



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10, Sumy,
40022, Ukraine

www.businessperspectives.org

Received on: 18th of April, 2017

Accepted on: 22th of September, 2017

© Manuela Escobar-Sierra, Luis
Augusto Lara-Valencia, Pilar
Valencia-DeLara, 2017

Manuela Escobar-Sierra, Ph.D.,
Faculty of economical and
administrative sciences, University of
Medellin, Colombia.

Luis Augusto Lara-Valencia, Ph.D.,
Faculty of mines, National university
of Colombia, Colombia. (Facultad
de Minas, Universidad Nacional de
Colombia Sede Medellín, Colombia).

Pilar Valencia-DeLara, Ph.D., Faculty
of economical and administrative
sciences, University of Medellin,
Colombia.



This is an Open Access article,
distributed under the terms of the
[Creative Commons Attribution-Non-
Commercial 4.0 International license](https://creativecommons.org/licenses/by-nc/4.0/),
which permits re-use, distribution,
and reproduction, provided the
materials aren't used for commercial
purposes and the original work is
properly cited.

Manuela Escobar-Sierra (Colombia), **Luis Augusto Lara-Valencia** (Colombia),
Pilar Valencia-DeLara (Colombia)

MODEL FOR INNOVATION MANAGEMENT BY COMPANIES BASED ON CORPORATE ENTREPRENEURSHIP

Abstract

This paper aims to propose a new model for the manner in which companies manage innovation. To that end, some of the most important research on the topic is analyzed and summarized through a review of its historical background in the indexed databases in WoS (Web of Science) and an analysis of frequently used terms over the past 15 years (2001–2016). The analysis is developed through bibliometric techniques using VOSviewer software, version 1.6.4, seeking to identify recurring and related concepts, such as corporate entrepreneurship, that can leverage company innovation management from the strategy, inherent factors related to human resources and the environment in which the organization operates. Henceforth, this paper focuses on a new model to manage innovation in companies through a conceptualization of innovation and corporate entrepreneurship, this model can be useful in countries with low levels of cooperation between stakeholders and scarce resources, countries on bias of development like Latin America, Africa and some Asian countries. It can be concluded that the company innovation should start with the definition of its strategy, taking into account factors like the human talent and the environment in which the organization is operating, through customized innovation processes that can be applied following some of the multiple models referred to in the literature, framed within the needs of different stakeholders, as indicators of organizational performance. Therefore, the actors which are part of the model are: employees, clients, state, suppliers, academics, community, shareholders and business.

Keywords

Innovation Management, Corporate entrepreneurship,
Bibliometric Techniques, Web of Science

JEL Classification

M13, M14, O14, O32, O35

INTRODUCTION

The current competitive environment, growing interest in innovation, and its presumed relationship with economic growth have fostered research on how companies manage innovation (Forrest, 1991), which is understood as a series of organizational activities aimed at obtaining a temporary or absolute competitive advantage (Rammer, 2006). Various authors have developed models for managing innovation, both at the corporate level and among entrepreneurs (Freeman & Engel, 2007) (see Table 1), but to date, no broad consensus on a comprehensive, generalizable model has been reached (Cooper, 1983; Godin, 2015; Hobday, 2005).

Accordingly, this paper undertakes a review of the historical background by analyzing the literature produced over the past 15 years of research on this topic, it then identifies recurring concepts such as corporate entrepreneurship that can leverage innovation management and notes theoretical and empirical needs, and, finally, it proposes a new model for managing innovation within companies.

Table 1. Models of innovation management

Source: the authors.

Authors	Proposal
Chin (1961)	Development, systemic, and change models
Clark (1968)	Organic growth, differentiation, diffusion, and combined process models
Schon (1967)	Rational and non-rational models
Havelock (1970)	Simple reflex and rational problem-solving models
Robertson (1971)	Innovation adoption, hierarchy of effects and AIDA models
J. Langrish, M. Gibbons, W. G. Evans, and F. R. Jevons (1972)	Discovery-push and demand-pull models
Saren (1984)	Departmental-stage, activities-stage, decision-stage, conversion process, and response models
Kline and Rosenberg (1986)	Linear and chain-linked models
Coombs, Saviotti, and Walsh (1987)	Linear, evolutionary, and epidemic models
Van de Ven (1989)	Group development, decision-making process, organizational planning, organizational change, and development and innovation processes models
Forrest (1991)	Stage-based, conversion, technology-push/market-pull, integrated, and decision-making models
Newby (1992)	Linear and interactive models
Rothwell (1992)	Technology-push, market-pull, linkages, integrated, strategic integration, and network models
C. Freeman (1996)	Linear and systematic models
Marinova and Phillimore (2003)	Black box, linear, interactive, systems, evolutionary, and innovative milieu models
Hargrave and Van de Ven (2006)	Institutional design, institutional adaptation, institutional dissemination, and collective action models
Caraza, Lundvall and Mendonza (2009)	Linear, chain-linked, multi-channel interactive learning models

1. NEW MODEL FOR INNOVATION MANAGEMENT BY COMPANIES

A review of the WOS (Web of Science) database found 10,827 indexed works over the past 15 years (2001–2016) on the topic of innovation management by firms, companies, organizations, and businesses. VOSviewer software version 1.6.4 was used to conduct a bibliometric analysis of this literature by author, title, source, and abstract, with mathematical and statistical methods being applied to books, articles, and other forms of communication to measure their quantity, circulation, and even some structural indicators measuring connections among authors, publications, and fields of study (Durieux & Gevenois, 2010; Romo Jiménez, Valencia-De-Lara, & Escobar-Sierra, 2017). This analysis produced the network shown in Figure 1 and

the compendium of frequently occurring terms shown in Table 2, including entrepreneurship, entrepreneurs, small and medium-sized enterprises (SMEs), environment, and performance. These findings suggest the need to integrate the study of innovation management by businesses with other concepts such as corporate entrepreneurship (CE) (Corbett, Covin, O'Connor, & Tucci, 2013; Hashimoto & Nassif, 2014).

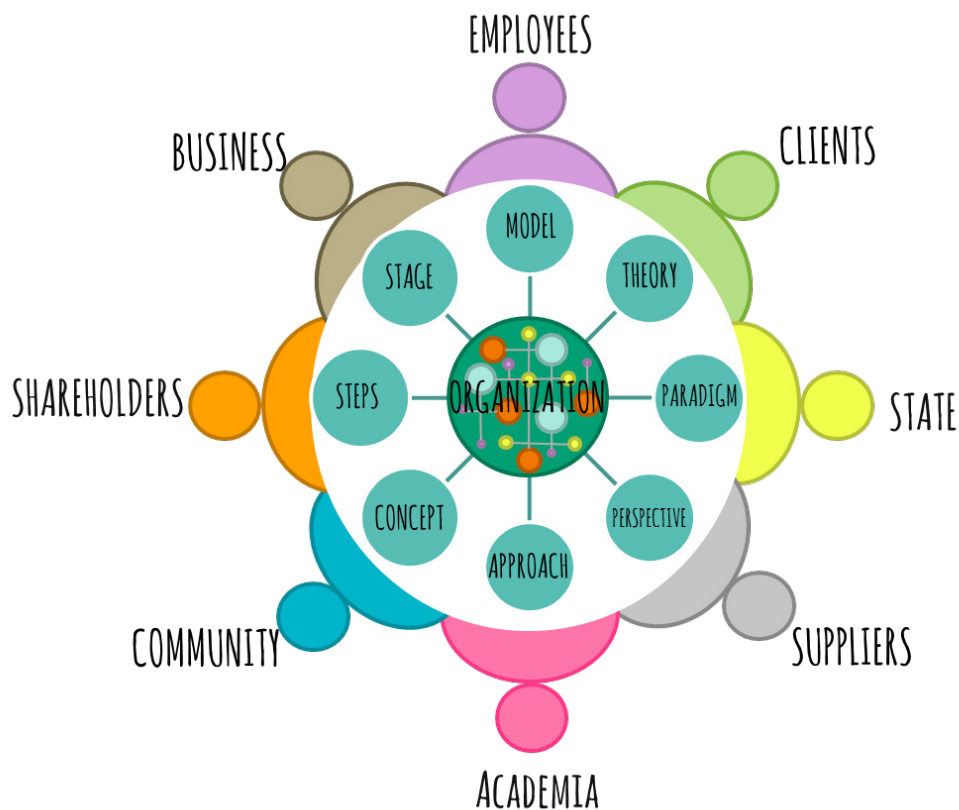
To verify this relationship between studies of innovation management by companies and what we refer to as CE (J. Freeman & Engel, 2007; Guth & Ginsberg, 1990; Morris, Kuratko, & Covin, 2010), it is worth noting the pioneering role of authors such as Peterson and Berger (1971) and who introduced entrepreneurship into the business environment and sparked a discussion that initially focused on how to develop the concept within companies but was subsequently hailed as renewing (Burgelman, 1983, 1984; Kanter, 1985; Sathe, 1985) companies' innovative capabilities (Borch,

characteristics (Ling, Simsek, Lubatkin, & Veiga, 2008)), culture (Burgelman, 1984), capabilities and resources (Kuratko, Montagno, & Hornsby, 1990), human resources management practices (Hornsby et al., 2009), structure (Dess et al., 1999), technological capabilities (Martín-Rojas, Fernández-Pérez, & García-Sánchez, 2016) and company determinants (Álvarez-Herranz, Valencia-De-Lara, & Martínez-Ruiz, 2011), making it a fertile ground in which innovative processes are developed to their fullest extent, following one of the models for innovation management, which may also be termed theories, patterns, approaches, designs, paradigms, frameworks, representations, perspectives, concepts, hypotheses, figures, and diagrams referenced in the literature (Godin, 2015). Finally, it is important to note that both the organization and the model selected for innovation management must be framed within the needs of different stakeholders (Cao et al., 2015; Escobar-Sierra, 2015; J. Freeman & Engel, 2007) as indicators of organizational performance (Fang, 2013). Besides, as indicated by Hernández Perlines (2015), corporate social responsibility has a mediating effect between organizational perfor-

mance and entrepreneurial orientation, to where the proposed model in this study points.

In this sense, the company innovation corresponds to a customized processes that can be applied following some of the multiple innovation models referenced in the literature. This process should start with the definition of the organizational strategy and taking into account factors related with the human talent, the environment in which the enterprise is operating. This structure must be framed within the needs of different stakeholders as indicators of organizational performance. So, the actors which are part of the model are: Employees, clients, State, suppliers, academics, community, shareholders and business.

The proposed model addresses the theoretical and empirical suggestions of authors such as Luengo, Areitio, y Obeso (2013) who recognize the role that academics can play on innovation and organizational strategy to gain competitive advantage. Furthermore, Ballesteros-Sola (2014) proposes the inclusion of external clients as part



Source: the authors.

Figure 2. Model proposed for managing innovation by companies based on CE

of the business innovation strategy. Bilton (2014) links up the political and cultural agents as mediators leaders between both motivation and generation of ideas for innovation. Hoffmann, Bandeira-de-Mello, & Molina-Morales (2011) indicate the link between clusters and innovation as a scarcely explored field of study to be complemented in the empirical context and also to be adapted to the particular characteristics of contexts such as Colombia, as verified in domestic companies (Escobar-Sierra, 2015; Escobar-Sierra, Vera-Acevedo, & Correa-Espinal, 2013).

Finally, the model recognizes the importance of connecting innovation management by com-

panies and CE to other theoretical paradigms of organizational studies (Miller, 2011; Phan, Wright, Ucbasaran, & Tan, 2009; Wales, 2015); specifically, it aims to ground itself in little-explored theoretical frameworks such as institutional logic (Biniari, Simmons, Monsen, & Pizarro Moreno, 2015), network theory (Glaser, Fourne, & Elfring, 2015), the population ecology of organizations (Aldrich & Martinez, 2007), the dominant logic of businesses, and the subjectivist theory of entrepreneurship (Covin & Lumpkin, 2011), to consolidate the research field that has been developing in the last years on organizational innovation and corporate entrepreneurship.

DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

The starting point for the new model of innovation management by companies based on CE is the organization itself, its strategy, the characteristics of its human resources, and the environment in which it operates. In this context, the company develops innovative processes to the full extent that they may be implemented using one of the many models referenced in the literature, thus ensuring that they are framed within the needs of different stakeholders as indicators of organizational performance. To propose this new model, it was necessary to review its historical background (marked by myriad non-generalizable models) and to employ a bibliometric analytical technique to identify current concepts and related proposals that provide theoretical and empirical underpinnings for the development of the new model and to suggest further research that explores little-used theoretical paradigms such as institutional logic, network theory, the dominant logic of businesses, the subjectivist theory of entrepreneurship, and the population ecology of organizations.

REFERENCES

1. Aldrich, H. E., & Martinez, M. A. (2007). Many are called, but few are chosen: An evolutionary perspective for the study of entrepreneurship. In *Entrepreneurship: Concepts, Theory and Perspective* (pp. 293-311). http://doi.org/10.1007/978-3-540-48543-8_14
2. Álvarez-Herranz, A., Valencia-De-Lara, P., & Martínez-Ruiz, M. P. (2011). How entrepreneurial characteristics influence company creation: a cross-national study of 22 countries tested with panel data methodology. *Journal of Business Economics and Management*, 12(3), 529-545. <http://doi.org/10.3846/16111699.2011.599409>
3. Amaeshi, K., Nnodim, P., & Osuji, O. (2013). *Corporate social responsibility, entrepreneurship, and innovation*. New York: Routledge. <http://doi.org/10.4324/9780203081945>
4. Ballesteros-Sola, M. (2014). Social business planning: management and financial issues. In A. Grove & G. A. Berg (Eds.), *Social business, theory, practice, and critical perspectives* (pp. 157-176). Springer Berlin Heidelberg. http://doi.org/10.1007/978-3-642-45275-8_10
5. Bilton, C. (2014). Uncreativity: the shadow side of creativity. *International Journal of Cultural Policy*, 21(2), 153-167. <http://doi.org/10.1080/10286632.2014.892933>
6. Biniari, M. G., Simmons, S. A., Monsen, E. W., & Pizarro Moreno, M. I. (2015). The configuration of corporate venturing logics: an integrated resource dependence and institutional perspective. *Small Business Economics*, 45(February), 351-367. <http://doi.org/10.1007/s11187-015-9635-3>
7. Borch, O. J., Huse, M., & Senneseth, K. (1999). Resource configuration, competitive strategies, and corporate entrepreneurship: an empirical examination of small firms. *Entrepreneurship: Theory & Practice*, 24(1), 51-72.
8. Burgelman, R. (1983). Corporate entrepreneurship and strategic

- management: insights from a process study. *Management Science*, 29(12), 1349-1364. <http://doi.org/10.1287/mnsc.29.12.1349>
9. Burgelman, R. (1984). Designs for corporate entrepreneurship in established firm. *California Management Review*, 26(3), 154-166. <http://doi.org/10.2307/41165086>
 10. Cao, Q., Simsek, Z., & Jansen, J. J. P. (2015). CEO social capital and entrepreneurial orientation of the firm: bonding and bridging effects. *Journal of Management*, 41(7), 1957-1981. <http://doi.org/10.1177/0149206312469666>
 11. Caraça, J., Lundvall, B.-Å., & Mendonça, S. (2009). The changing role of science in the innovation process: From Queen to Cinderella? *Technological Forecasting and Social Change*, 76(6), 861-867. <http://doi.org/10.1016/j.techfore.2008.08.003>
 12. Chin, R. (1961). The utility of system models and developmental models for practitioners. In Bennis WG, Benne KD, & Chin R (Eds.), *The Planning of Change: Readings in the Applied Behavioral Sciences* (pp. 201-216). New York: Rinehart and Winston.
 13. Clark, T. N. (1968). Institutionalization of innovations in higher education: four models. *Administrative Science Quarterly*, 13(1), 1-25. <http://doi.org/10.2307/2391259>
 14. Coombs, R., Saviotti, P., & Walsh, V. (1987). *Economics and Technological Change*. Hong Kong: Rowman & Littlefield.
 15. Cooper, R. G. (1983). The new product process: an empirically-based classification scheme. *R&D Management*, 13(1), 1-13. <http://doi.org/10.1111/j.1467-9310.1983.tb01124.x>
 16. Corbett, A., Covin, J. G., O'Connor, G. C., & Tucci, C. L. (2013). Corporate Entrepreneurship: state-of-the-art research and a future research agenda. *Journal of Product Innovation Management*, 30(5), 812-820. <http://doi.org/10.1111/jpim.12031>
 17. Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial orientation theory and research: reflections on a needed construct. *Entrepreneurship Theory and Practice*, 35(5), 855-872. <http://doi.org/10.1111/j.1540-6520.2011.00482.x>
 18. Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship Theory & Practice*, 16(3), 7-25.
 19. Dess, G. G., Lumpkin, G. T., Mckee, J. E., Vozikis, G. S., Bruton, G. D., Prasad, D., ... Mcgee, J. E. (1999). Linking corporate entrepreneurship to strategy, structure, and process: suggested research directions. *Entrepreneurship: Theory & Practice*, 23(3), 85-103.
 20. Durieux, V., & Gevenois, P. A. (2010). Bibliometric indicators: quality measurements of scientific publication. *Radiology*, 255(2), 342-351. <http://doi.org/10.1148/radiol.09090626>
 21. Escobar-Sierra, M. (2015). *Análisis de la gestión de la innovación vinculada con la responsabilidad social desde las dimensiones motivación y conocimiento: un estudio de caso*. Universidad Nacional de Colombia.
 22. Escobar-Sierra, M., & Vera-Acevedo, L. D. (2016). "Inn-Cumbe": a model for socially responsible innovation management, proposed a study of case at the organizational level. *Espacios*, 37(17), 5.
 23. Escobar-Sierra, M., Vera-Acevedo, L. D., & Correa-Espinal, A. A. (2013). Generación de ideas en el contexto organizacional: comprensiones a partir del estudio de una empresa del sector gráfico de Medellín. *Universidad & Empresa*, 16(26), 191-209.
 24. Fang, Q. (2013). Corporate entrepreneurship: constructs and research focuses. In E. Qi, J. Shen, & R. Dou (Eds.), *The 19th international conference on industrial engineering and engineering management* (pp. 699-706). Berlin, Heidelberg: Springer Berlin Heidelberg. <http://doi.org/10.1007/978-3-642-38442-4>
 25. Forrest, J. F. (1991). Practitioners' forum, Models of the process technological innovation. *Technology Analysis & Strategic Management*, 3(4), 439-453. <http://doi.org/10.1080/09537329108524070>
 26. Freeman, C. (1996). The greening of technology and models of innovation. *Technological Forecasting and Social Change*, 53(1), 27-39. [http://doi.org/10.1016/0040-1625\(96\)00060-1](http://doi.org/10.1016/0040-1625(96)00060-1)
 27. Freeman, J., & Engel, J. S. (2007). Models of innovation: startups and mature corporations. *California Management Review*, 50(1), 94-119. <http://doi.org/10.2307/41166418>
 28. Glaser, L., Fourné, S. P. L., & Elfring, T. (2015). Achieving strategic renewal: the multi-level influences of top and middle managers' boundary-spanning. *Small Business Economics*, 45(2), 305-327. <http://doi.org/10.1007/s11187-015-9633-5>
 29. Godin, B. (2015). Models of innovation: why models of innovation are models, or what work is being done in calling them models? *Social Studies of Science*, 45(4), 570-596. <http://doi.org/10.1177/0306312715596852>
 30. Guth, W., & Ginsberg, A. (1990). Guest editors' introduction: Corporate entrepreneurship. *Strategic Management Journal*, 11, 5-15. <http://doi.org/10.1016/j.ymeth.2009.12.016>
 31. Hargrave, T. J., & Van De, A. H. (2006). A collective action model of institutional innovation. *Academy of Management Review*, 31(4), 864-888. <http://doi.org/10.5465/AMR.2006.22527458>
 32. Hashimoto, M., & Nassif, V. M. J. (2014). Inhibition and encouragement of entrepreneurial behavior: antecedents analysis from managers' perspectives. *BAR - Brazilian Administration Review*, 11(4), 385-406. <http://doi.org/10.1590/1807-7692bar2014130008>
 33. Havelock, R. G. (1970). *A Guide to Innovation in Education*. Ann Arbor: Center for Research on Utilization of Scientific Knowledge,

- Institute for Social Research,
University of Michigan.
34. Hobday, M. (2005). Firm-level innovation models: perspectives on research in developed and developing countries. *Technology Analysis & Strategic Management*, 17(2), 121-146. <http://doi.org/10.1080/09537320500088666>
35. Hoffmann, V. E., Bandeira-de-Mello, R., & Molina-Morales, F. X. (2011). Innovation and knowledge transfer in clustered interorganizational networks in Brazil. *Latin American Business Review*, 12(3), 143-163. <http://doi.org/10.1080/10978526.2011.614168>
36. Hornsby, J. S., Kuratko, D. F., Shepherd, D. A., & Bott, J. P. (2009). Managers' corporate entrepreneurial actions: examining perception and position. *Journal of Business Venturing*, 24(3), 236-247. <http://doi.org/10.1016/j.jbusvent.2008.03.002>
37. Ireland, R. D., Kuratko, D. F., & Covin, J. G. (2003). Antecedents, elements, and consequences of corporate entrepreneurship strategy. In *Academy of Management Proceedings* (pp. L1-L6). <http://doi.org/10.5465/AMB-PP.2003.13793054>
38. Langrish, J., Gibbons, M., Evans, W. G., & Jevons, F. R. (1972). *Wealth from knowledge: studies of innovation in industry*. London: The Macmillan Press.
39. Kanter, R. (1985). Supporting innovation and venture development in established companies. *Journal of Business Venturing*, 1(1), 47-60. [http://doi.org/10.1016/0883-9026\(85\)90006-0](http://doi.org/10.1016/0883-9026(85)90006-0)
40. Kline, S. J., & Rosenberg, N. (1986). An overview of innovation. In Ralph Landau & Nathan Rosenberg (Eds.), *The Positive Sum Strategy: Harnessing Technology for Economic Growth* (pp. 275-305). Washington: National Academy Press. <http://doi.org/10.1108/14601069810368485>
41. Kuratko, D. F. (2010). Corporate entrepreneurship: an introduction and research review. In Z. J. Acs & D. B. Audretsch (Eds.), *Handbook of Entrepreneurship Research* (pp. 129-163). New York, NY: Springer New York. <http://doi.org/10.1007/978-1-4419-1191-9>
42. Kuratko, D. F., Hornsby, J. S., & Bishop, J. W. (2005). Managers' corporate entrepreneurial actions and job satisfaction. *The International Entrepreneurship and Management Journal*, 1(3), 275-291. <http://doi.org/10.1007/s11365-005-2589-1>
43. Kuratko, D. F., Montagno, R. V., & Hornsby, J. S. (1990). Developing an intrapreneurial assessment instrument for an effective corporate entrepreneurial environment. *Strategic Management Journal*, 11(Special Issue), 49-58.
44. Ling, Y., Simsek, Z., Lubatkin, M. H., & Veiga, J. F. (2008). Transformational leadership's role in promoting corporate entrepreneurship: Examining the CEO-TMT interface. *Academy of Management Journal*, 51(3), 557-576.
45. Luengo, M. J., Areitio, T., & Obeso, M. (2013). Social responsibility like aim of innovation activity in information and communication industry: the spanish case. In S. Kelchtermans & F. de Beule (Eds.), *Proceedings for the 8th European conference on innovation and entrepreneurship: ECIE 2013* (pp. 392-400). Brussels: Academic Conferences Limited.
46. Marinova, D., & Phillimore, J. (2003). Models of innovation. In L. V. Shavinina (Ed.), *The international handbook on innovation* (pp. 44-53). Oxford: Elsevier.
47. Martín-Rojas, R., Fernández-Pérez, V., & García-Sánchez, E. (2016, July 28). Encouraging organizational performance through the influence of technological distinctive competencies on components of corporate entrepreneurship. *International Entrepreneurship and Management Journal*, 1-30. Springer US. <http://doi.org/10.1007/s11365-016-0406-7>
48. Merrifield, D. B. (1993). Intrapreneurial corporate renewal. In *Journal of Business Venturing* (Vol. 8, pp. 383-389). Elsevier. [http://doi.org/10.1016/0883-9026\(93\)90020-6](http://doi.org/10.1016/0883-9026(93)90020-6)
49. Miller, D. (2011). Miller (1983) revisited: a reflection on EO research and some suggestions for the future. *Entrepreneurship Theory and Practice*, 35(5), 873-894. <http://doi.org/10.1111/j.1540-6520.2011.00457.x>
50. Morris, M., Kuratko, D., & Covin, J. (2010). In M. S. Acuna (Ed.), *Corporate entrepreneurship & innovation* (3rd ed.). Mason, Ohio: Cengage Learning.
51. Newby, H. (1992). One society, one Wissenschaft: A 21st Century vision. *Science and Public Policy*, 19(1), 7-14. <http://doi.org/10.1093/spp/19.1.7>
52. Peterson, R. A., & Berger, D. G. (1971). Entrepreneurship in organizations: evidence from the popular music industry. *Administrative Science Quarterly*, 16(1), 97-106. <http://doi.org/10.2307/2391293>
53. Phan, P. H., Wright, M., Ucbasaran, D., & Tan, W.-L. (2009). Corporate entrepreneurship: Current research and future directions. *Journal of Business Venturing*, 24(3), 197-205. <http://doi.org/10.1016/j.jbusvent.2009.01.007>
54. Postaliuk, M., & Akhmetshina, A. (2014). Economic systems sustainable development spatial structures innovatization. *Investment Management and Financial Innovations*, 11(4), 127-133. Retrieved from <https://businessperspectives.org/media/zoo/applications/publishing/templates/article/assets/js/pdfjs/web/6265>
55. Postaliuk, M., & Kwon, G. (2014). Evaluation of an innovative project of saving energy in housing and communal services. *Investment Management and Financial Innovations*, 11(1), 70-76. Retrieved from <https://businessperspectives.org/media/zoo/applications/publishing/templates/article/assets/js/pdfjs/web/5610>
56. Rammer, C. (2006). Innovation in firms. In U. Schmoch, C. Rammer, & H. Legler (Eds.), *National Systems of Innovation in Comparison, structure and*

- Performance Indicators for Knowledge Societies* (pp. 107-132). Dordrecht: Springer Netherlands. http://doi.org/10.1007/1-4020-4949-1_7
57. Robertson, T. S. (1971). *Innovative behavior and communication*. New York: Holt, Rinehart and Winston.
58. Romo Jiménez, A. M., Valencia-De-Lara, P., & Escobar-Sierra, M. (2017). Un análisis bibliométrico sobre responsabilidad social empresarial y consumidores. In *Diversidad y complejidad organizacional en América Latina. Perspectivas de Análisis* (Primera, pp. 181-207). Mexico: Red Mexicana de Investigadores en Estudios Organizacionales (REMINEO) A.C.
59. Rothwell, R. (1992). Successful industrial innovation: critical factors for the 1990s. *R&D Management*, 22(1992), 221-240.
60. Saren, M. A. (1984). A classification and review of process models of innovation. *R&D Management*, 14(1), 11-24. <http://doi.org/10.1111/j.1467-9310.1984.tb00504.x>
61. Sathe, V. (1985). Managing an entrepreneurial dilemma: nurturing entrepreneurship and control in large corporations. *Frontiers of Entrepreneurship Research*, 37(2), 636-656.
62. Schon, D. A. (1967). *Technology and change: the impact of invention and innovation on American social and economic development*. New York: Delta Books.
63. Van de Ven, A. H., Angle, H. L., & Poole, M. S. (Eds.). (1989). *Research on the management of innovation*. New York: Oxford University Press.
64. Wales, W. J. (2015). Entrepreneurial orientation: a review and synthesis of promising research directions. *International Small Business Journal*, 34(1), 3-15. <http://doi.org/10.1177/0266242615613840>
65. Zahra, S. A. (1986). A canonical analysis of corporate entrepreneurship antecedents and impact on performance. *Academy of Management Proceedings*, 1, 71-75. <http://doi.org/10.5465/ambpp.1986.4978718>