Longevity: The Fundamental Mission?

Donald E. O'Neal
Department of Management
University of Illinois at Springfield
University Drive
Springfield, IL 62794

Mark Pruett
Department of Management
Appalachian State University
Boone, NC 28608
pruettmw@appstate.edu
(828) 262-7341

Abstract: This paper discusses what managers can learn about mission and long-term survival from living organisms. We look at how animal organizations differ from human business organizations, and explore reasons why the biological organizations seem to be more successful at long-term survival, or longevity. We discuss how defining an organization's purpose as longevity may be useful, and challenge managers to consider three key questions.

Résumé: Ce document décrit ce que les dirigeants peuvent apprendre des organismes vivants pour la mission et la survie à long terme de leur organisation. Nous regardons aux différences entre les animaux et les humains, et explorons les raisons pour lesquelles les organismes biologiques semblent mieux réussir à survivre dans le long terme, c'est-à-dire, à avoir une bonne longévité. Nous discutons de l'utilité de la définition du but de l'organisation en termes de longévité et lançons le défi aux dirigeants pour considérer trois questions clé à ce sujet.

"What if we thought about a company as a living being?"

The former head of Royal Dutch/Shell's strategic planning poses this question, pointing out that viewing a company this way "...implies that it creates its own processes, just as the human body manufactures its own cells, which in turn compose the body's own organs and systems.... Is this not exactly how the informal organization of any...company comes into being?... Like all organisms, the living company exists primarily for its own survival and improvement..." (de Geus, 1997).

Why have humans, with far superior intelligence, been unable to create and sustain organizations for more than a fraction of the duration of the human race itself?

Comparing companies with living creatures is not new. The human body, for example, evokes managerial concepts including specialization of labor, organizational hierarchy, structure, and communication. Like a company, the body has specialized tools (thumbs are distinct from fingers), hierarchy (the brain generally controls most functions), stable structure (the skeleton provides continuing shape and form), and internal communication (the nervous system).

Business literature has discussed this "biological metaphor" for years with little agreement on how lessons from biology could be applied. It allows that companies may evolve through a "biological" life cycle (birth, growth, maturation, and death), but there isn't much agreement beyond that point. Biologists also have been interested in how species (e.g., termites, wolves, geese) organize themselves, and often compare them with human organizations, again without much discussion of how those studies might be useful to companies.

Tachi Kiuchi, Managing Director of Mitsubishi Electric Corp., observes that life only survives over the long-term through continuous adaptation to the natural environment, a process that is dependent on ongoing feedback. Although businesses need a similar process, he argues that reliance solely on financial feedback is inadequate, and misguided: "[W]e don't run companies to earn profits. We earn profits to run companies. Our companies need meaning and purpose if they're to fit into the world, or why should they live at all?" (Kiuchi and Shireman, 2002).

We are interested here in a broad, abstract concept—purpose. Concepts and features of bodies and organizations depend on purpose for meaning. They are joined by purpose. They exist only because of purpose and, absent purpose, they have little if any meaning. What, then, should be the primary purpose of a business? Many entrepreneurs will respond that it is to earn profits, provide a living for founders and employees, provide a return to investors, or supply a needed good at a competitive advantage.

For the purpose of this paper, we define a "living organism" as a species or a group within a species, a whole consisting of individual members. In great contrast to companies, living organisms appear to have as their primary, perhaps only, purpose the long-term survival of their group and species. Continuation—longevity—is itself the end, and everything organisms do seems to be organized around achieving that end.

The longevity of living organisms contrasts starkly with the life of companies: a species may measure its life in millions of years, while most companies survive for no more than a few decades at most. Longer-lived companies exist, but they are exceedingly rare. Consider the age of the companies whose goods and services we buy every day—many are younger than we are.

Why is this? Why have humans, with far superior intelligence, been unable to create and sustain organizations for more than a fraction of the duration of the human race itself? An individual tree may easily live for centuries, a giant tortoise for more than two hundred years, and a virus may rest dormant in soil for decades. Why, then, do many companies last a few years or a couple of decades at most? Living organisms—groups—are made up of members who, individually, may live for only a few years, a day, or even just hours, but their activities are organized in ways that ensure the long-term continuity of their organization and their species.

A reviewer of this paper made an important observation: Even though individual companies may die, the "species"—vehicles for economic activity and exchange—has existed since the dawn of civilization. And, our organization forms have evolved and adapted very effectively. Still, we are left to wonder why the life-spans of individual companies are so short when the people in them have much longer life-spans (70 years or more)?

We raise these questions to suggest some of the things that entrepreneurs could–and perhaps should–learn about survival and longevity from living organisms.

Certainly, there are level-of-analysis disparities. Contrasting the longevity of a company to a species, for example, may seem like comparing apples and oranges, but it fits our purpose. To explore what business owners and managers might learn from living organisms, the most appropriate level of analysis is the organization—how a living organism is organized to accomplish its purpose, and how a company is organized to accomplish its purpose. Since every species perpetuates itself through its organization, the survival of a species is dependent on the ongoing effectiveness of its organization.

Examples of "Business as Biology"

Half a century ago, economists thought biological metaphors would only confuse managers focused on economic issues (for example, Penrose, 1952). However, researchers have found many business parallels in biology research that has focused on the social aspects of living organisms, particularly those termed "social insects" (such as wasps, ants, bees, and termites). Managers will easily understand these issues.

Purpose, Cooperation, and Complexity

Just as with humans, animals organize for a purpose. Just as we do, animals create organizations to solve individual limitations. For example, to overcome the disadvantages of small individual size, social insects create colonies (Brian, 1983). Pascale, Milleman, and Gioja (2000) shift the discussion to self-organization in business, using ant colonies as an example of Adam Smith's 'invisible hand,' in which individuals become members of communities, and communities become economies.

Sophisticated cooperation is central to organizations, whether human or animal. The animal societies which endure are not random collections of individuals, but structures that have evolved through "habitual reciprocity" – principles that control the behavior of their individuals and represent the relations among their members (Espinas, 1878). For example, animal societies may have a complex system of property: individual, familial, and collective. Individual property is determined by individual requirements for protection and self maintenance; familial property by family requirements for sexual and reproductive activity; and collective property by the requirements of groups for protection and maintenance (Crook, 1970; Petrucci, 1906).

Complexity can arise from very simple beginnings. Individual termites, for example, are not very bright creatures. However, with little intelligence and without supervision, they create mounds that are wondrously engineered. This complex behavior in a group can emerge from individuals following simple rules. For example, when foraging for food ants follow only two basic rules: lay pheromone (a chemical substance that attracts other ants) and follow the pheromone trails of others (Bonabeau and Meyer, 2001). In these "ultra-social organizations," like people or ants, we see a "…high level of sociality in which full-time division of labor occurs, with specialized roles" (Campbell, 1980:16).

Adaptation and Evolution

Bonabeau and Meyer (2001) model the behavioral of social insects and conclude that "social insects have been so successful… because of three characteristics: flexibility (the colony can adapt to a changing environment); robustness (even when one or more individuals fail, the group can still perform its tasks; and self-organization (activities are neither centrally controlled nor locally supervised)… [T]o a large extent, flexibility and robustness result from self-organization" (2001:8). Nelson and Winter (1982) use biology to explain economic growth and change, suggesting that firms evolve over time due to ongoing search, selection, and modification of "routines". These routines are a firm's genes, helping to transfer its knowledge and culture from one generation to the next; search and selection are evolutionary, mutational processes. Although companies may learn survival strategies through their own experience, they actually are using survival practices employed by living organisms.

A biological ecosystem has much in common with a company's set of relationships and interactions. Iansiti and Levien (2004) point out that business survival depends on creating and sustaining "business ecosystems": networks of external organizations on which companies depend (e.g. suppliers, distributors, outsourcing firms, technology providers.) They note that, "Like an individual species in a biological ecosystem, each member of a business ecosystem ultimately shares the fate of the network as a whole, regardless of that member's apparent strength." (2004:69)

The preceding brief literature review has a central point—examining and perhaps emulating living organisms may have intriguing benefits for any company interested in survival and prosperity.

Lessons for Entrepreneurs from Living Organisms

Strategy is Long-Term, and Survival is the Goal

While the strategies of biological organizations appear to evolve over millennia, businesses often change their strategies from one year to the next, or perhaps every few years, sometimes quite dramatically. Most businesses may seek relatively short term goals, such as profit, return on investment, or market share, while most living organisms are concerned primarily with long-term survival of the colony or species. Animals in groups seem to instinctively understand and share a primary mission—survival of the group—and focus effort on two primary mission-driven goals: reproducing, and raising offspring to maturity.

Significantly, most business mission statements don't explicitly mention long-term survival. Further, most mission statements are, by and large, defined by senior management, especially in the case of entrepreneurial companies Perhaps inevitably, many business owners despair that their employees don't always know, clearly understand, or think about why their companies exists.

A typical business pursues several major goals without explicitly addressing the unifying vision of longevity: survival for the long run. It focuses, instead, on issues such as profitability, growth, market share, and return on investment, perhaps assuming that achievement of those goals will automatically ensure survival.

What, then, is the difference between an organization driven by traditional goals (e.g., profits, stock price, return-on-investment, growth, market share) and one with a primary objective of long-term survival? One basic difference is that business organizations see traditional measures of performance (e.g., profits) as ends, while a long-term survival perspective suggests that these traditional "ends" are actually intermediate means. In other words, the goal is not profits; the goal is longevity, which profits will help make possible.

Many of the issues that preoccupy entrepreneurs may seem to be immediate concerns—cash flow, new business development, and growth, for example. While there certainly can be a sense of urgency about these and other issues, they do not stand alone. They are part and parcel of longer-term growth and survival.

The most important mission for an entrepreneur is pursuing the long-term survival of the company. Accomplishing this means that everything else that is important is achieved also. Competitive strategy is long-term in nature, and should focus on accomplishing the goals necessary to ensure the organization's effectiveness, efficiency, and survival, rather than just short-term financial results.

Truly visionary companies "distinguish their timeless core values and enduring purpose (which should never change) from their operating practices and business strategies (which should be changing constantly in response to a changing world)." Such companies can "…prosper over long periods of time, through multiple product life cycles and multiple generations of active leaders." And, such companies are driven by ideology more than purely economic goals: "…fundamental reasons for existence beyond just making money – a perpetual guiding star on the horizon…" (Collins and Porras,1994:73).

Structure: The Group is the Key

"Nothing in the notion of an individual bird or fish, no matter how fluid, can prepare us for the sight of a skyful of starlings pivoting over a cornfield, or a million minnows snapping into a tight polarized array…" (Gleick, 1987)

Although focusing on one purpose—survival—allows intense concentration of effort, how that effort is concentrated matters enormously. It is no surprise that the structure of an organization will affect performance, whether for a company or a flock of geese. Perhaps the most important lesson about organizational structure from living organisms is that long-term survival depends on the group, not individual members.

Chandler (1962) believed that the purpose of organization structure was to ensure the best allocation of resources and the most effective execution of the company's strategy. Daft (2001) echoed the idea: "…organization design reflects the way goals and strategies are implemented" (2001:50).

Flocks of birds and schools of fish demonstrate how self-organizing organizations are able to respond more quickly and effectively than their individual members, not because the groups are centrally controlled, but precisely because they are not. This collective response to changing conditions depends on two characteristics that are crucial for pursuing the purpose of long-term survival. First, the ability of members to self-organize, rather than waiting for top-down plans and decisions, allows faster responses to changing circumstances. Second, information-gathering throughout the organism's collective intelligence helps it respond to changing conditions. The combination of clear purpose, self-organizing, and boundary-scanning—makes for effective survival.

The individual members of some living organisms are so small, fragile, and of such limited intelligence that they could not possibly survive as individuals. Yet, collectively, they develop organizations that are highly intelligent, keenly aware, and so effectively self-organized and self-directed that they can respond to changing circumstances much faster than any organization member could as an individual. These systems are much more complex, intelligent, and responsive than their individual parts.

Although living organisms depend largely on instinct to drive group behavior, entrepreneurs cannot assume that effective self-organization and collective intelligence will automatically arise. Many entrepreneurs do not particularly enjoy focusing on systems and processes, but it is precisely these factors that will allow their companies to thrive as organizations. However, these factors often are weak elements in entrepreneurial companies.

Start-up businesses are more likely to focus on market development, product development, and financing than on systems for human resource development. However, building effective processes to produce (i.e., recruit, select, and hire), develop (i.e., orient, train, and create career paths), and retain a company's members should be a primary organizational goal, with clear recognition that all members are crucial, and that all have overlapping responsibility.

Developing collective intelligence in an entrepreneurial firm can be particularly challenging. Entrepreneurs need to make the effort to develop depth and back-up capability in their employees, especially with regard to the CEO's knowledge and responsibilities. The workload of entrepreneurs can be almost overwhelming. Also, entrepreneurs typically retain too much information and decision-making for themselves. Excessive demands on time, or even something as fundamental and common as personal crises or illness, can paralyze young companies, stopping them dead in their tracks for a period of time, but young companies are also the least likely to be able to afford such events.

An entrepreneur operating on these precepts will focus primarily on long-term health and survival, on nurturing and developing all employees, and on giving employees increased latitude to self-organize, prioritize, and act.

Is Focusing on Longevity Realistic?

Can a focus on longevity and collective behavior work when a company's origin rises from the ideas and hard work of one individual or a small group of founders? Is this practical? Is it realistic? There is evidence that it does work and that the idea of longevity as the central mission is an emerging topic for business managers and owners.

Evidence from Family Businesses

"Family companies," businesses in which the founders or their families remain highly involved, appear to consistently out-perform non-family companies (Anderson and Reeb, 2003). Business Week tested the idea further in a study of a decade's worth of data on family-dominated publicly-traded companies and found the following average annual percentages:

shareholder return – family companies = 16.6%,
non-family = 11.2%
return on assets – family companies = 5.4%,
non-family = 4.1%
revenue growth – family companies = 23.4%,
non-family= 10.8%
income growth – family companies 21.2%,
non-family = 12.6%

Among their explanations for the differences is "...family chief executives know that their families are in it for the long haul, making them more likely to reinvest in the business" (Weber and Lavelle, 2004:103).

Three Challenging Questions about Business Missions and Goals

This paper was intended to spark discussion about the potential benefits of taking a biological perspective on the development of mission and structure for entrepreneurial businesses. We conclude by raising three questions to challenge researchers and entrepreneurs alike:

1. Is there any good reason why a company shouldn't define and explicitly state its primary mission or purpose as longevity—long-term health and survival?
2. Shouldn't all goals and strategies—financial, market, organizational, environmental, social, and others—flow directly from the central mission of longevity?
3. Shouldn't a company's highest priority goals and strategies be organizational in nature, building strong internal systems and connections while also attracting, retaining, nurturing, and developing the members who will keep the company alive?

References

Anderson, R.C., Reeb, D.M (2003). Founding-Family Ownership and Firm Performance: Evidence from the S&P 50. The Journal of Finance, 57 (3): 1301-1328.

Bonabeau, E., Meyer, C. (2001). Swarm Intelligence: A Whole New Way to Think about Business, Harvard Business Review, 79 (5): 106-114.

Brian, M.V., (1983). Social Insects: Ecology and Behavioral Biology, New York: Chapman and Hall.

Campbell, D.T., (1983), The Two Distinct Routes beyond Kin Selection to Ultrasociability: Implications for the Humanities and Social Science, in Bridgeman, D.L., (ED), 1983, The Nature of Social Development: Interdisciplinary Theories and Strategies, New York: Academic Press.

Chandler, A.D., Jr, (1962). Strategy and Structure: Chapters in the History of the American Industrial Enterprise, Cambridge, MA: The MIT Press.

Collins, J.C., Porras, J.L., (1994). Built to Last, New York: Harper Collins.

Crook, J. H., Ed. (1970), Social Behavior in Birds and Mammals, New York: Academic Press, Inc.

Daft, R.L., (2001). Organization Theory and Design (7th Edition), Cincinanati, OH: South-Western.

De Geus, A. (1997). The Living Company: Habits for Survival in a Turbulent Business Environment, Boston, MA: Harvard Business School Press.

Espinas, A., (1878) Des Societies Animales, Bailliere, Paris.

Gleick, J. (1987). Chaos: Making a New Science, New York: Viking Penguin, Inc.

Harvard Business Review (2003). Businesses Die, but Companies Can Outlive Them, April:98.

Iansiti, M., Levien, R. (2004). Strategy as Ecology, Harvard Business Review, 82 (3): 68-78.

Kiuchi, T. and Shireman, W. (2002). What We Learned in the Rainforest: Business Lessons from Nature, San Francisco: Barrett-Koehler.

Nelson, R.R., Winter, S.C. (1982). An Evolutionary Theory of Economic Change, Cambridge, MA: Harvard University Press.

Pascale, R.T., Milleman, M., Gioja, L. (2000). Surfing the Edge of Chaos: The Laws of Nature and the New Laws of Business, New York: Crown Business.

Penrose, E.T. (1952). Biological Analogies in the Theory of the Firm, American Economic Review, 2 (5), 804-819.

Petrucci, R. (1906). Origine Polyphyletique, Homotypie et Non-Comparabilite derecte des Societes Animales, Instituts Solvay. Travaux de l'Institut de Sociologie. Notes et Memoires. Fasc 7. Misch et Thon, Bruxelles.

Weber, J., Lavelle, L (2003). Family, Inc., Business Week, November 10, Issue 3857: 100-110.