Innovation and communicative action: health management networks and technologies

Inovação e agir comunicativo: redes e tecnologias de gestão para a saúde

Innovación y acción comunicativa: redes y tecnologías de gestión en salud

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Abstract

This article discusses elements of a theory of innovation from the perspective of innovation networks and social construction of technology, based on Habermas' Theory of Communicative Action and authors from the Sociology of Innovation. Based on the theoretical framework of the communicative production of scientific facts, we focus on innovation management as a basic dimension that must meet some organizational and methodological requirements in order to power its results. We present and discuss instruments such as Situational Planning, Prospective Analysis, Strategic Portfolio Management, and Networks Management that can help deal with the challenge of innovation and exploration of the future. We conclude that network organizational formats centered on reflexivity of interdisciplinary groups and planning approaches that encourage innovation criteria in assessing the attractiveness of activities and that help anticipate forms of innovation through systematic prospective analysis can potentiate the process of generating innovation as a product of networks.

Health Management; Health Communication; Sustainable Development; Innovation

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Introduction

This article discusses arguments for a communicative approach to the management of science, technology, and innovation in health from the perspective of innovation networks and social construction of technology, resulting from multiple dimensions, anchored in the Theory of Communicative Action [1] and authors from the Sociology of Innovation [2,3].

Based on the theoretical framework of communicative production of scientific facts, we focus on innovation management as a fundamental dimension that must meet some organizational and methodological requirements in order to power its results.

No matter how specialized, science requires the framework of a common language, not only in its diffusion phase, but in its production per se, as contended by Habermas. Based on this assumption we make some contributions to a critical dialogue with different areas and authors [1,4].

We highlight Latour's contribution with Actor Network Theory [3]: understanding science requires observing its practice, evidenced through the linkage of actor networks inside and outside the laboratory, including non-human elements, also viewed as essential to the processes of mediation that lend solidity to scientific facts. Such networks ultimately correspond to networks of controversy and argumentation that allow us to make a counterpoint to Habermas' Communicative Action paradigm [1,4,5], highlighting the importance of argumentative discourses in recovering claims of validity questioned through a argumentative dialectic oriented by the presentation of arguments in the sense of generating a consensus led by the search for (and recognition of) the best arguments, anchored in a broad concept of reason which includes not only the reference to objectivity but the world of ethics and values.

Finally, we expound on the analytical methods or models that can be used within the framework of communicative management based on the deconstruction/reconstruction of strategic planning and management approaches.

Innovation and knowledge-theory networks

The term technological innovations refers to the use of knowledge in new forms of producing and commercializing goods and services, while organizational innovations involve the introduction of new means of organizing companies, suppliers, and production and commercialization of goods and services. The two are complementary [6]. Innovative capacity is determined by the potential to transform knowledge into either new goods and services or improvements the quality and/or production processes of existing ones, a definition that incorporates the distinction between radical and incremental innovation: radical innovation involves the introduction of a new concept into the market, while incremental innovation means addition or differentiation in a concept already absorbed [7].

While for Schumpeter [8] the importance of technological advances lies in the consolidation of entrepreneurial and economic development, for neo-Schumpeterians, responsible for establishing the current concept of technological innovation (strongly linked to a market model), the concerns shift to issues such as competitiveness and demand and investment pressures [9].

Since the 1980s, the specific products to be developed and the effects of the supply of resources and demand for labor in the induction of innovation no longer represent the center of attention. With the globalization of the economy and flexibilization of organizational formats involving companies, government agencies, and research centers, the formation and development of networks have become a central theme in innovation research. A new concept has been established in this context, namely national innovation systems.

An innovation system is a set of distinct institutions that contribute jointly and individually to the development and diffusion of technologies. Public and private teaching institutions, companies, and research and funding agencies are involved, and through them the government seeks to formulate and execute policies to incentivize innovation [10].

This idea links to the concept that innovation processes depend on the combination of three sectors: companies, universities, and government. The interface between researchers, policymakers, and entrepreneurs involves the development of articulated scientific and technological projects, a concept initially known as the triple helix theory [2], criticized on grounds that it reduced the actors to the phenomenon of innovation [11]. The critique makes a distinction between innovation systems and innovation networks. For networks, the object of study is characterized by inter-organizational networks mainly involving innovative enterprises, in addition to other actors like government, universities, research centers, and funding agencies. Yet this demarcation is insufficient, considering the existence of user-producer networks, inter-industry regional networks (present in regional clusters), and strategic alliances in new

technologies, among others. The network configuration can also include supply companies and the relations involving different levels of organization and distinct political spheres. In the case of national health systems and their macropolicy planning, it is indispensable to consider the actors involved in the dynamics and generation of innovation in this specific productive space. In Brazil, these actors can include (among others) the three branches of government, the municipal, state, and federal councils, commissions, institutions devoted to fomenting innovation, professional class associations, and users [12]

The concept of innovation networks encompasses more than the concept of systems because it includes a broader diversity of actors and constitutes a new form of organization for knowledge production based on collaboration and interaction. The scope of these networks is conditioned by the growing complexity of knowledge and the other necessary resources for the innovation process. It has become increasingly difficult to concentrate all this knowledge and the necessary capabilities for innovation in a single enterprise or actor. Cooperation among organizations is thus heavily associated with the possibility of innovation [11]. Meanwhile, the network concept defended here is closely linked to the notion of innovation as part of the organizational learning process [13], emphasizing that innovation lies in an interactive, complex, and non-linear process focusing on the production of new symbolic and material formats capable of responding to problems of adaptation by innovative organizations that require intense relations between different economic and social actors/agents [14].

Other authors [15] propose an analysis of innovation beyond the field of Economics, assuming technology as a social construct, determined not only by knowledge accumulation but also by the social forces, economic needs, political decisions, and public pressures and private interests that influence the direction of technological change. Technological innovation assumes networks of information, knowledge, and decision-making, which includes multiple dimensions of reality and links knowledge from diverse fields and disciplines. To understand innovation processes requires taking cultural, social, economic, and political variables into account. Thus, for example, recognition of the decisive role of the health industrial complex in the development process and improvement of living conditions for the Brazilian population [16] means linking these multiple variables. In this case, technological innovation and capital accumulation generate investment, work, and income opportunities, in addition to producing advances in healthcare. Yet to make this a virtuous process [16] implies innovations in the policy and decision-making field. Victora et al. [17] recognize socioeconomic and regional inequalities and conflicts and contradictions in the Brazilian health system, and highlight the system's political challenge, which requires participation by all of society. The authors cite the example of a complex and innovative decision-making process that involves councils representing users, health workers, managers, and health service providers. The Health Conferences held every four years in Brazil at the three levels of government have been considered representative, and studies [18] have shown their recognition by social actors from the public sphere of health as important public spaces for setting the health sector's political agenda.

Various authors [19,20,21] emphasize interdisciplinary work as an essential condition for the production of facts that can represent innovations. Multidisciplinary teamwork [22], health professionals' identification with the organization, and the adoption of performance control and measurement are central to health innovation. Innovation processes and their relationship to regional development require analytical capacity that is truly interdisciplinary, integrating the methodological theories of Economics and the Social Sciences [19] and recognition of the plurality of heterogeneous forms of knowledge (one of which is science) and sustainable and dynamic interactions between them without compromising their autonomy, considering the idea that knowledge is inter-knowledge [23].

One of the contributions to the interpretation of the production of scientific facts and technological innovations is Latour's Actor-Network Theory [3,24,25]. Here, science production implies networks of negotiation involving interaction between various human actors and non-human elements. In this process, the actors that sponsor the possibility of scientific facts seek allies in the midst of the development of controversies, which mean opening black boxes that shape knowledge that is stabilized or accepted without challenge. The facts' certainty or "solidity" depends on their exportation and "buying in" by potential allies. Each new "buy-in" increases their solidity. A fact's solidity always depends on all those who keep it moving (both humans and non-humans) and form networks of interconnected allies that create themselves with a view towards the production of facts and which can be mapped through the controversies.

For Latour [2,3,24,25], a fact's production implies an adequate context for creation by the scientist, defined as a network of allies that extrapolates the limits of the laboratory, invading the

economic and political space, civil society, and culture. When accepted and stabilized, the facts are assumed or transported by other actors, who may sometimes change arguments, consolidate them, and insert them in other contexts. When it is possible to change the facts, actors attempt to maintain them in order to control this context. Groups and anti-groups form around the controversies. The greater the disagreement, the deeper and more expensive the controversy, since many human actors and non-humans ("actants") have to be brought into the scene to serve as allies in the various arguments.

For this author, the production of facts is an eminently argumentative process, during which the actors operate a process of translation, or the interpretation given by the makers of facts for their interests and those of the persons they enlist. To translate involves moving objectives, interests, devices, and human beings. It involves a shift in direction, the invention of a link that did not exist before and that in some way modifies the interwoven elements.

The term controversy refers to a dispute in which claims are made pro and con, potentially displaying movements that unfold through the achievement of a common objective. The various arguments involve games of power and force that are expressed in the solidity acquired by the facts, calling attention to the dimensions of the argumentative conflict [2,3,24,25]. However, the solidity of these facts depends on the possibility of resolving the controversies, which is established by consensus. In this sense, for Latour, science does not become universalized, but extends with large dimensions and then stabilizes. This extension represents the affirmation that a fact's point of stabilization is determined by its recognition by the largest number of actors involved in the controversies. When this number reaches all the relevant actors, it indicates the most universal possible validity.

Latour's model [25] is an attempt to overcome the great divides, as for example between Nature and Society. The model contributes to the elaboration of the principle of generalized symmetry, according to which nature and society should be explained on the basis of a common and comprehensive interpretative framework. For such a framework, the social refers to a heterogeneous network consisting not only of humans, but also of non-humans, such that both are considered equally. Latour [24,25] cites the following examples of non-human elements that make social interaction possible: printers, fax machines, computers, journals, scientific papers, etc. Thus, humans and non-humans are not pure, but hybrid. Production related to nature and production related to society both involve heterogeneous networks, with materials and humans, indicating an interdisciplinary interpretative framework [25].

Latour's model can be criticized for including non-humans in the definition of actors, which means conceiving of information, knowledge, and decision-making networks differently from their representation in Castells' model [26], in which the nodes represent human actors and the lines represent ties established in all directions and in transformation. Here, all the non-human elements can be interpreted as tools or resources, like technology and methods, as accumulations in the sense of social production as proposed by Matus [27]. These accumulations are controlled by actors, who are individual or social subjects that represents a more or less homogeneous project (representing not only themselves), with a certain level of stability; of power resources capable of influencing a particular game of social production. In this case, the tools or accumulations are not eliminated, but are part of the networks as resources controlled by the actors, due to their importance in the field of social production of scientific facts.

Based on Habermas' Communicative Action approach [1,4], we can establish a dialogue with Latour's model. For the latter, science is shaped by networks of controversies. According to Habermas' communicative model, controversy is grounded in the concept of argumentative discourse. Science, as a component of the life world's technical culture, reproduces itself through theoretical discourses. Theoretical discourse is a type of argumentative discourse focused on the objective world, the world of things, the world of nature. For Habermas, it is possible to pose questions related to the objective world (nature, for Latour) and those related to norms, values, and ethics, considering differentiated criteria for this basis: truth/falsehood for the objective world, correctness for the social world (practical discourse), and authenticity for the subjective world of actors. Discourse corresponds to a unique level of communication in which pure communication is interrupted, moving to the level of argumentation. The uncontested, unproblematic acceptance of a speaker's claims to validity by his interlocutor means the nonexistence of controversy, since there is full agreement on the speaker's formulation, based on the fact that both belong to the same community of values, beliefs, and knowledge, to the same life world. When claims to validity are contested during an interaction, the discourse phase begins, in which the interlocutors need to enunciate arguments or reasons to defend their points of view and reach a consensus based on

recognition of the arguments' merit. The capacity to establish well-based consensuses depends on the possibility of approaching a situation of ideal speech, characterized by: equality of discursive odds (of issuing utterances), a relational context as symmetrical as possible, and nonexistence of coercion, excerpt "coercion" through the best argument.

Thus, in the Habermasian model, science assumes the development of discursive networks or articulated conversations in the form of predominantly theoretical discourses, but also practical discourses pertaining to the controversies associated with the production of social and legal norms, morals, and decisions about what to do and to whom to direct the products of science.

Habermas contemplates the interaction between theoretical and practical discourses, which do not represent completely differentiated closed fields [1,4]. Having made the distinction between theoretical and practical discourse, one admits the relations established between the natural sciences and the social sciences, including the subjective world, all of which are amenable to justification based on the expanded concept of reason. An element that can be criticized in Latour [25] is precisely this relative non-differentiation, on grounds that practical questions cannot be assessed as true or false. This is the main critique of the positivist approach to science, for which Habermas identifies an interesting and useful solution, with specific criteria for justification and recognizing the different interests that permeate scientific discourse.

Another difference between the two authors is the quality or type of argumentation used in the validation of scientific facts. In the Habermasian approach [1], the process of argumentation is predominantly dialectical. In this case, protagonist and antagonist attempt to resolve these differences through the search for and recognition of better arguments, doing so in an environment of relative equality of discursive odds, which constitutes the scientific environment. Here, one applies the concept of convincing based on the merit of the arguments [28], which would allow criticizing strategic stances linked to illegitimate interests. Latour follows an argumentative approach that is more rhetorical than dialectical [3], in which convincing based on the arguments' merit is replaced by persuasion as the capacity to gain adherence by others through a more instrumental type of communication, more concerned with obtaining success in conquering an audience and relatively less concerned with procedural correctness. Latour [3] contends that rhetoric is a fascinating discipline that becomes increasingly important as the debates are exacerbated: the controversies proceed, incorporating technicalities and rhetorical strategies in conquering particular audiences, for example, the reference to a larger number of scientific papers, not concerned with the best argument, but with a strategic increase in citations, aimed at adherence by certain allies.

An important difference between the two authors is Habermas' more universalistic perspective *vis-à-vis* an orientation that relativizes universalization, although without denying it completely, which is proper to Latour, because in the case of rhetoric one admits the objective of conquering adherence by more restricted or particular audiences [28].

Our more theoretical framework emphasizes innovation as a process of interaction and organizational learning, mediated by language. The learning involves communications processes of updating knowledge and technical and normative devices whose trigger is a problematic situation that requires new agendas supported by needs for adaptation to life contexts. These processes assume the format of a discursive argumentation along the lines of a scientific controversy, considering the requisites of the Habermasian discourse.

Innovative organizational and management models: basic requisites

Studies shows similar trends in the characteristics of innovative companies, featuring [20,29]:

- Radical decentralization of results-based responsibility to the operational units;
- Fewer hierarchical levels and more use of task forces rather than rigid structures;
- Reduction in the role of the corporate staff: the top echelon turns to concentrating on creating and disseminating knowledge, based on in-house human resources;
- Change in management style from command-and-control to facilitating and authorizing; and
- Sophisticated internal communication systems, both formal and informal, horizontal and vertical.

This organizational model is similar to Mintzberg's adhocracy [30]. These are organizations with permeable borders whose members group temporarily to respond to the external environment's needs, with streamlined communication flows and where knowledge is adequately disseminated to the levels that add most value. Such organizations adopt the logic of autonomous work teams, such that collaborators have a sense of ownership and are accountable for the results.

This encourages a culture of autonomy and risk-taking capacity, not compatible with vertical organizations.

The innovation management tools most widely used by companies include strategic planning approaches. Important here are the criteria these approaches should follow in order to meet the objective of developing reflection and decision-making networks consistent with the theoretical framework, expanding the concept to strategic-communicative.

Planning should be implemented more as a place of expanded communication than as a formal planning model. The basic objective is to create communications flows aimed at formulating legitimate plans. Such communications flows should be viewed as argumentative processes in which the search for consensus through argumentative merit is the basis for communicative planning approaches. Considering an organizational model for innovative companies, these approaches would contribute to the implementation of small groups for reflection and decision-making, with multiple actors from various departments and organizational units and different roles, representing interdisciplinary groups, and that can and should extrapolate the organization's boundaries, shaping a perspective of network contribution.

Valorization of networks through the identification and implementation of synergies and external partnerships is another requisite in the case of research activities. Defining priorities or degrees of attractiveness for the activities requires such criteria as the activities' capacity to generate synergies and partnerships that point to networks of solidarity, with the understanding that alternative solutions to the activities' inherent problems depend not on a single organization or actor, but on a network. This is particularly important in health, assuming the impossibility of a single establishment solving all the population's health problems. Innovation and the potential for teaching and research are important criteria that potentially help orient organizations' investment priorities, as defined in planning processes. Various criteria inherent to innovation should be part of the evaluation of the scale of priorities in organizational activities.

Meanwhile, prospective planning approaches should be explored in the process of detecting emerging innovations or disruptive innovation [31,32], defined as a technological discontinuity that looms tenuously on the future horizon, and which can evolve to a key technology for the organization's development. Scenario-building can help simulate the technological maps or the evolution of emerging technologies in various scenarios, producing inputs for the definition of strategic plans that help frame the technology's trajectory and incorporation.

Another approach that can and should be used in the context of innovation management is social network analysis. In the social network diagram, actors are represented by nodes and their relations by ties. One of the more immediate objectives of analyzing ties between actors is the characterization of cliques and the centrality of the network's actors. Cliques are groups of actors that maintain closer or more intense ties with each other. Centrality means one actor's position in relation to the others, measured by the number of ties between them [33,34].

Flores [35] and Echeverria [36] contribute a pertinent approach to the notion of innovation networks. They suggest a linguistic understanding of organizations based on the Philosophy of Language, especially the taxonomy of speech acts proposed by Austin & Searle. According to Flores [35], an organization is a network of conversations in which the predominant speech acts are directives and commissives. The organizational tradition that features culture and listening leads to the construction of the concept of breakdown, or an interruption in the normal flow of operations or due to a problem that requires establishing a conversation on actions for dealing with the situation. In this context, the breakdown acts a trigger for organizational learning or the production of new forms of action for successful adaptation.

Lima & Rivera [37], based on Habermas, Flores, and Echeverria, analyze conversations in a regional healthcare network using conversation analysis as the method. This approach is an interesting methodological possibility for network analysis.

Strategic-communicative planning approaches and network management

The first approach we highlight for enhancing innovation is Situational Strategic Planning (SSP) [27]. Since SSP is grounded in the theory of social production and the concept of situation (a multidimensional and totalizing explanation), this approach seriously questions the inherent departmentalization of sciences, while affirming intersectorality and interdisciplinarity. For SSP, reality is a social production by actors, who have an indivisible economic-social, ideological-cultural, legal-social, and ecological-spatial dimension. This production is performed by social and political actors who control power accumulations or resources, determined or conditioned

by basic rules in the economic-social game. This process involves an accumulation/dis-accumulation of power, and the possibility of altering the basic rules depends on the degree of power. The more economic production flows have political impacts and vice-versa, i.e., the more they tend to have global effects.

In organizational terms, the operations plan in SSP tends to draft crosscutting projects that break with narrow boundaries, units, sectors, and departments, giving rise to network designs. Such networks can take shape as communication and information networks with innovative capacity.

The second approach, by Crémadez & Grateau [38], anchored in strategic portfolio management, is a form of strategic analysis of homogeneous segments or groups of activity in services or corporations. This analysis contemplates the value of activities and their competitiveness, considering the degree of control of Key Success Factors (KSF), resources, systems, technologies, and relational capacities needed to achieve success (in the sense of excellence). Value assessment includes various criteria such as potential demand, investment as an entry barrier, competition, research and teaching potential, etc. Innovation can be explored as a specific analytical criterion. Thus, various innovation criteria can enter this assessment, representing the activities' scale of priorities, conducted by working groups or communities of practice. Such criteria include the following: appropriation of technology through partnerships with centers of excellence (transferring external innovation); transferring technology to other organizations (from inside out); the activity's technological position or force, or the proportion of an activity's basic, key, and/or emerging technologies. Basic technologies are widely acknowledged and disseminated and do not represent a technological differential; key technologies are associated with an organization's distinctive competencies, that make a difference; and emerging technologies make their presence and importance felt in the present, gaining importance in the future, representing new technologies or technological discontinuities. Activities that include technologies in which innovative potential predominates should be prioritized [39].

The third approach associated with innovation is prospective planning, representing a major interdisciplinary dialogue, since beginning with the structural analysis [40] of the variables with the greatest impact on the prospected object, the entire external and internal environment is exhaustively broken down and studied, implying the selection of multisectorial and multidisciplinary variables. For several authors [31,32,41,42,43], scenario analysis can help managers reflect on the organizations' capacities, anticipate so-called disruptive innovations [31,32], corresponding to product parameters not completely valorized in an established market/context, but which correspond to characteristics that some of the potential users will value. They represent discontinuities in products and technologies that can play a decisive role in the future. The process of elaborating scenarios can help anticipate these products to the extent that they open the mind to previously unimaginable possibilities, forcing managers to rethink their strategies. In relation to unprecedented discontinuities or events, the method has the advantage of helping participants think of possible rather than probable ideas. By stimulating reflection on changes (especially unexpected ones), the prospective scenarios method favors the anticipation of disruptive innovation. This approach is essential for a sector like health, a strategic area in a knowledge society that combines an economic-industrial productive complex with various sectors/actors, ranging from the traditional to the innovative, related to cutting-edge technologies, biotechnology, and nanotechnology, all with potential products in different areas.

Drew [41] discusses some adaptations in order to focus on disruptive technologies and innovation: (a) basing the research on an appropriate range of expert opinions and Internet sources; (b) using creative approaches with group work and strategic thinking in scenario meetings; and (c) developing scenarios using the technology map technique, which consists of describing the evolution of the main pipeline, emerging, and obsolescent technologies. Technology maps describe how technologies, the market, products, and processes develop into possible scenarios, becoming important tools for the decision-making process linked to the creation of competencies for implementing opportunities for innovation.

Health services coordination evaluated with the logic of Communicative Action and the relationship between interdependence, coordination, and integration, whose backbone is a dynamic network of conversations established between the different actors that interact in the system [37], is an analytic innovation applied to services' daily work. The network of conversations provides an opportunity for analysis based on the conversations established in the different dimensions of the system's integration. Tracking the networks of conversations established on the basis of given linguistic breakdowns in the conversations (which require responses), in the experience analyzed by the authors [37] in a regional

Mobile Emergency Care Service (SAMU) located in Rio de Janeiro, Brazil, allows the identification of new measures in terms of commitments to action.

Network Analysis helps characterize the network's principal cliques (groups of the most recurrent actors) and the degree of actors' centrality, measured by the ties established by each actor or group. Morel et al. [34] suggest the use of strategic network analysis tools to improve organizational capacity and elaboration of policies, exemplified by the Network of Dengue Researchers 2001-2008 and the Network of Tuberculosis Institutions 2006-2007.

Conclusion

The innovation process depends on the linkage of networks involving actors in production, university and research communities, government agencies, political actors in general, and users, among others. Communication, information, knowledge, and discursive networks allow different forms of organizational learning, or new symbolic configurations and new devices, confronting or helping solve problems based on broad analyses and creative exploration of the future.

This challenge involves the pursuit of organizational configurations in networks, centered on reflexivity in interdisciplinary groups and the choice of planning approaches that incorporate criteria for stimulating innovation when evaluating the attractiveness of institutional activities and products, and which allow anticipating different forms of innovation through an organic and systematic prospective stance. Such approaches would operate as places of communication, consistent with the concept of communicative science and the concept of innovation as a product of networks.

Contributors

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Resumo

No artigo são discutidos elementos de uma teoria da inovação numa perspectiva de redes de inovação e de construção social da tecnologia, a partir da Teoria do Agir Comunicativo de Habermas e de autores da Sociologia da Inovação. Com base no marco teórico da produção comunicativa de fatos científicos, focamos a gestão da inovação como uma dimensão fundamental que deve contemplar alguns requisitos, tanto de natureza organizacional quanto metodológica, para potencializar seus resultados. Apresentamos e discutimos instrumentos como o Planejamento Situacional, a Análise Prospectiva, a Gestão Estratégica de Portfólios e a Gestão de Redes que podem contribuir para o desafio da inovação e exploração do futuro. Conclui-se que formas organizativas em rede, centradas na reflexividade de grupos interdisciplinares, e enfoques de planejamento que estimulem o uso de critérios de inovação na avaliação da atratividade das atividades e que ajudem a antecipar formas de inovação por meio de uma análise prospectiva sistemática podem potencializar o processo de geração da inovação como produto de redes.

Gestão em Saúde; Comunicação em Saúde; Desenvolvimento Sustentável; Inovação

Resumen

En el artículo se discuten elementos de la teoría de la innovación, desde una perspectiva de redes de innovación y de construcción social de la tecnología, basándose en la Teoría del Acción Comunicativa de Habermas y en autores de la Sociología de la Innovación. Fundamentándose en el marco teórico de la producción comunicativa de hechos científicos, enfocamos la gestión de la innovación como una dimensión fundamental, que debe contemplar algunos requisitos, tanto de naturaleza organizativa como metodológica, para potencializar sus resultados. Presentamos y discutimos instrumentos como la planificación situacional, el análisis prospectivo, la gestión estratégica de portfolios, y la gestión de redes que pueden contribuir al desafío de la innovación y exploración del futuro. Se concluye que formas organizativas en red, centradas en la capacidad reflexiva de grupos interdisciplinares, y enfoques de planificación, que estimulen el uso de criterios de innovación en la evaluación de la capacidad de atracción de actividades, y que ayuden a anticipar formas de innovación -por medio de un análisis prospectivo sistemático, pueden favorecer el proceso innovador como un producto de redes.

Gestión en Salud; Comunicación en Salud; Desarrollo Sostenible; Innovación

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