

Renewing Strategic Planning and Management: A Paradoxical Approach¹

Francisco Sagasti

Professor, Pacífico Business School, Universidad del Pacífico and senior researcher emeritus, FORO Nacional Internacional, Lima. Peru. ORCID: [0000-0003-2629-7351](https://orcid.org/0000-0003-2629-7351)

f.sagastih@up.edu.pe

Received: December, 2018.

Accepted: May, 2019.

Published: December, 2019.

Abstract

This paper reviews briefly the rise of modern management sciences and of the idea of development in the post-World War II period, shares some thoughts on the nature of strategic planning and management that emerged in subsequent years, examines a few of the challenges of the twenty-first century, and ends with some reflections with a suggestion on how to approach the renewal of strategic planning and management. It proposes a paradoxical approach to confront the challenges that organizations in all types of countries will face in the coming decades, highlighting that developing regions have had to cope with the instabilities and difficulties that rich countries are now also facing. It concludes that joint efforts to review the management science experience of developing countries may provide new insights and ways of dealing with future wicked problems and complex conditions, and with a plea for management schools to prepare professionals who are at ease with inconsistencies, contradictions and paradoxes.

Key words

Strategy, planning, paradox, wicked problems, developing countries, opportunism, incrementalism.

How to cite this article

Sagasti, F. (2019). Renewing Strategic Planning and Management: A Paradoxical Approach. *Harvard Deusto Business Research*, VIII(3), 208-218. <https://doi.org/10.3926/hdbr.226>



¹ Article based on an address delivered at the Association of MBAs (AMBA) 50th Anniversary Conference, Cusco, Peru, September 5, 2017.

The idea of progress morphed into that of development, aiming at achieving everywhere the material standards of living of affluent countries

1. Introduction

This paper reviews briefly the rise of modern management science and of the idea of development in the post-World War II period, shares some thoughts on the nature of strategic planning and management that emerged in subsequent years, examines a few of the challenges of the twenty-first century, and concludes with a suggestion on how to approach the renewal of strategic planning and management.

It is appropriate to begin with a note of caution, quoting a critical historian of management science: *“Despite the fact that management, perhaps more than any other field, is littered with claims of ‘revolutionary new theories’, most of these, when placed up against earlier management theories, seem incremental at best and obviously the same view with a snappy new title at worst”* (Cummings, 2002, p. 3). This paper offers just a rearrangement and updating of time-tried concepts, re-viewing them from the perspective of a long-time international practitioner of strategic planning and management.

The methodological approach adopted stems from Schon’s conception of the “reflective practitioner”, a professional who continuously reviews his past actions to extract lessons of experience that afford a certain degree of generalization (Schon, 1983), and also from Merton’s “middle range” theories that lie between broad universally applicable conceptual statements and intellectual constructs focused on specific issues derived from empirical evidence (Merton, 1968). In light of the experience with international organizations, government agencies and private corporations, both in developing and developed countries, this approach allows to infer some guidelines for renewing strategic planning and management practices, and for preparing future management professionals.

2. Progress, development and management

The idea of individual and collective progress can be traced to a conception of continuous, linear and indefinite human advance that emerged in the Middle Ages and the Renaissance, was enshrined during the Scientific Revolution and the Enlightenment, and found practical expression in the Industrial Revolution (Bury, 1955; Nisbet, 1980). It was eclipsed during the “age of catastrophe” of the first decades of the twentieth century (Hobsbawm, 1994), to rise once again in the post-World War II period. Claiming universal validity, progress morphed into the concept of “development,” which aimed at achieving everywhere the material standards of living of affluent countries. Development was seen as the result of explicit and deliberate interventions by all sectors of society, usually under the guidance of the state, to improve efficiency and productivity, diversify the provision of goods and services, extend healthy life spans, and increase satisfaction and happiness. In short, development, the latest incarnation of the idea of progress, had to be planned and managed (Bezanson & Sagasti, 2005).

Although it has its origins in the nineteenth century, management science received a major boost in the post-World War II period. Successful wartime operations by the allied forces, together with the effective mobilization of science to support them and with the effectiveness of the Marshall Plan in reconstructing war-torn economies, inspired and informed the adaptation of wartime planning and management tools by the public and private sectors in peacetime.

The emerging concept of development was soon hijacked by the Cold War. Two alternative paths were charted: capitalist market economy and multiparty democracy in the West, and socialist central planning and single party politics in the East. Each offered its own visions for

Developing countries faced a broader range of choices about institutions, context, vision, and not only decisions on activities and resources

the future, ways of engaging with the world, and institutional arrangements for advancing towards development; each provided a distinct framework within which to define what goods and services to produce, in what amounts, how to distribute them, and how to allocate financial, human, physical and technical resources (Hughes, 2016). Yet, both roads to development sought to employ advances in the management sciences, either for decisions made in a distributed way through a network of enterprises linked by market relations, or in a centralized manner by government agencies using command and control procedures.

As visions, context and institutions were clearly determined for the main protagonists of the Cold War and their close allies, their management of deliberate development interventions focused on decisions about activities and resources. In contrast, while navigating the post-World War II context, developing countries faced pressures to choose between the alternative Western and Eastern visions of development; were buffeted by strong political winds in shifting and complex geopolitical settings; and most of them lacked the stability of economic, social and political institutions of the leading industrialized nations.

As a result, for planning and management efforts in developing regions to modestly successful, it was not enough to focus on decisions about goods and services, and on resource allocation, –deliberate interventions had to deal also with institutions, context and vision. Whether explicitly or implicitly, developing countries faced a broader range of intervention choices that comprised decisions about institution building, contextual engagement and vision formulation. Therefore, government, private and civil society organizations in developing countries had a head start in dealing with these three sets of thorny issues.

3. Anticipatory and actual decision-making

A distinguishing trait of the human species is the capacity to consciously anticipate the consequences of action, and of modifying behavior in order to achieve preferred outcomes. This implies identifying desired future states; taking decisions in advance to approach them in situations that have not yet occurred but are envisaged to happen; and then transforming those anticipatory decisions into actual ones as time passes, while continuously revising and updating the anticipatory decisions that lie ahead.

Following Ackoff (1970), *planning* can be defined as anticipatory decision-making; *management* could be defined as the process of continuously transforming anticipatory into actual decisions. As hinted above, anticipatory and actual decisions fall into five main categories: *resources, activities, institutions, context and vision*. The interrelations between these five categories of decisions can be summarized stating that *resources* are allocated to *activities* through *institutions* taking into account the *context* in order to approach the *vision* (Sagasti, 1973a, 1973b).

In the first decades after World War II management science emphasized methods for optimizing resource allocation and priority setting. Mathematical programming, operations research, systems analysis, statistical techniques, simulation models, queuing theories, planning and programming budgeting systems, program evaluation and review techniques, and critical path methods were among the many tools developed for these purposes (Gupta & Cozzolino, 1975).²

Gradually, at the turn of the century, greater attention began to be paid to institutional issues, including organizational redesign, administrative processes, regulation systems, incentive

² For a broad overview of the evolution of management thinking and practice during the twentieth century, see Kiechel (2012).

**The turbulent
the twenty-first
century
demands a
reassessment
of how to
anticipate the
consequences
of our
decisions and
actions**

structures; to organizational environments, including stakeholder analysis, competitive positioning, market research (Miller & Rice, 1967; Perlmutter, 1965); to business models, strategy and innovation, and creating shared value (McGrath, 2010; Teece, 2010; Porter & Kramer, 2011); and to the creation of visions, including scenario building, foresight exercises, futures research, idealized designs and desirable futures (Ramírez, Churchhouse, Palermo & Hoffman, 2018; Ackoff, Magidson, & Addison, 2006; Ackoff, 1981; Kothari, 1974; Linstone & Simmonds, 1977; Polak, 1971).

The expansion of the repertoire of approaches and methods to encompass institutional, context and vision anticipatory and actual decision-making was accompanied by debates about how to conduct strategic planning and management. Clashes emerged as muddling through, disjointed incrementalism and stepwise decision making were pitted against radical, visionary and comprehensive approaches; deliberate and purposeful strategies were opposed to emergent and opportunistic ones; global reach and ambition were contrasted with local positioning and limited aims. Arguments about the ascent and decline of strategic planning appeared in scholarly management journals during the last decades of the twentieth century (Mintzberg, 1994a, 1994b; Mintzberg & Waters, 1985), and Mintzberg, Ahlstrand and Lampel (1998) offered a comprehensive road map of ten strategic planning schools of thought, highlighting their key dimensions, advantages and limitations.

4. A changed global context

The turbulent global context of the twenty-first century demands another reassessment of the ways of confronting new situations, and of anticipating the consequences of decisions and actions. As happened in the post-World War II period, it is again necessary to reinterpret what is meant by progress and development, and to renew planning and management approaches.

This is a stormy period of history, a time of epochal transformation involving changes in a host of interrelated security, economic, financial, social, demographic, environmental, cultural, governance and human interaction domains. A global but fractured world order puts all of us in contact with one another, but simultaneously maintains and creates deep fissures between us. It transmits and magnifies disruptions of all types, even though the weaker and vulnerable parts of the world are more severely affected by their reverberations (Sagasti, 1989, 2013; Sagasti & Alcalde, 1999).

At the root of all of these changes there are extraordinary and accelerated scientific and technological advances, which are now profoundly altering the human condition and its future prospects. Humanity is experiencing fundamental shifts in the ideas about physical, mental and virtual reality; the origin and fate of the universe, and its place in it; and the nature of time as a background for the unfolding of cosmic and earthly events. In addition, it has to consider the enormous impact of human actions on the increasingly fragile biophysical ecosystems that support life; the newly acquired capacity to consciously alter the direction of biological evolution; the impact of artificial intelligence and its challenge to the uniqueness of human reason; the new possibilities offered by nanotechnology, biotechnology and new energy technologies; and the ways in which information and communication technologies have altered the ways human beings interact in the age of information overload and big data.

These shifts create complex, interdependent, time-lagged, conflict ridden, value laden, ambiguous, uncertain problems and conditions that are difficult to formulate, hard to comprehend, and that have no clear-cut solution or straightforward way out (Table 1). The extraordinary state of affairs that our species confronts in the twenty-first century could open

“Wicked problems” defy logical and dialectic habits of thought, demand unconventional thinking and require responses of unprecedented creativity and scale

Table 1
Twenty-first century civilizational challenges

“I think the odds are no better than fifty-fifty that our present civilization on Earth will survive to the end of the present century” (Rees, 2003, p. 8).

“Humankind finds itself on a non-sustainable course – a course that, unless it is changed, will lead to catastrophes of awesome consequences” (Martin, 2006, p. 3).

“We’re not ... going to get back the planet we used to have, ... Now we must try to figure out how to survive what’s coming at us” (McKibben, 2010, p. 16).

“This is the first moment in the history of our planet when any species, by its own voluntary actions, has become a danger to itself” (Joy, 2000).

“The juggernaut of technology-based capitalism will not be stopped. ... But the direction can be changed by mandate of a generally-shared long-term environmental ethic. The choice is clear: the juggernaut will very soon either chew up what remains of the living world, or it will be redirected to save it” (Wilson, 2002, p. 156).

“The unintended dynamics of technical civilization ... drifts willy-nilly and with exponential acceleration ... the credible extrapolations are frightening and the calculable time spans shrink at a frenzied pace ... averting the disaster ... will hurt an endless number of interests” (Jonas, 1984, p. 202).

“In the early twenty-first century, the train of progress is again pulling out of the station ... the last train ever to leave the station called Homo Sapiens. Those who miss this train will never get a second chance. ... those who ride the train of progress will acquire divine abilities of creation and destruction, while those left behind will face extinction” (Harari, 2017).

“The current civilization has become dysfunctional ... Unless unforeseen changes take place, we will disappear, just as has happened with other species in the long history of life” (Herrera, 1981, p. 55).”

enormous possibilities for humanity; yet, their unforeseen and undesirable consequences are also threatening our hard-won civilizational achievements.

The “wicked problems” associated with the opportunities and challenges that are now emerging at all levels of society require responses of unprecedented creativity and scale. These wicked problems defy logical and dialectic habits of thought, demand unconventional thinking, require the capacity to simultaneously view problems and conditions from different points of view, and test the willingness to explore less trodden paths to confront them; furthermore, they are not solved once and for all, but “*only re-solved —over and over again.*” (Rittel & Webber, 1974; Rosenhead, 1989, pp. 10-11).

5. Twenty-first century management challenges: a paradoxical approach

Confronting the dauntingly wicked problems of the twenty-first century requires new management mindsets. Two decades ago, Drucker (1999) outlined several challenges managers in our century were to confront. Examining management practices at that time, he identified emerging leadership, information, knowledge, productivity and behavioral demands, forcefully stating they required new approaches to strategic planning and management. Current business

Twenty-first century management challenges require transcending trade-offs and demand a paradoxical mindset

environments, characterized by growing uncertainty, increasing complexity and chaotic behaviors, together with the implications of demographic shifts, swiftly changing work conditions, the rise of big data and artificial intelligence, climate change threats and heightened competition pressures, have made the challenges identified by Drucker much more pressing.

Arguing that new realities posed new imperatives, Hamel (2009) summarized twenty-five “management grand challenges” identified by a group of more than thirty scholars and business leaders. Ranging from “reconstruct management’s philosophical foundations” to “empower the renegades and disarm the reactionaries,” these challenges pointed out the need for “transcending trade-offs,” and for efforts “to overcome the limits of today’s management practices without losing the benefits they confer ... Organizations must become a lot more adaptable, innovative, and inspiring without getting any less focused, disciplined, or performance oriented.”

Transcending trade-offs demands a paradoxical mindset. “*The test of a first-rate intelligence is the ability to hold two opposed ideas in the mind at the same time, and still retain the ability to function,*” wrote Francis Scott Fitzgerald eighty years ago (Fitzgerald, 1936). We now need first-rate intelligence, more than ever, to face the planning and management challenges of the difficult decades ahead.

It would be wise to adopt paradoxical modes of thought to transcend some enduring dichotomies: incremental versus radical, emergent versus deliberate, and global versus local approaches to anticipatory and actual decision-making. Paradoxical thinking goes beyond logical deduction and dialectic synthesis; it fully embraces ambiguity and contradiction while maintaining the capacity for purposeful intervention.³ When deriving guidelines for anticipatory and actual decision-making, paradoxical thinking would use both aspects of these opposite stances, shifting rapidly from one to the other ever so fast that they would seem superimposed and simultaneous. It may be useful resorting to the analogy of the once supposedly incompatible wave and particle theories of light: different experiments confirm one or the other, but both are empirically proven, fruitful and inherent to the nature of light.

Therefore, strategic planning and management could benefit significantly by the adoption of at least three paradoxical stances:

- **Radical incrementalism.** Radical because “*although daring in thinking is no guarantee of daring in practice, mental timidity in constructing an ideal is certainly a criterion of mental timidity in practice*” (Kropotkin, 1970, p. 46). Bold leaps and bounds of imagination are required to anticipate future situations, opportunities and dangers, and to derive their consequences and implications for action now. Incremental, because when dealing with complex problems and conditions “*limits on human intellectual capacities and on available information set definite limits to man’s capacity to be comprehensive*” (Lindblom, 1959, p. 84).

Although information technology advances are helping to collect and process huge amounts of data, and artificial intelligence algorithms are leveraging human understanding, these limits now arise because of the complexity, trickiness and deviousness of wicked problems and conditions, which overrun human interpretative capabilities and require constantly updated mindsets. Embracing both the radical and the incremental at the same time implies being able to adaptively chart sequences of viable anticipatory decisions that would lead from the present situation to envisioned ideal futures.

³ Along similar lines, Stephen Cummings has argued: “Confronted with a multiple, chaotic reality, the individual ... must be just as multiple, mobile and polyvalent. He must keep his intelligence sufficiently wily and supple. His gait ‘askew’ so that he can be ready to make use of his truths and the truths of others (Cummings, 2002, p. 30)”

Strategic opportunism requires flexibility, resourcefulness, quick reactions, rapid adjustments and entrepreneurial spirit

- **Strategic opportunism.**⁴ Strategic because strategy is rational and systematic, deductive and deliberate, coherent and directed, and because it charts courses of action with well-defined anticipatory decisions for advancing towards desired futures (Porter, 1996). Opportunistic because it is impossible to completely predict and anticipate the future, to comprehensively account for the unintended consequences of decisions and actions, and to map every possible contingency (Sull, 2014).

Flexibility, resourcefulness, quick reactions, rapid adjustments and entrepreneurial spirit are required to avoid dangers and seize opportunities. This implies keeping a certain amount of unused financial, human, physical and other resources that could be rapidly mobilized, taking anticipatory rational decisions on the appropriate level of slack and adopting different viewpoints to elucidate, as much as possible, the unknown unknowns that create opportunities and dangers.

- **Focused contextualism.** Focused because the transformation of anticipatory into actual decisions is made in the “here and now,” concentrating on specific issues, considering local circumstances, at particular moments in time and with immediate effects. Contextual because short-term decisions have momentous medium and long-term consequences; and because it is impossible to view organizations in isolation, they are open systems continuously buffeted by environmental disturbances, respond to external stimuli and internalize their impact, and also react to internal pressures and externalize their effects (Emery & Trist, 1965; Sagasti, 1970).

This implies gathering real time intelligence on the main agents in the task and contextual environments, monitoring their evolution to continuously assess their influence and impact over time, as well as constantly examining the internal situation to detect fault lines, pressure points and other stress markers that could be relieved by judicious interactions with the environment.⁵ Moreover, as local organizations operate in an increasingly global context, the anticipatory and actual decisions they take should both project *globalized localisms* outwards, and absorb *localized globalisms* inwards (Santos, 1995).⁶

There are many other contradictions that could be embraced in a paradoxical approach to strategic planning and management, such as *grounded idealism*, which involves aiming at unattainable but approachable ends, attributes, or qualities, while at the same time being pragmatic and moored by down to earth practical concerns;⁷ and *deferred immediatism*, which consciously manages the temporal dimension by rapidly shifting between long, medium and short-term perspectives, and by continuously reviewing the timing of anticipatory decisions and their transformation into actual decisions. As Mintzberg et al. (1998, p. 367) have emphasized:

“Can anyone possibly imagine strategy making in any serious organization without mental and social aspects, without the demands of the environment, the energy of leadership, and the forces of organization, without tradeoffs between the incremental and the revolutionary? And

⁴ For additional material on strategic opportunism see Isenberg (1987).

⁵ These paradoxical approaches can be viewed as attempts to comply with Ashby’s “Law of Requisite Variety,” that states that the variety of a control system must match the variety of the underlying system it aims to control. See (Ashby, 1956; Beer, 1981).

⁶ Latour (2018, p. 92) has similarly argued that charting a path out of our current civilizational predicament requires embracing “two complementary movements that modernization has made contradictory: *attaching oneself* to the soil on the one hand, and *becoming attached to the world* on the other.” (his emphasis).

⁷ As Ackoff and Emery put it: “Ideal pursuit can provide cohesiveness and continuity to extended and unpredictable processes, to life and history. Thus the formulation and pursuit of ideals is a means by which man puts meaning and significance into his life and into the history of which he is a part (Ackoff & Emery, 1972).”

The planning and management experience of numerous organizations in developing countries could offer valuable lessons for planners and managers everywhere

can any strategy process be realistically pursued as purely deliberate or purely emergent? To deny learning is as silly as to deny control.”

The general idea is that the wicked problems and conditions that we are facing at all levels of society require the nimble minds described by F. Scott Fitzgerald, and even following the advice Alice received from the White Queen to believe “six impossible things before breakfast” (Carroll, 1999).

6. Concluding remarks

It is appropriate to conclude with some remarks on the potential contributions of the management sciences in developing countries, where managers and policy makers have had to deal for decades with the full range of resource, activity, institutional, context and vision anticipatory and actual decisions. Unfortunately, most management science theoreticians and practitioners did not realize this; like Molière’s Monsieur Jordan, who had been talking in prose all his life without noticing it (Molière, 2007, p. 237), we went about coping with institutional instability, contextual turbulence and blurred visions, as well as making decisions activities and resources, without reflecting on what it meant, without capitalizing on the experience and knowledge acquired in the process.

Noses were kept to the grindstone and sights were only occasionally to appreciate what we were doing from a wider perspective.⁸ Worse still, when facing difficult and complex planning and management conditions and problems, developing country planners and managers often resorted to approaches and methods developed elsewhere, in quite different contexts, and shoehorned them to situations they were not designed for. Yet, if reflected upon, generalized and transmitted properly, the experience of numerous public agencies, private firms and civil society organizations in developing countries could offer valuable lessons for planners and managers everywhere.⁹

There is a need to jointly rethink the management sciences, strategic planning and management, anticipatory and actual decision-making. Whether living in rich or poor countries, we all face the consequences of global geopolitical shifts, security challenges, climate change disruptions, demographic transitions, cultural and religious unrest, employment and livelihood transformations, economic and social instabilities, scientific advances and technological innovations. It is necessary to mobilize planning and management knowledge and experience, which has been acquired and accumulated in both developed and developing countries for a long time. This could be done by looking back to move forward, employing research approaches such as those suggested by Bigné, which involve “multidisciplinary-based groups, blurred and mixed frontiers of disciplines, knowledge dissemination”, and move forwards the frontiers of research in management sciences (Bigné, 2016, p. 90).

Many developing regions, and Latin America in particular, have an extraordinary diversity of diversities, —ecological, biological, energy, water, forests, soils, fisheries, forestry, minerals, ethnic, cultural, linguistic— which confers resilience; and have embarked in collective learning processes that, with some glaring exceptions, value peaceful conflict resolution and economic stability. In addition, Latin America has a long history dealing with inconsistencies, contradictions and paradoxes, but has managed to maintain a reasonable degree of coherence

⁸ For some early reflections on management sciences in developing countries see Sagasti (1972, 1974) and Sagasti and Mitroff (1973).

⁹ For some previous efforts at this see: Sachs (1964), Valqui Vidal (1973), Valadares Tavares (1979), Bandyopadhyay and Varde (1980); De Senna Figueredo and De Oliveira Marinho (1984); Jaiswal (1985); Dedijer (1985); Ali (1990).

Latin America has a long history dealing with inconsistencies, contradictions and paradoxes, but has managed to prosper

that allowed it to prosper. If capitalized upon and further developed, the lessons of history may help to successfully confront the daunting challenges of the twenty-first century and to take advantage of the opportunities it offers.

One of the main objectives of graduate management schools in the coming years should be *to prepare professionals for the private, public, civil society and academic sectors to be at ease with inconsistencies, contradictions and paradoxes*; the capacity to do this will be crucial in coping with disruption in the coming decades. The ability to deal with paradoxes goes well beyond logical analysis and dialectic synthesis skills, which although necessary are not sufficient to cope with the challenges of the twenty-first century. When anticipating responses to the changing information environment three decades ago, in addition to analysts I thought we needed *synthesists* to deal with the avalanche of information that could be glimpsed in the horizon (Sagasti, 1983). This avalanche has now become a deluge, with an onslaught of data, images, sounds, news, views, evidence, opinions and alternative facts pounding our senses and minds. Beyond analysis and synthesis capabilities, in the overwhelming information environment of today, we must embrace paradox and acquire the capacity to think in contradictory ways; in short, we need *paradoxists*.

Business employers have realized that new sets of abilities, skills and competences are necessary for success in the complex environments of the future. A recent Financial Times survey reported that some of the qualities they miss in their business school recruits are “big picture thinking,” the capacity “to solve complicated problems,” and “the ability to deal with ambiguity” (Moules & Nilsson, 2017). We must prepare the kind of planners and managers my late friend and mentor Eric Trist described so well:

“We need flexible, resourceful, resilient people who can tolerate a lot of surprise and ambiguity emotionally while continuing to work on complex issues intellectually (Trist, 1976).”

7. Declaration of conflicting interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

8. Funding

The author received no financial support for the research, authorship, and/or publication of this article.

9. References

- Ackoff, R. L. (1970). *A Concept of Corporate Planning*. New York: Wiley-Interscience. [https://doi.org/10.1016/0024-6301\(70\)90031-2](https://doi.org/10.1016/0024-6301(70)90031-2)
- Ackoff, R. L. (1981). *Creating the Corporate Future: Plan or be Planned For*. New York: John Wiley & Sons.
- Ackoff, R. L., & Emery, F. E. (1972). *On Purposeful Systems*. Chicago: Aldine Atherton.
- Ackoff, R. L., Magidson, J., & Addison, H. J. (2006). *Idealized Design: Creating an Organization's Future*. New York: Prentice Hall.
- Ali, A. J. (1990). Management Theory in a Transitional Society: the Arab's Experience. *International Studies of Management & Organization*, 20(3), 7-35. <https://doi.org/10.1080/00208825.1990.11656534>
- Ashby, W. R. (1956). *An Introduction to Cybernetics*. New York: Wiley. <https://doi.org/10.5962/bhl.title.5851>
- Bandyopadhyay, R., & Varde, S. D. (1980). O. R. Education and Developing Economies with Special Reference to India. *Journal of the Operational Research Society*, 31(8), 675-687. <https://doi.org/10.1057/jors.1980.131>

- Beer, S. (1981). *Brain of the Firm: A Development in Management Cybernetics*. New York: John Wiley.
- Bezanson, K., & Sagasti, F. (2005). *Prospects for Development Thinking and Practice. Report Submitted to The Rockefeller Foundation*. New York: Rockefeller Foundation. Retrieved from http://www.franciscosagasti.com/descargas/publicaciones_03/nnnn-bezanson-y-sagasti-development-thinking-and-practice.pdf.
- Bigné, J. E. (2016). Frontiers in research in business: Will you be in? (Editorial). *European Journal of Management and Business Economics*, 25(3), 89-90. <https://doi.org/10.1016/j.redeen.2016.09.001>
- Bury, J. B. (1955). *The Idea of Progress: an inquiry into its origin and growth*. New York: Dover Books.
- Carroll, L. (1999). *Through the Looking Glass*. New York: Dover Publications.
- Cummings, R. (2002). *Re-creating strategy*. London: Sage.
- De Senna Figueiredo, C. E. P., & De Oliveira Marinho, L. C. (1984). Por uma pesquisa operacional em época de crise. *Revista Brasileira de Tecnologia*, 15(4).
- Dedijer, S. (1985). *Social Intelligence for Self-Reliant Development*. Lund: University of Lund.
- Drucker, P. (1999). *Management Challenges for the 21st Century*. New York: Harper Business.
- Emery, F. E., & Trist, E. L. (1965). The Causal Texture of Organizational Environments. *Human relations*, 18(1), 21-32. <https://doi.org/10.1177/001872676501800103>
- Fitzgerald, S. F. (1936, February). The Crack-Up. *Esquire*.
- Gupta, S. K., & Cozzolino, J. M. (1975). *Fundamentals of Operations Research for Management*. San Francisco: Holden-Day.
- Hamel, G. (2009). Moon Shots for Management. *Harvard Business Review*, 87(2), 91-98. Consulted on May 15, 2019 at <https://hbr.org/2009/02/moon-shots-for-management>.
- Harari, Y. N. (2017). *Homo Deus: A Brief History of Tomorrow*. New York: Harper. <https://doi.org/10.17104/9783406704024>
- Herrera, A. O. (1981). *La larga jornada: la crisis nuclear y el destino biológico del hombre*. México: Siglo XXI.
- Hobsbawm, E. (1994). *The Age of Extremes: A History of the World, 1914-1991*. London: Abacus.
- Hughes, B. (2016). Chapter 12. In *The Bleeding Edge* (pp. 251-280). Oxford: New Internationalist Publications.
- Isenberg, D. J. (1987). The Tactics of Strategic Opportunism. *Harvard Business Review*, 65(2), 92-97.
- Jaiswal, N. K. (Ed.). (1985). *OR for Developing Countries*. Delhi: Operational Research Society of India.
- Jonas, H. (1984). *The imperative of responsibility: in search of an ethics for the technological age*. Chicago: University of Chicago Press.
- Joy, B. (2000). Why the Future Doesn't Need Us. *Wired Magazine*, 8.04 (April). Consulted on May 15, 2019 at <https://www.wired.com/2000/04/joy-2/>.
- Kiechel, W. (2012). The Management Century. *Harvard Business Review*, 90(11), 62-75. Consulted on May 15, 2019 at <https://hbr.org/2012/11/the-management-century>.
- Kothari, R. (1974). *Footsteps into the Future: Diagnosis of the Present World and a Design for an Alternative*. New Delhi: Orient Longman.
- Kropotkin, P. A. (1970). Must We Occupy Ourselves with an Examination of the Ideal of a Future System? In *Selected writings on anarchism and revolution*. Cambridge, Mass.: MIT Press.
- Latour, B. (2018). *Down to Earth: Politics in the New Climate Regime*. Cambridge, UK: Polity Press.
- Lindblom, C. E. (1959). The Science of 'Muddling Through'. *Public Administration Review*, 19(2), 79-88. <https://doi.org/10.2307/973677>
- Linstone, H. A., & Simmonds, W. H. C. (Eds.). (1977). *Futures Research: New Directions*. London: Addison-Wesley.
- Martin, J. (2006). *The meaning of the 21st century: a vital blueprint for ensuring our future*. London: Eden Project Books.
- Merton, R. K. (1968). On Sociological Theories of the Middle-Range. In Merton *Social Theory and Social Structure*. New York: Free Press.
- McGrath, R. G. (2010). Business Models: A Discovery Driven Approach, *Long Range Planning*, 43(2-3), 247-261. <https://doi.org/10.1016/j.lrp.2009.07.005>
- McKibben, B. (2010). *Eaarth: making a life on a tough new planet*. New York: Times Books.
- Miller, E. J., & Rice, A. K. (1967). *Systems of Organization: The Control of Task and Sentient Boundaries*. London: Tavistock Publications.
- Mintzberg, H. (1994a). The Fall and Rise of Strategic Planning. *Harvard Business Review*, 72(1), 107-114.
- Mintzberg, H. (1994b). *The Rise and Fall of Strategic Planning*. New York: The Free Press.
- Mintzberg, H., & Waters, J. A. (1985). Of Strategies, Deliberate and Emergent. *Strategic Management Journal*, 6(3), 257-272. <https://doi.org/10.1002/smj.4250060306>

- Mintzberg, H., Ahlstrand, B., & Lampel, J. (1998). *Strategy Safari: A Guided Tour Through the Wilds of Strategic Management*. New York: The Free Press.
- Molière. (2007). The would-be gentleman. In *Comedies of Moliere*. Rockville: Wildside Press.
- Moules, J., & Nilsson, P. (2017). What employers want from MBA graduates — and what they don't. *Financial Times*. Consulted on May 16, 2019 at <https://www.ft.com/content/3c380c00-80fc-11e7-94e2-c5b903247afd>
- Nisbet, R. (1980). *History of the idea of progress*. New York: Basic Books.
- Perlmutter, H. V. (1965). *Towards a theory and practice of social architecture: the building of indispensable institutions*. London: Tavistock Publications.
- Polak, F. L. (1971). *Prognostics: a science in the making surveys and creates the future*. Amsterdam: Elsevier.
- Porter, M. (1996). What is Strategy? *Harvard Business Review*, 74(6), 61-68.
- Porter, M. & Kramer, M. (2011). Creating Shared Value, *Harvard Business Review*. 89(1-2), 62-67
- Ramírez, R., Churchhouse, S., Palermo, A., & Hoffman, J. (2018). Aplicando la planificación de escenarios para reformular estrategias. *Harvard Deusto Business Review*, 274, 30-40.
- Rees, M. (2003). *Our final hour*. New York: Basic Books.
- Rittel, H. W. J., & Webber, M. M. (1974). Dilemmas in a General Theory of Planning. In R. L. Ackoff (Ed.), *Systems and Management Annual*, 219-233. New York: Petrocilli.
- Rosenhead, J. (Ed.). (1989). *Rational analysis for a problematic world: problem structuring methods for complexity, uncertainty, and conflict*. Chichester: John Wiley & Sons.
- Sachs, I. (Ed.). (1964). *Planning and economic development*. Warszawa: PWN-Polish Scientific Publishers.
- Sagasti, F. (1970). A conceptual and taxonomic framework for the analysis of adaptive behavior. *General Systems Yearbook*, XV, 151-160.
- Sagasti, F. (1972). Management sciences in an underdeveloped country: the case of operations research in Perú. *Management science*, 19(2), 121-131. <https://doi.org/10.1287/mnsc.19.2.121>
- Sagasti, F. (1973a). A conceptual “systems” framework for the study of planning theory. *Technological forecasting and social change*, 5(4), 379-393. [https://doi.org/10.1016/0040-1625\(73\)90068-1](https://doi.org/10.1016/0040-1625(73)90068-1)
- Sagasti, F. (1973b). Towards a new approach for scientific and technological planning. *Social Science Information*, 12(2), 67-95. <https://doi.org/10.1177/053901847301200204>
- Sagasti, F. (1974). Operations research in the context of underdevelopment: some case studies from Perú. *Journal of the Operational Research Society*, 25(2), 219-230. <https://doi.org/10.1057/jors.1974.39>
- Sagasti, F. (1983). Techno-economic intelligence for development. *IFDA Dossier*, 35, 17-26.
- Sagasti, F. (1989). Knowledge and development in a fractured global order. *Futures*, 2(2), 591-610. [https://doi.org/10.1016/0016-3287\(95\)00028-U](https://doi.org/10.1016/0016-3287(95)00028-U)
- Sagasti, F. (2013). The Fractured Global Order: Characteristics, structure and implications. Presented at the workshop on “Disruptive change ahead” of the International Civil Society Center, February 2013, Bellagio.
- Sagasti, F., & Alcalde, G. (1999). *Development cooperation in a fractured global order: an arduous transition*. Ottawa: International Development Research Centre (IDRC).
- Sagasti, F., & Mitroff, I. (1973). Operations research from the viewpoint of general systems theory. *Omega: International Journal of Management Science*, 1(6), 695-710. [https://doi.org/10.1016/0305-0483\(73\)90087-X](https://doi.org/10.1016/0305-0483(73)90087-X)
- Schon, D. (1983). *The Reflective Practitioner: How Professionals Think in Action*, New York: Basic Books.
- Santos, B. de S. (1995). *Toward a New Common Sense: Law, Science, and Politics in the Paradigmatic Transition*. New York: Routledge.
- Sull, D. (2014). Is It Better to Be Strategic or Opportunistic?/Interviewer: S. Cliffe. *Harvard Business Review*. Consulted on May 30, 2019 at <https://hbr.org/2014/05/is-it-better-to-be-strategic-or-opportunistic>.
- Teece, D. (2010). Business Models, Strategy and Innovation. *Long Range Planning*, 43(2-3), 172-194. <https://doi.org/10.1016/j.lrp.2009.07.003>
- Trist, E. (1976). *Some concepts of planning*. Paper presented at the Seminar of Long-Range Planning sponsored by The Extension Service of the University of Western Australia, 21 July.
- Valadares Tavares, L. (1979). *A investigação operacional como factor de desenvolvimento*. Apresentado en Simpósio Nacional de Ciência e Tecnologia para o Desenvolvimento, 15/18 Maio, Brasília.
- Valqui Vidal, R. V. (1973). *The Role of Operations Research in Underdeveloped Countries: An Appraisal*. København: IMSOR.
- Wilson, E. (2002). *The future of life*. New York: Vintage Books. ☺