, recurrent themes are disembodiment, information intensity, interdependence, and velocity. The question of engagement, which denotes the extent to which organizations gain commitment from personnel, is raised repeatedly. How can networks that thrive on impersonal transactions enlist engagement? Will psychological contracts gain in importance?

outcome.[28] Collective intelligence, the quantity and quality of intellectual collaboration, is well-managed freedom.[29]

> *One of the advantages of being disorderly is that one is constantly making exciting discoveries.*
>
> —A.A. Milne

In no order of importance, let alone means and ends, claims for networks include cultural diversity, flexibility, innovation, learning, problem-solving, high-trustrelationships, constructive synergies, reduced uncertainty, re-configuration and regeneration, reach, resource-richness, and self-activation; not coincidentally, such are the attributes of the internet, which acts both as conceptual model and practical enabler of networking. However, one must for good measure point out some drawbacks of networks: chiefly, they can relate to (diffuse) accountability, (the difficulty of determining) effectiveness, (the intricacy of) governance arrangements, (the loose steerage of) gestation, leadership, and upkeep, and (the imponderables of) sustainability. Others cite cliquishness, (the suppressing of) dissent, and exclusivity but this may have been more prevalent in pre-internet days.

> *Nature is a collective idea, and, though its essence exists in each individual of the species, can never in its perfection inhabit a single object.*
>
> —Henri Fuseli

From the drawbacks alluded to, aside from their advantages, networks are demonstrably not a panacea: more pragmatically, depending on the emergent property of the choices of agents in an organizational ecology, the core operating principle of trust that is the hallmark of networks should round out authority (hierarchies) or price (markets) in the world of organizational forms, on a case-by-case basis and with much local selection and interpretation. Trust, prices, and authority are now inexorably intertwined: only in rare cases does one form of organization triumph over others. The "Age of Knowledge" means that widespread hybridization is coming in the public, private, and civil sectors. Therefore, in all likelihood, pure networks—meaning, entirely free associations of people interacting for reciprocal interest—will often coexist on the margins of a much larger number of managed networks established to accomplish express corporate or institutional tasks.

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[28]In 1998, the Health Promotion Glossary of the World Health Organization defined a network, straightforwardly, as a grouping of individuals, organizations, and agencies organized on a non-hierarchical basis around common issues or concerns, which are pursued proactively and systematically based on commitment and trust.

[29]Evidently, collective intelligence is founded on three values: sharing, responsibility, and respect.

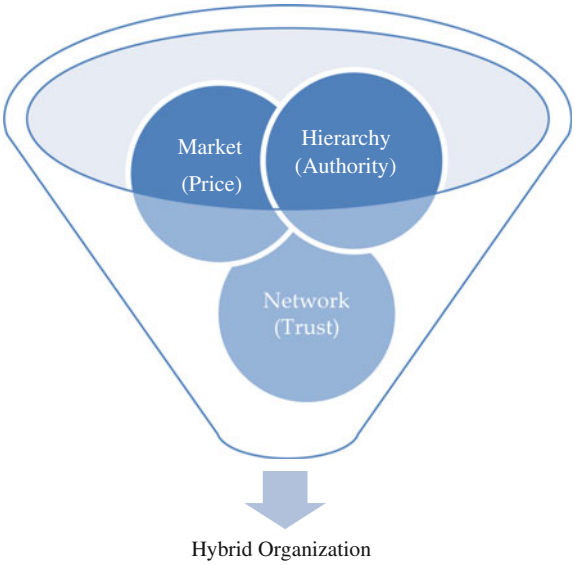

Fig. The hybridization of organizational governance. *Source* Author

> *Society is joint action and cooperation in which each participant sees the other partner's success as a means for the attainment of his own.*
>
> —Ludwig von Mises

The exercise of effective networking constitutes a daunting challenge in both hierarchiesand markets, but especially so in the first organizational form. The biggest obstacle that must be overcome is the difficulty of evaluating individual merit in enhanced collective enterprise; put differently, how can value be ascribed to enhanced collective enterprise when compensation and other benefits still connect to individuals, this insufficiently so on the word of top talent? To leverage networks that fuel individual and organizational performance in synergistic tandem, organizations need to look at personnel from synchronized perspectives of individual and network effectiveness, foster talent management practices that account for and strengthen networks, and devise mechanisms that replicate the types of networksthat high performers have (Schweer 2012). From the foregoing, essential design principles that should serve would-be networked organizations follow:

> *The greater the loyalty of a group toward the group, the greater is the motivation among the members to achieve the goals of the group, and the greater the probability that the group will achieve its goals.*
>
> —Rensis Likert

- In a social context,[30] individuals and collective entities collaborate in networks when the benefits they leverage are greater than the time and effort it takes to act jointly.
- Networks are innovations in organization design that, drawing from computer science, economics, and sociology, intuit and pend on willingness to innovate in management.
- Networks must be fit for purpose, in other words, good enough to do the job they were designed for. Critically, the purpose defines the processes that drive the network, that is to say, how attention is focused and how resources are directed.
- The governance of networks calls for behavioral components, necessary to organize individual and collective work. Trustis the crucial ingredient: to share, you have to be able to trust;[31] there are interpersonal, group, intra-organizational, and inter-organizational dimensions to this and trade-offs among them.
- Every network must have at least one knowledge broker,[32] an individual who unifies the network and assumes responsibility for advancing its interests.

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[30]The backdrop comprises the organizational context, organizational knowledge, and intra- and inter-organizational relationships within the external environment.

[31]The *Knowledge Solutions* on managing virtual teams labor the point that trust is a far more limiting factor where communication is not face-to-face.

[32]Organizational silos open structural holes and consequently weaken ties. A knowledge broker is an intermediary who facilitates identification, creation, storage, sharing, and use of knowledge by linking supply and demand. (In many cases, given their frequent interactions between parties, knowledge brokersare well-placed to generate knowledge itself.) In networks, the ability of knowledge brokers to knit interests together in a high-touch way can add substantial value. On top, knowledge brokers tend to have a good perspective on what can work across functions, locations, and occupations—they can boost the odds of fast and effective organizational change. Besides knowledge brokering, the other skills called for by networking are diplomacy, facilitation, learning, and trading.