2

The Vital Elements of Organizational Innovation

Don Scott and Adela McMurray

Introduction

It is argued that innovation is a key component in an organization's sustainability and success in today's marketplace (Cascio & Aguinis, 2019). Friedman (1970) argued that the main objective of a firm is to derive a profit and that such a focus will promote an orientation toward different types of innovations. This role of innovation in producing enhanced profits was similarly identified by the Profit Impact of Market Strategies (PIMS) study (Buzzell & Gale, 1987).

Porter (1985) in his writings on business strategy suggested that there are two types of strategic orientations that can be followed, a focus on producing new and innovative products or a focus on efficiency of manufacture process for product offerings that are more of a commodity in nature. However, the PIMS study has clearly shown that these types of approaches do not need to be exclusive of one another and that a mixture of innovation and cost orientations will lead to the highest returns for any business.

The modern economy provides an opportunity for businesses to develop new product offerings and to engage in innovative product development. This

D. Scott (✉)
Southern Cross University, Lismore, NSW, Australia

A. McMurray
College of Business, Government and Law, Flinders University, Adelaide, SA, Australia
e-mail: adela.mcmurray@flinders.edu.au

A. McMurray et al. (eds.), *The Palgrave Handbook of Workplace Innovation*,
https://doi.org/10.1007/978-3-030-59916-4_2

is spurred on by the internet, artificial intelligence, and by advances in manufacture such as 3D printing. The need for businesses to identify and to develop new innovative offerings has become even more important so that workplace innovation is now attracting great interest from policymakers. It has been argued that environmental uncertainty triggers innovation (Baldridge & Burnham, 1975) and the modern world is undergoing a major stage of uncertainty evidenced through climate change. Examples are economic and production changes causing a heightened state of uncertainty about the future, spurred on by the appearances of climate change promoters at public events and at the United Nations. This is leading to an enhancement of the need for the identification of the drivers of innovation, so that businesses and nations can utilize these to promote innovation. This has attracted much interest from policymakers and public policy researchers as it has been said to represent a major driver of economic growth potential for countries (Dhondt et al., 2014).

Innovation can take place under several guises. Thus, Beblavý et al. (2012, p. 2) defined workplace innovation as an integration of skills of employers and employee, technology innovation and human resources. In the same year, Fagerberg, Fosaas, and Sapprasert (2012) in their bibliometric analysis of innovation studies identified several phases in the evolution of the innovation literature. The early phase (up to 1970) saw the studies situated in the social sciences, economics and sociology fields. This was followed by the growth phase expanding into the economics and R&D and organizing innovation clusters. Then from the 1980s, the field entered the mature phase where professional associations focused on and promoted the field's growth. In a study of innovation in ten different types of workplaces Balkin, Tremblay, and Westerman (2001) identified a range of different types of innovation that they categorized into the following types specifically, Team Innovation, Organization Restructure, Work Schedule Innovation, Skill Mix Change, Bargaining Process Innovation, Empowerment Innovation, Individual Pay Innovation, Team Pay Innovation, Organization Pay Innovation, and Benefits Pay Innovation. Later, Totterdill and Exton (2014) suggested that there were four components of workplace innovation, namely, work organization, structure and systems, reflection and innovation, and workplace partnership.

Ritala, Schneider, and Michailova (2020) identified four methodological challenges within the innovation management literature. The first being the 'conceptual and empirical ambiguity' of the concept itself. This was followed by 'level multiplicity' which refers to the multiple layers of innovation. A third challenge is 'temporal interdependencies' which refers to the processual character of the concept, and finally there is 'contextual complexity' that refers to the way in which innovation is entrenched within organizations and is socially constructed.

Generally, innovation benefits organizations, and Camisón and Villar-López (2014) found that the development of technological innovation capabilities was brought about by organizational innovation. In concert with technological capabilities for products and processes, this could result in superior firm performance.

Exposito and Sanchis-Llopis (2018) suggested a multidimensional approach to investigating the relationship between innovation choices and business performance. Thus innovation possibilities and work systems that influence creativity (Do & Shipton, 2019) and permeate thorough any business or organizational activity are an aspect that requires taking into account as organizations are forced to compete in an environment of increasing levels of competition.

A range of elements of innovation have been identified by numerous researchers and fall into the categories of an organizational nature, organizational climate and culture, leadership and management, and processes required to promote innovation. These different aspects of the drivers of innovation will be individually discussed in the following sections and address the aim of this chapter which is to identify the seminal elements that impact an organization's innovation process and which is underpinned by the following research question:

> RQ1 What are the seminal elements that impact an organization's innovation process?

Of note here is that the chapter adopts a general approach and is not specific to a particular type of organization or industry and therefore embraces multiple types of organizations and industry contexts.

Methodology

To address the research question, an in-depth systematic integrated literature review was conducted which included seminal and current studies investigating the organizational innovation processes. The key words utilized in the search were 'seminal elements innovation' and 'organizational innovation'. Both UK and US spelling were employed when searching for the key term 'organisation and organization'. The criteria for inclusion and exclusion of the selected articles followed consistency (Salkind, 2010) in that the articles had to be scholarly peer-reviewed articles and written in English. Therefore, the manual literature review was predominantly comprised of peer-reviewed

journal articles, books, chapters, and conference papers. The search engines used in the review were EBSCO, Proquest, and Google Scholar. The first stage of the search generated 1793 potential references. These references ranged from seminal, highly cited literature to current prevalent literature and were subjected to detailed examination prior to 66 of the mainly more recent papers being identified as covering the material and being included in this chapter. The material was analyzed, and the findings were synthesized to develop a model that identifies the vital elements of an organization's innovation process.

Literature Review

Organizational Environment and Innovation

Kimberley and Evanisko (1981) found that environmental and organizational variables, especially industry, and organizational size affect organizational innovation, thus establishing the relationship between organization size and innovation. In this regard, Pienaar and Boshoff (1996) examined the relationship between creativity, innovation, and organizational climate in library settings, where they found that large organizations evidenced higher levels of innovation than smaller organizations. They concluded that the size of the organization has a direct influence on the level of innovation. In support of this finding, Divisekera and Nguyen (2018) identified organizational size as influencing innovation in the tourism industry. Naqshbandi (2018), in a study of Malaysian organizations, used six measures of inbound innovation and four measures of outbound innovation and established that there was a significant difference between organizations of different sizes in relation to levels of inbound and outbound open innovation. The cause of this effect was ascribed to the inflows and outflows of knowledge and information regarding the paths to market. Yet in contrast, other studies have found no significant relationship between the size of an organization and the implementation of innovation (Vakola & Rezgui, 2000).

Where it is found to exist, the effect of organizational size on innovativeness is viewed as being due to personnel and management practices (Stata, 1989; Stringer, 2000). To examine this aspect, Capaldo, Iandoli, Raffa, and Zollo (2003) introduced an innovation capability evaluating method with four resource sets—human, entrepreneurial, those arising from external linkages and economic sources. Each set contained several measures to assess both the degree of technological innovation and market innovation capability.

However, to be able to utilize such identified resource sets, it is necessary that an organization be structured in such a way as to allow for the utilization of these abilities. In this regard, Pavitt (1991) had identified five key aspects that should be possessed by innovative organizations. The first aspect was organization-specific abilities that could allow for the development of the direction and range of technological opportunities that the organization could exploit. This was followed by an organizational structure that was sufficiently decentralized to allow for effective implementation of new opportunities. The third aspect was associated with the type of organization needed to allow for the use of core technologies. The fourth aspect was anchored to the process of learning that would enable organizations to use their experience to improve their competencies, and the final aspect pertained to the methods of resource allocation that would support the development of innovative offerings.

Research by Thompson (1965) found that a rigid bureaucratic structure inhibits innovation but can be altered to increase innovativeness. This could be achieved by means of processes such as increased professionalization, a loose or a untidier organizational structure, decentralization, freer communication, greater reliance on group processes, modification of the incentive system, and changes in management practices. These types of less bureaucratic structures can be enhanced by the utilization of key innovation advocates such as internal champions, intrapreneurs, promoters, gatekeepers, and other staff roles which support, energize, and facilitate innovation (Rothwell, 1992). Other researchers have found that flat or matrix organizational structures and open communication pathways between departments and functions are likely to be more innovative than traditional hierarchical organizations, characterized predominantly by vertical communication and chain of command (e.g., West & Altink, 1996).

Martins and Terblanche (2003) suggested that the level of innovation was a context-specific evaluation which varied from one group, one organization, and one organizational culture to another. This suggested that the evaluation of innovation should be considered at the level of person, organization, industry context, staff role, profession, and wider. However, in contradiction to this, Bakx (2007) suggested that the degree of innovativeness is not dependent on the nature of the organization where the person works. In contrast, Galanakis (2006) asserted that knowledge creation and new product design including market success processes are shaped by an organization's internal elements as well as by external factors such as national policy.

The understanding of the role that is played by organizational knowledge had been stated earlier, in a broader manner by Ettlie and Reza (1992) who considered that new product development capability could be the result of a

combination of external knowledge, the coordination capacity of internal relationships, and the collective organizational mind. Chang and Lee (2008) explored the effect of knowledge accumulation capability on organizational innovation. They found that the interaction between the external environment, the organizational culture, and the ability of the organization to accumulate knowledge would influence organizational innovation. Andreeva and Kianto (2011) suggested that knowledge creation is the most important aspect required to enhance the development of innovation in organizations, and Naqshbandi (2018) identified that knowledge acquisition in open innovation organizations was a driver of innovation. However, in order to utilize the level of knowledge that exists within an organization the knowledge needs to be shared among its members, and De Mayer (1985) had identified that the degree of innovation internally (upward, downward, and laterally) within an organization and outside can be influenced by organizational-wide communication.

Thus, having an organization that allows for its personnel to involve themselves in learning and knowledge creation can be a vital element in promoting innovation. Such learning can be enhanced by the length of tenure of organizational personnel, and as Sveiby and Simons (2002) have identified, employees with longer organizational tenure tend to foster a more collaborative culture and thus promote knowledge sharing and workplace innovation.

Organizational Climate, Culture, and Innovation

While it is evident that the type of organization and its system of management are elements that will influence innovation, there are other aspects that can have a major effect on an organization's innovative activity. Two of the foremost of these influences are the climate and culture of the organization. Empirical investigations have been found to support the concept that organizational climate effects innovation (Abbey & Dickson, 1983), while Rothwell (1992) suggested that a quality-oriented culture with an internal and external customer focus was an organizational aspect that would enhance innovation. Another research study reported by Delgado-Verde, Martín-de Castro, and Emilio Navas-López (2011) regarding an empirical analysis of 251 Spanish high and medium manufacturing firms has shown that higher product innovation capability can result from the organizational culture and the chief executive officer's commitment toward innovation. Similarly, Zain, Richardson, and Adam (2002) had determined that national culture could play an important function in the innovation process.

The organization's culture influences its organization's climate; however, the concept of climate is one that extends far beyond the simple concept of organizational cultural differences. It has been established that organizational climate is an antecedent to culture (McMurray & Scott, 2003) and that climate, the older concept, informs culture (Schneider, Ehrhart, & Macey, 2011) and impacts on organizational effectiveness. A number of researchers have therefore focused specifically on organizational climate and its relationship to the development of innovative offerings. Thus, following on from their findings, Baer and Frese (2003) proposed that cooperation within an organization would be an important factor in enhancing the development of innovative offerings. In addition, in expanding on what would represent cooperation, they suggested that there could be two climate dimensions of major importance. These were, firstly, support for an active approach toward work, where staff were comfortable to take interpersonal risks, and secondly, a climate where the organization placed a value on an individual's contributions to knowledge and skill that could be utilized in the work process, so that successful cooperation required the existence of a climate in which employees felt safe when displaying proactive behavior. Similarly, Siegal and Kaemmerer (1978) had identified support for creativity as being a major factor contributing to an innovative climate, and such a creative climate was defined by Tidd, Bessant, and Pavitt (2001, p. 314) as a '…positive approach to creative ideas supported by relevant reward systems'.

In their research, Baer and Frese (2003) focused on process innovation and examined the organizational climates of 47 medium-sized German companies to identify those climates that positively affected the relationship between process innovation and company performance. The aspects that they examined were the relationship between process innovations, climates for initiative, psychological safety, and firm performance, and they found a direct relationship between a climate for initiative, psychological safety, and firm performance. They concluded that climates for innovation and psychological safety were important means to use to increase company performance irrespective of the degree of change in process innovativeness and that such climate changes alone could result in higher levels of employee innovativeness.

Leadership and Management

Leadership and consideration of individuals was suggested by Parry and Proctor-Thompson (2003) to be linked to climate. Jaskyte (2004) also suggested that innovation would be dependent on leadership and that this would

be affected by the organizational climate. However, when attempting to test this suggested relationship by means of correlational analysis, Jaskyte (2004) failed to demonstrate any such relationship between leadership and innovation although it was found that leadership did appear to affect organizational culture.

Meyer and Goes (1988) had shown that managerial or leadership variables were strong predictors of innovation processes, and Schoemaker, Heaton, and Teece (2018) identified the important role played by top management entrepreneurial leadership in influencing an organization's innovation processes. In terms of transformational leadership styles, Mokhber, Khairuzzaman, and Vakilbashi (2017) identified that there was a positive relationship between transformational leadership and innovation as did Xie et al. (2018). They conducted an empirical analysis and found that transformational leadership styles built trust and individual identity within teams. In turn, Hughes et al. (2018, p. 565) concluded that '…there is clear theoretical and empirical evidence demonstrating that leadership is an important variable that can enhance or hinder workplace creativity and innovation'.

Other leadership styles such as transactional leadership showed some influence, but this was not as strong in influencing organizational innovation as that arising from transformational leadership. In the educational sector, Elrehail, Emeagwali, Alsaad, and Alzghoul (2018) found that knowledge sharing interacted with transformational leadership and that this could be the differentiating factor influencing the development of innovation processes.

Guimaraes, Paranjape, Cornick, and Armstrong (2018) in studying the outcome of an innovative process as being the introduction of new products and the success of such introductions suggested that important determinants of such new product development success would fall into four main areas of strategic leadership specifically competitive intelligence, management of technology, specific characteristics of the company's innovation process, and the company's absorptive capacity to use available knowledge to produce and commercialize new products.

Many factors influence an individual's motivation and ability to innovate in the workplace. In addition to individuals feeling safe, these can relate to the nature and existence of any sanctions for making mistakes, the intrinsic value of tasks, and autonomy and control over work (West & Altink, 1996). Su and Baird (2017) have identified the need for service organizations to focus on new management practices, process structures, and techniques to promote organizational innovation. The effect of the use of innovative management techniques covering aspects such as knowledge management and entrepreneurial action has been investigated in Spain by Albors-Garrigos, Igartua, and

Signes (2018) who found that the utilization of such techniques had a direct effect on innovation activity but also that this effect could be moderated by the industry environment. This research into the influence on innovation of all these aspects of the management of an organization has highlighted the need for, and nature of, such management to be carefully considered.

However, for there to be successful implementation of an innovation process apart from an acceptance of mistakes and the allocation of extra 'thinking' time, it is necessary that there should be some perceptual rewards for the organizational members who are engaged in the process. This in turn requires that there should be some measurement of the achievements, and Williams and McMurray (2004) suggested that innovative practice could be supported by means of an appropriate performance appraisal system. The development of such a suitable appraisal system would be a function of the leadership of an organization.

In contrast to thoughts of imposing sanctions on employees for making mistakes, researchers such as Amabile (1998) have suggested that the generation and implementation of new ideas by employees would depend on creative behavior. This would need to be sustained and rewarded by the organization in order to ensure that it can develop to its fullest capacity. This aspect can be enhanced by means of documented management procedures and by the nature of an employment contract that is entered into by employees and organizational management. In reinforcement of this aspect, Dung, Thang, Janssen, and Hine (2017) examined 865 Vietnamese small and medium manufacturing enterprises. They found that the formality of the employment contract was a significant positive influence on product improvement and process innovation.

Required Innovation Processes

The potential influence of human resource management on innovation has been recently identified by Lee, Pak, Kim, and Li (2019) who determined that suitable human resource management practices such as rewards and performance appraisals could increase the proactivity of workforce members and thereby increase the levels of innovation in the workplace.

Luu and Inaba (2013), in an analysis of more than 2500 private manufacturing small and medium Vietnamese enterprises, expanded the range of aspects that would be important for innovation to occur within an organization when they found that international engagements, export, import of equipment and machinery, and support from foreign donors would be promoters of innovation.

Both product innovation known as outcome innovation and process innovation require firms to have capabilities related to technology and the market (Danneels, 2002) with many studies presenting innovation capability as a synthesis of such capabilities. From a process approach, Chiesa, Coughlan, and Voss (1996) proposed a formative measurement model for technological innovation capability which included product development capability, process innovation capability, concept generation capability, leadership capability, technology acquisition capability, capability in the effective use of systems and tools, and resource deployment capability.

It is evident that there are a range of organizational actions that need to be taken into account when examining the types of activities that are necessary to promote an organization to become innovative. Some of these relate to the basic climate and culture of the organization, as has been previously discussed, and others to the organization of the processes that will be necessary to bring about innovation. This was highlighted by Van der Panne, van Beers, and Kleinknecht (2003) in their identification of what they considered to be the seven factors that would be important if an organization were to create new and innovative product offerings. The first of these factors embrace a culture that is dedicated to innovation and explicitly recognizes the collective nature of innovation efforts. This is followed by previous experience with innovation projects. Thirdly, a multidisciplinary research and development team with a balance of technological and marketing skills, and the presence of a product champion. Fourthly, a clearly articulated innovation strategy and a suitable management style. The fifth factor addresses the compatibility of the product development project with the firm's core competencies. The sixth is the innovations product quality and price relative to those of established products, followed lastly by good market introduction timing.

Measurement of Innovation

A number of the elements that are necessary for innovation to take place have been reflected in instruments that have been developed in order to measure innovation. Thus, Becker and Whisler (1967) suggested that the innovation process could be measured based on the four stages of stimulus, conception, proposal, and adoption. Building on this work, McMurray and Dorai (2003) developed a 24-item Workplace Innovation Scale (WIS) that was designed to identify and to measure the behavioral aspects of innovation practices by individuals in their workplace. This measure was comprised of the four

dimensions specifically addressing innovation climate, organizational innovation, team innovation, and individual innovation.

Another measurement scale that was aimed at the evaluation of innovation performance was suggested by Alegre, Lapied, and Chiva (2006). These authors considered that product innovation performance was a result of the existence of the two different dimensions of efficiency and efficacy. While innovation efficiency reflected the effort carried out to achieve a degree of success, innovation efficacy reflected the degree of success of an innovation.

Consolidation and Discussion

According to Dackert, Loov, and Martensson, 2004, there are four aspects of group innovation, in particular vision, participative safety, climate for excellence, and support for innovation. However, innovation requires an encouraging environment, suitable organizational structures, climate and culture, and the carrying out of a suitable process. The factors that influence innovation in organizations and that have been identified in the preceding discussion can therefore be summarized as follows:

Firstly, in terms of the nature of the organization in relation to its size, personnel and management practices, inflows of knowledge, and the types of technology and markets in which it is operating are important aspects. These will in turn be able to be utilized by the existence of a suitable decentralized, flat structure with good easy communication between employees possibly enhanced by personnel with longer tenures and the promotion of learning, proper resource allocation, and a suitable incentive scheme.

Secondly, the organizational environment will relate to the climate that exists within the organization and its culture both of which need to be quality and customer oriented. Personnel need to be encouraged to be creative and to accept risks with there being rewards for creativity and innovation, support for such innovation, and an absence of any sanctions that penalize failures of innovative efforts.

Thirdly, aspects of the organizational environment, climate, and culture will need to be promoted through entrepreneurial leadership that supports creativity and innovation and which may be transformational in its orientation. Innovation can therefore be promoted by support for the acquisition and utilization of competitive intelligence, the sharing of knowledge, the absence of any sanctions that inhibit risk-taking, a suitably accepting human resource management-based appraisal system, and employee contracts that recognize innovation.

Finally, it is necessary that any innovation be able to be transformed into competitive offerings that will appeal to customers, and this will require that there is a suitable level of technological capability and a sharing of knowledge together with the integration of employee skills, technology, and human resource management which may need to acquire any skilled personnel needed to support the developmental process that is required.

In order to determine whether an organization is suitably equipped to promote innovative activity, it will be necessary to measure the organization's capability, and this will require the utilization of an assessment instrument that is more wide ranging than the instruments that have hitherto been used.

These six required innovation elements are depicted in condensed form within the following foundational model (Fig. 2.1):

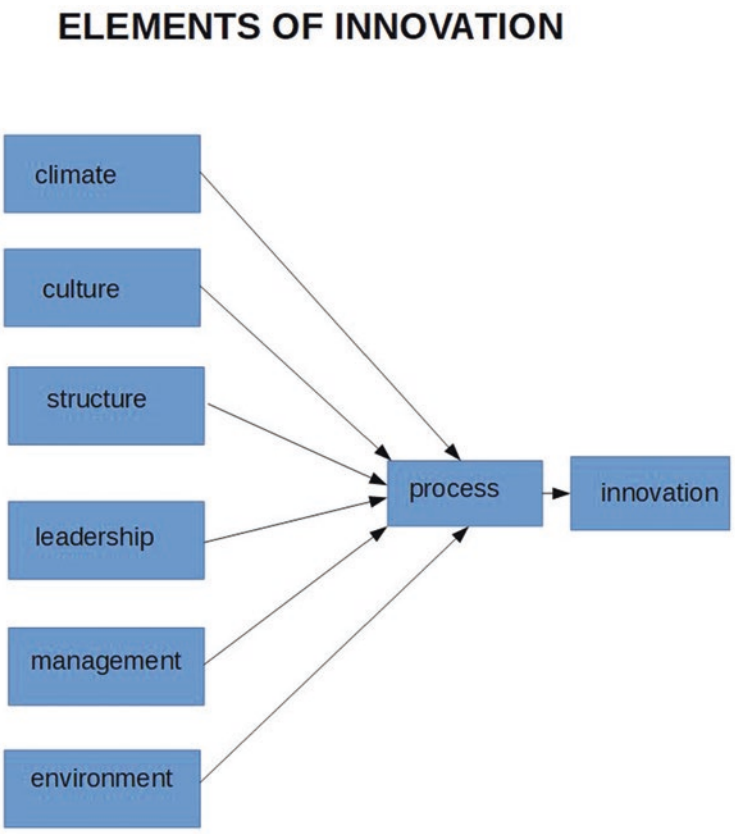

Fig. 2.1 Foundational Model: Elements of Innovation. Source: Authors

Conclusion

The purpose of this chapter was to identify the seminal elements that impact on an organization's innovation process. The six vital elements of culture, climate, structure, leadership, management, and environment were derived from the literature. These factors informed the development of the foundational innovation model that contributes to the literature through the identification of the foundation influences of the innovation process. Future research could expand this model to include the detailed components of each of the six elements as they relate to a specific organizational type or a specific industry.

A limitation of this chapter is that it is conceptual and only evaluated literature that was published in the English language.

References

Abbey, A., & Dickson, J. (1983). R & D Work Climate and Innovation in Semiconductors. *Academy of Management Journal, 26*, 362–368.

Albors-Garrigos, J., Igartua, J. I., & Signes, A. P. (2018). Innovation Management Techniques and Tools: Its Impact on Firm Innovation Performance. *International Journal of Innovation Management, 1850051*, 31. World Scientific Publishing Europe Ltd. https://doi.org/10.1142/S1363919618500512

Alegre, J., Lapied, R. A., & Chiva, R. (2006). A Measurement Scale for Product Innovation Performance. *European Journal of Innovation Management, 9*, 333–346.

Amabile, T. M. (1998). How to Kill Creativity, *Harvard Business Review*, September-October: 77–87.

Andreeva, T., & Kianto, A. (2011). Knowledge Processes, Knowledge-intensity and Innovation: A Moderated Mediation Analysis. *Journal of Knowledge Management, 15*, 1016–1034.

Baer, M., & Frese, M. (2003). Innovation is Not Enough: Climates for Initiative and Psychological Safety, Process for Innovations, and Firm Performance. *Journal of Organizational Behavior, 24*(1), 45–68.

Bakx, N. (2007). *Which Personality Traits do Innovative People Possess*, Masters Thesis, University of Amsterdam.

Baldridge, J., & Burnham, R. A. (1975). Organizational Innovation: Individual, Organizational and Environmental Impacts. *Administrative Science Quarterly, 20*, 165–176.

Balkin, D. B., Tremblay, M., & Westerman, J. (2001). Workplace Innovations in Large, Unionized Canadian Organizations. *Journal of Business and Psychology, 15*, 439–448.

Beblavý, M., Maselli, I., & Martellucci, E. (2012). *Workplace Innovation and Technological Change.* CEPS Special Report.

Becker, S. W., & Whisler, T. L. (1967). The Innovative Organization: A Selective View of Current Theory and Research. *Journal of Business., 40*, 462–469.

Buzzell, R. D., & Gale, B. T. (1987). *The PIMS Principles*. New York: The Free Press.

Camisón, C., & Villar-López, A. (2014). Organizational Innovation as an Enabler of Technological Innovation Capabilities and Firm Performance. *Journal of Business Research, 67*, 2891–2902.

Capaldo, G., Iandoli, L., Raffa, M., & Zollo, G. (2003). The Evaluation of Innovation Capabilities in Small Software Firms: A Methodological Approach. *Small Business Economics, 21*, 343–354.

Cascio, W. F., & Aguinis, H. (2019). *Applied Psychology in Talent Management* (8th ed.). Thousand Oaks, CA: Sage.

Chang, S.-C., & Lee, M. S. (2008). The Linkage Between Knowledge Accumulation Capability and Organizational Innovation. *Journal of Knowledge Management, 12*, 3–20.

Chiesa, V., Coughlan, P., & Voss, C. A. (1996). Development of a Technical Innovation Audit. *Journal of Product Innovation Management, 13*, 105–136.

Dackert, I., Loov, L. A., & Martensson, M. (2004). Leadership and Climate for Innovation in Teams. *Economic and Industrial Democracy, 25*(2), 301–318.

Danneels, E. (2002). The Dynamics of Product Innovation and Firm Competences. *Strategic Management Journal, 23*, 1095–1121.

De Mayer, A. (1985). The Flow of Technological Innovation in an R & D Department. *Research Policy, 4*, 315–328.

Delgado-Verde, M., Martín-de Castro, G., & Emilio Navas-López, J. (2011). Organizational Knowledge Assets and Innovation Capability: Evidence from Spanish Manufacturing Firms. *Journal of Intellectual Capital, 12*, 5–19.

Dhondt, S., Preenen, P., Oeij, P., Corral, A., Isusi, I., Totterdill, P., & Karanika-Murray, M. (2014). European Company Survey: Construction of the Workplace Innovation Index and Selection of Companies. (No. TNO 2014 R14131). TNO.

Divisekera, S., & Nguyen, V. K. (2018). Determinants of Innovation in Tourism Evidence from Australia. *Tourism Management, 67*, 157–167. https://doi.org/10.1016/j.tourman.2018.01.010

Do, H., & Shipton, H. (2019). High-performance Work Systems and Innovation in Vietnamese Small Firms. *International Small Business Journal, 37*(7), 732–753.

Dung, N. V., Thang, N. N., Janssen, F., & Hine, D. (2017). Employment Contract and SME's Innovation in Developing and Transition Economies: The case of Vietnam. *Journal of Developmental Entrepreneurship, 22*, 1750027.

Elrehail, H., Emeagwali, O. L., Alsaad, A., & Alzghoul, A. (2018). The Impact of Transformational and Authentic Leadership on Innovation in Higher Education: The Contingent Role of Knowledge Sharing. *Telematics and Informatics, 35*(1), 55–67. https://doi.org/10.1016/j.tele.2017.09.018

Ettlie, J. E., & Reza, E. M. (1992). Organizational Integration and Process Innovation. *Academy of Management Journal, 35*, 795–827.

Exposito, A., & Sanchis-Llopis, J. A. (2018). Innovation and Business Performance for Spanish SMEs: New Evidence from a Multi-dimensional Approach. *International Small Business Journal, 36*(8), 911–931.

Fagerberg, J., Fosaas, M., & Sapprasert, K. (2012). Innovation: Exploring the knowledge Base. *Research Policy, 41*(7), 1132–1153.

Friedman, M. (1970). *The Social Responsibility of Business Is to Increase Its Profits*. New York: The New York Times Magazine.

Galanakis, K. (2006). Innovation process. Make Sense Using Systems Thinking. *Technovation, 26*(11), 1222–1232.

Guimaraes, T., Paranjape, K., Cornick, M., & Armstrong, C. P. (2018). Empirically Testing Factors Increasing Manufacturing Product Innovation Success. *International Journal of Innovation and Technology Management, 15*(2), 1850019.

Hughes, D. J., Lee, A., Tian, A. W., Newman, A., & Legood, A. (2018). Leadership, Creativity, and Innovation: A Critical Review and Practical Recommendations. *The Leadership Quarterly, 29*(5), 549–569. https://doi.org/10.1016/j.leaqua.2018.03.001

Jaskyte, K. (2004). Transformational Leadership, Organizational Culture, and Innovativeness in Nonprofit Organizations. *Non Profit Management & Leadership, 15*(2), 153–168.

Kimberley, J. R., & Evanisko, M. J. (1981). Organizational Innovation: The Influence of Individual, Organizational and Contextual Factors on Hospital Adoption of Technological and Administrative Innovations. *Academy of Management Journal, 24*, 689–714.

Lee, H. W., Pak, J., Kim, S., & Li, L.-Z. (2019). Effects of Human Resource Management Systems on Employee Proactivity and Group Innovation. *Journal of Management, 45*(2), 819–846. 10.11/0149206316680029.

Luu, D. T., & Inaba, Y. (2013). External Engagements and Innovation of Firms: Evidence from Vietnamese Manufacturing SMEs. *The Journal of Social Science, 1*, 73–99.

Martins, E. C., & Terblanche, F. (2003). Building Organisational Culture that Stimulates Creativity and Innovation. *European Journal of Innovation Management, 6*(1), 64–74.

McMurray, A., & Scott, D. (2003). The Relationship between Organizational Climate and Organizational Culture. *Journal of American Academy of Business, 3*, 1): 1–1): 8.

McMurray, A. J., & Dorai, R. (2003). Workplace Innovation Scale: A New Method for Measuring Innovation in the Workplace. *Organizational Learning & Knowledge 5th International Conference.* Lancaster University, UK.

Meyer, A., & Goes, J. B. (1988). Organizational Assimilation of Innovations: A Multilevel Contextual Analysis. *Academy of Management Journal, 31*, 897–923.

Mokhber, M., Khairuzzaman, W., & Vakilbashi, A. (2017). The Moderator Role of Organization Support for Innovative Behaviors. *Journal of Management and Organization, 24*(1), 108–128.

Naqshbandi, M. M. (2018). Organizational Characteristics and Engagement in Open Innovation: Is there a Link? *Global Business Review, 19*(3), 1–20. https://doi.org/10.1177/0972150918757845

Parry, K. W., & Proctor-Thompson, S. B. (2003). Leadership, Culture and Performance: The Case of the New Zealand Public Sector. *Journal of Change Management, 3*(4), 376–399.

Pavitt, K. (1991). Key Characteristics of the Large Innovating Firm. *British Journal of Management, 2*, 41–50.

Pienaar, H., & Boshoff, A. B. (1996). Relationship Between Creativity and Innovation in University Libraries and the Organizational Climate. *South African Journal of Library and Information Science, 64*, 67–74.

Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press.

Ritala, P., Schneider, S., & Michailova, S. (2020). Innovation Management Research Methods: Embracing Rigor and Diversity. *R&D Management, 50*(3), 297–308.

Rothwell, E. (1992). Successful Industrial Innovation: Critical Factors for the 1990s. *R & D Management, 22*(30), 221–239.

Salkind, N. J. e. (2010). *Encyclopedia of Research Design* (Vol. 1). Thousand Oaks: Sage.

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2011). Perspectives on Organizational Climate and Culture. In S. Zedeck (Ed.), *APA handbooks in psychology®. APA handbook of industrial and organizational psychology, Vol. 1. Building and developing the organization* (pp. 373–414). Washington DC: American Psychological Association. https://doi.org/10.1037/12169-012

Schoemaker, P. J. H., Heaton, S., & Teece, D. (2018). Innovation Dynamic Capabilities and Leadership. *California Management Review, 61*(2), 15–42. https://doi.org/10.1177/0008125618790246

Siegal, S. M., & Kaemmerer, W. F. (1978). Measuring Perceived Support for Innovation in Organizations. *Journal of Applied Psychology, 63*, 553–562.

Stata, R. (1989). Organizational Learning: The Key to Management Innovation. *Sloan Management Review, Spring*, 63–74.

Stringer, R. (2000). How to Manage Radical Innovation. *California Management Review, 42*, 70–88.

Su, S., & Baird, K. (2017). The Role of Leaders in Generating Management Innovation. *The International Journal of Human Resource Management, 29*(19), 2758–2779. https://doi.org/10.1080/09585192.2017.1282533

Sveiby, K. E., & Simons, R. (2002). Collaborative Climate and Effectiveness of Knowledge Work: An Empirical Study. *Journal of Knowledge Management, 6*(5), 420–433.

Thompson, V. (1965). Bureaucracy and Innovation. *Administrative Science Quarterly, 1*, 20.

Tidd, J., Bessant, J., & Pavitt, K. (2001). *Managing Innovation Integrating Technological, Market and Organisational Change*. England: John Wiley & Sons Ltd.

Totterdill, P., & Exton, R. (2014). Defining Workplace Innovation: The Fifth Element. *Strategic Direction, 30*, 12–16.

Vakola, M., & Rezgui, Y. (2000). Organizational Learning and Innovation in the Construction Industry. *The Learning Organization, 7*, 174–183.

Van der Panne, G., van Beers, C., & Kleinknecht, A. (2003). Success and Failure of Innovation: A Literature Review. *International Journal of Innovation Management, 7*(3), 309–338. https://doi.org/10.1142/s1363919603000830

West, M. A., & Altink, W. M. M. (1996). Innovation at work: Individual, Group, Organizational, and Socio-historical Perspectives. *European Journal of Work and Organizational Psychology, 5*, 3–11.

Williams, L., & McMurray, A. J. (2004). Factors Effecting the Innovative Practice of Nurse Managers in Health Organisations. *Contemporary Nurse, 16*(1-2), 30–39.

Xie, Y., Xue, W., Li, L., Wang, A., Chen, Y., Zheng, Q., et al. (2018). Leadership Style and Innovation Atmosphere in Enterprises: An Empirical Study. *Technological Forecasting & Social Change, 135*, 257–265. https://doi.org/10.1016/j.techfore.2018.05.017

Zain, M., Richardson, S., & Adam, M. N. K. (2002). *The Implementation of Innovation by a Multinational Operating in Two Different Environments: A Comparative Study*. Oxford: Blackwell Publishers.