

ORGANIZATIONAL INNOVATION IMPACTS: A SELECTIVE SURVEY

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ABSTRACT

Innovation has been the subject of several lines of research in the last few decades. An exploratory analysis of the literature on the impacts of organisational innovation was made with a focus on organisational innovation, an innovation type that has been relatively neglected by the literature, compared with other innovation types, which has received the bulk of attention in the academic debate.

The methodology of this research is entirely based on a literature review. It is an initial exploratory literature review, extracted from journals ranked in the two first quartiles of a major referential database. This study allowed to extract several significant contributions to the debate. The main limitations of the present study are related mainly with the limits imposed for the selection of articles.

The contributions of this research include the identification and presentation of the effects of this kind of innovation, the acknowledgement of important interrelationships between the impacts of organizational innovation, other types of innovation and affected areas, and a summary presentation of what has already been done in this field. More research on the subject is needed because it is still relatively scarce, definitions are not completely consolidated, and conceptual relationships or generalisations are yet incipient.

INTRODUCTION

Nowadays, innovation is a very important topic for many organizations and many researchers are dedicated to the study of this thematic. According to the OSLO manual, there are distinct types of innovation: technological innovation, that is related with product and process innovation and non-technological innovation that is related to marketing and organizational innovation (OCDE, 2005). Most of the studies focus on product and process innovation. Due to the less importance given to non-technological innovation, and in particular,

organizational innovation, the definition of this concept is found in diverse papers with different formulations.

The OSLO Manual has guidelines for collecting and interpreting innovation data bringing some uniformity on the definition of organizational innovation. So, in this paper, organizational innovation is defined as in the OSLO Manual, meaning that “An organizational innovation is the implementation of a new organizational method in the firm’s business practices, workplaces organization or external relations” and it can be distinguished of other organizational changes in the organization by their novelty for the firm, that is, “the implementation of the organizational method (in business practices, workplace organization or external relations) that has not been used before in the firm and it is the result of strategic decisions taken by management” (OCDE, 2005, p. 51).

Through a literature review that adopted some features of a systematic review, it was possible to identify important issues concerning research on organizational innovation, and particularly, some topics related to the impacts of organizational innovation in several dimensions of organisations.

RESEARCH METHODOLOGY

The literature review performed was informed by the work presented by Kitchenham and Brereton (Kitchenham & Brereton, 2013), which looked at the process of systematic reviews. However, this is not a systematic literature review. The method used was an ad-hoc method structured through the adoption of some phases of the systematic review process identified in the mentioned study, since there were no resources to proceed with a systematic review. One can consider it an initial step towards that end, an initial exploratory literature review. To begin with, we analysed peer reviewed papers from the Web of Science database. The search performed was based in a combination of the words “impact”, “organizational innovation”, “non-technological innovation”, “effects”, “management innovation”, and “administrative innovation”.

In the first stage, we proceeded with a manual search based on the title and abstract and selected candidate papers. However, only relevant papers presented in peer

reviewed journals from quartiles 1 and 2 in SCImago were considered. Then, the full papers were analysed and compared. Some papers were only excluded in this phase because it was only after the full read of the paper that it was possible to identify that some papers were not related to organizational innovation, but to another type of innovation. For instance, Kim (1980) refers the analysis of organizational innovation, however the measures used are related to technological innovation. Then, a snowballing process was performed based on the selected papers references, to avoid bias and redundancy, and to consider the maximum studies about the theme. In the end, a total of 20 papers was considered (Kitchenham & Brereton, 2013). Table 1 presents the selected papers and the diverse innovation types and firm's areas affected. The main limitation of the current study is related to its selection methodology, because it considers only relevant papers in a relatively limited set of journals. It is possible that some relevant papers can also be present in other databases not considered in this research, or in journals from quartiles 3 or 4. However, in spite of these limitations, it was possible to extract from the selected papers important conclusions which may contribute to the advancement of knowledge in this domain.

MAIN CONCEPTUAL ISSUES IDENTIFIED THROUGH THE LITERATURE REVIEW

Definition variability

Before the publication of the OSLO Manual, other definitions were created to analyse organizational innovation such as "administrative innovation" (Damanpour, 1987). Even after the publication of this manual, other denominations can be found such as "management innovation" (Walker et al., 2011) that is defined as "the generation and implementation of a management practice, process, structure or technique that is new for the state of the art and is intended for further organizational goals" (Damanpour & Aravind, 2012; Walker et al. 2011) or "managerial innovation" (Damanpour & Aravind, 2012) that are defined as "new approaches in knowledge for performing the work of management and new processes that produce changes in the organization's strategy, structure, administrative procedures and systems" (Damanpour & Aravind, 2012, p. 429,432). This situation shows some difficulty to find a consensual definition of the "organizational innovation" concept. However, based on the definitions of the authors, from our point of view, the administrative innovation can be included in the definition of organizational innovation from the OSLO manual. However, managerial innovation and management innovation cannot be included because these definitions could include new processes or techniques that can be englobed in process innovation (Damanpour, 1987; Damanpour & Aravind, 2012; Walker et al., 2011).

General findings and identification of the main concepts addressed in the literature

The analysis of the literature revealed some consensual conclusions. However, some of the studies considered for this literature review pointed out that the generalization of some results should be cautious because they were based on specific case studies and, in fact the majority of the studies are based on empirical studies (e.g. Armbruster et al., 2008; Azar & Ciabuschi, 2017; Ballot et al., 2015; Camisón & Villar-López, 2014; Evangelista & Vezzani, 2010, 2011; Laforet, 2013; Pino et al., 2016). First of all, to understand the impacts of organizational innovation on the diverse performance dimensions of a firm and in the other types of innovation, a table of concepts was created and is presented in Table 1. To construct this table, some considerations were made: the concept "organizational innovation" is not in the table because all the papers selected are related with the concept of "organizational innovation" as defined by the OSLO Manual (2005); papers related with technological innovation are related with product and process innovation and papers related with non-technological innovation are related with organizational and marketing innovation, according to the definition of these concepts by the OSLO Manual (OCDE, 2005). The main concepts identified which were related to organizational innovation are: marketing innovation, product innovation, process innovation, organizational performance, financial performance, firm performance, innovation performance, employment, operational performance and customer satisfaction.

Table 1 is informative about the attention that this subject received throughout the years. It is possible to find a gap of studies between 1987 and 2008. This could be explained due to the larger importance given to the study of product and process innovation. Due to the minor importance given to the subject, it is possible that the articles that dealt with the subject during this period could be in less known journals (from the third and fourth quartile). It is also possible that, due to the lack of agreement on the definition of the term "organizational innovation", researchers interested in this area emphasized more other aspects and not the impact of this kind of innovation. This is one the main findings that came out of this research, which is in line with other studies of organizational innovation (e. g. Armbruster et al., 2008; Sappasert & Clausen, 2012; Walker et al., 2011) and which is related to the relative scarcity or the lesser attention that the topic of organizational innovation, more concretely their impacts, has received in the literature, compared to the attention that technological innovation impact has received. This has affected the quantity, the quality, the scope and the integration of conceptual propositions and theoretical formulations related to the topic of organizational innovation. This acknowledgement points to the

Table 17 - Presentation of the papers selected and the topics analysed in each paper.

Authors	Year	Types/Dimensions									
		1	2	3	4	5	6	7	8	9	10
1. Damanpour & Evan	1984		x	x							
2. Damanpour	1987		x	x	x						
3. Armbruster, Bikfalvi, Kinkel, & Lay	2008		x	x							
4. Evangelista & Vezzani	2010		x	x		x				x	
5. Gunday, Ulusoy, Kilic, & Alpkın	2011	x	x	x		x		x			
6. Evangelista & Vezzani	2011		x	x		x	x		x		
7. Walker, Damanpour, & Devece	2011						x				
8. Camisón & Villar-López	2011						x				
9. Sapprasert & Clausen	2012		x	x	x						
10. Bolívar-Ramos, García-Morales, & García-Sánchez	2012				x		x				
11. Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, & Rezazadeh	2013						x				
12. Laforet	2013		x	x			x		x	x	
13. Camisón & Villar-López	2014		x	x			x				
14. Ballot, Fakhfakh, Galia, & Salter	2015	x	x	x			x				
15. Aboal & Garda	2016	x	x	x						x	
16. Pino, Felzensztein, Zwerg-Villegas, & Arias-Bolzmann	2016							x			
17. Kafetzopoulos & Psomas	2016	x									x
18. Azar & Ciabuschi	2017	x	x	x			x	x			
19. Geldes, Felzensztein, & Palacios-fenech	2017							x			
20. Prange & Pinho	2017						x	x			

Legend: 1 – Marketing Innovation; 2 – Product Innovation; 3 – Process Innovation; 4 – Organizational Performance; 5 – Financial performance; 6 – Firm performance; 7 – Innovation performance; 8 – Employment; 9 – Operational performance; 10 – Customer satisfaction

necessity to increase efforts in terms of researching the theme of organizational innovation. More efforts in the study of this area could lead to a more consensual perspective concerning fundamental concepts. In the case of technological innovation, a considerable number of studies developed concepts related to the theme and resulted in the creation of a more consensual stream of thought about that topic.

Another interesting finding that came out of the analysis of Table 1 is that, apparently, when the impact of organizational innovation is investigated relatively to product innovation, process innovation is also usually considered, and marketing innovation is left out. Although marketing innovation is considered a non-technological innovation, only five papers studied it together with organizational innovation. It is not clear the reasons for this selective approach to non-technological innovation, since there may be, in principle, mutual influences on each type of innovation. In fact, this selective approach, and the exclusion of the consideration of mutual influences of each type of innovation on each other, is recurrent in several studies, and should also be pointed out as a major finding of this research, although other studies have also referred to it (Azar & Ciabuschi, 2017; Camisón & Villar-López, 2014; Damanpour & Evan, 1984; Sapprasert & Clausen, 2012). This acknowledgement points to the need of additional

research to be carried out to understand the relationships between innovation types and their influence in the impacts on the companies.

A more detailed analysis of the areas affected by organizational innovation

The impact of organizational innovation is generally studied in relation to technological innovation or in relation to the firm's performance in general and not to specific performance measures in the firm. The third area more analysed is the influence of organisational innovation in innovation performance, which apparently only more recently received more attention. Merely a few papers analyse other impacts. Only one paper is related with customer satisfaction, three other papers are related with operational performance, another two with employment, three papers with organizational performance, and three articles with financial performance.

Noruzy et al. (2013) found out that organizational innovation influences directly organizational performance in manufacturing firms and Walker et al. (2011) concluded that management innovation does not have a direct impact on organizational performance (Bolívar-Ramos et al., 2012; Walker et al., 2011). At this point, this is an example of the necessity of a clearer

definition of organizational innovation, because the results obtained for the study concerning organizational innovation are different of the results obtained for management innovation. It is important to establish if different definitions led to different results or if other factors, such as the use of different methodologies, are also accountable for the differences.

Some authors defended that all types of innovation or their combination enhanced firms performance (Ballot et al., 2015; Evangelista & Vezzani, 2011). It was also found that firms that apply different types of innovation had a strongest impact on firm's economic growth (Evangelista & Vezzani, 2011). However, distinct types of innovation showed different impacts. For example, in the work of Camisón & Villar-López (2014) organizational and technological innovation affect positively firm's performance but product and organizational innovation have a direct impact and process innovation has an indirect impact due to the relation with product innovation (Camisón & Villar-López, 2014). So, when it is intended to analyse the impact of innovation, it is important to specify which one, because distinct types of innovation could generate different results. For example, measures or indicators for different types of innovation would have different characteristics, because they will evolve and affect the organizations differently (Armbruster et al., 2008; Camisón & Villar-López, 2014).

Organizational innovation contributes to increase innovativeness, through the generation of a better environment for technological innovation adoption (Azar & Ciabuschi, 2017). It could enhance exports performance (Azar & Ciabuschi, 2017), profit margin and market leadership (Laforet, 2013) and it could also lead to higher financial performance (Gunday et al., 2011). Another benefit presented in literature is the increase of productivity (Aboal & Garda, 2016; Laforet, 2013). However, non-technological innovation seems to have a more important role in services and technological innovation has a more important role in manufacturing firms (Aboal & Garda, 2016).

Although some evidences pointed out that innovative performance is affected by organizational innovation (Gunday et al., 2011; Pino et al., 2016), more evidences showed that innovative performance is influenced by organizational innovation only in manufacturing firms and that only product innovation influences significantly innovation performance across industries (Geldes et al., 2017). So, the impacts on innovation performance are different, according to the sector considered (Geldes et al., 2017). Once again, when it is pretended to understand the impacts of innovation, the type of innovation studied should be identified. However, it is also needed to identify the characteristics of the organizations, such as business sector, company age and size, because organizational innovation outcomes could depend on them (Damanpour, 1987; Geldes et al., 2017; Laforet, 2013). Furthermore, Evangelista & Vezzani (2010) found that organizational innovation could represent an

independent type of innovation and can be more rewarding than product and process innovation, depending on the sector of application (Evangelista & Vezzani, 2010).

Azar & Ciabuschi (2017) pointed out the necessity of organizational innovation for technological innovation, revealing that this should precede technological innovation. This conclusion is in line with the conclusions of other authors about the interdependency between the types of innovation (Camisón & Villar-López, 2014; Damanpour & Evan, 1984; Sapprasert & Clausen, 2012).

Only in the study of Laforet (2013), some evidences showed that neither operational efficiency nor employee's retention get better results through organizational innovation (Laforet, 2013), but nevertheless Evangelista & Vezzani (2011) discovered an association between organizational innovation and employment growth.

Factors that influence organizational innovation

Personal and organizational drivers, technological distinctive competencies, organizational memory, and learning capability are factors that influence organizational innovation, generating impacts on firm performance, organizational performance, customer satisfaction and sustained competitive advantage, respectively (Bolívar-Ramos et al., 2012; Camisón & Villar-López, 2011; Kafetzopoulos & Psomas, 2016; Prange & Pinho, 2017). Therefore, the factors that influence organizational innovation should be considered in the analysis of the impacts of organizational innovation, because several factors could have different impacts, but generally only one or two of the factors and their consequences are showed through organizational innovation on a specific performance dimension of the organizations. Furthermore, previous organizational innovation could help in the understanding of the current effects of organizational innovation, because this is a positive and significant predictor of the current organizational innovation and the prior experience in this type of innovation enhanced the current effects (Damanpour, 1987; Sapprasert & Clausen, 2012).

Figure 1 presents the diagram which highlights the attention that each concept has received in the literature, and the fact that distinct factors related to intrinsic capabilities of the organization influence or drive organizational innovation, which in turns has direct or indirect impacts in several dimensions of the organization, including functions, capabilities and performance.

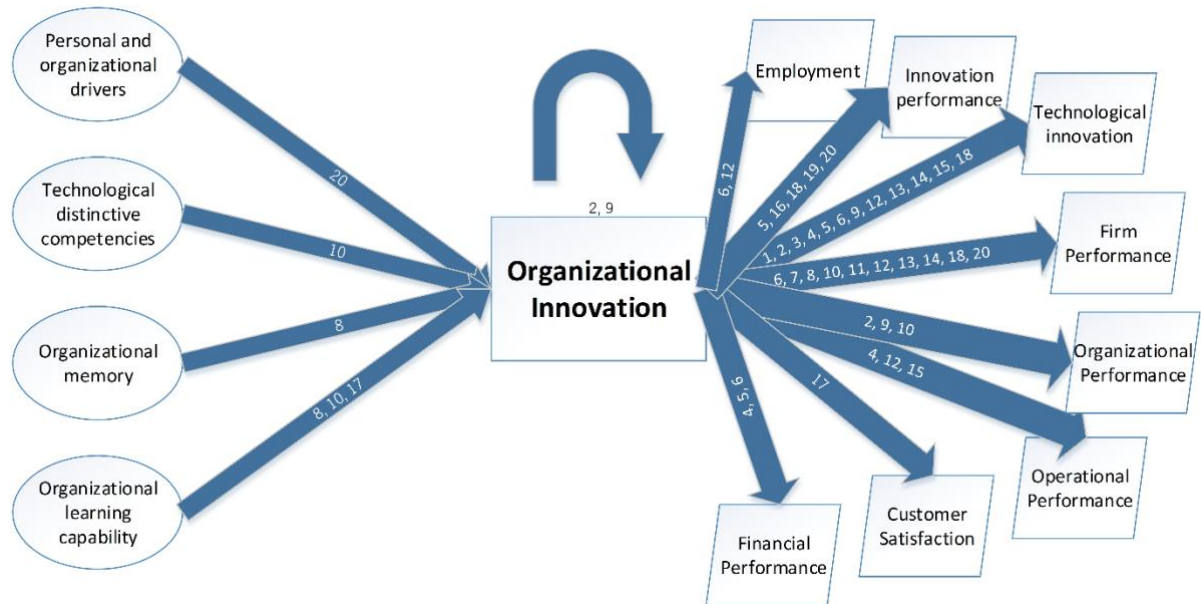


Figure 18 - Global presentation of the enablers and impacts of organizational innovation from this literature review.

CONCLUSIONS AND FURTHER RESEARCH

The presented study reflects the actual state of the art of the impact of organizational innovation. From our point of view there is the need for a more consensual definition of organizational innovation, because it seems that some authors still do not conform with the current definition of the OSLO manual (OCDE, 2005). This situation could lead to the creation of other concepts but with the same meaning of organizational innovation, or it could increase the difficulty to analyse the literature, since it is always necessary to understand which meanings each author assumes when organizational innovation is analysed. For example, one of the articles that was excluded of this literature review mentioned organizational innovation in the title, but it was only referring to technological innovation.

Another conclusion of the current study is related with the identification of the topics that the literature relates to the impacts of organizational innovation. The main effects of organizational innovation are related with impacts on technological innovation, organizational performance, financial performance, firm performance, innovation performance, operational performance, employment and customer satisfaction. The main topics that are the focus of researchers are technological innovation and firm's performance. Recently, it emerged more interest in the effect of organizational innovation in innovation performance.

The most consensual conclusion identified seems to be the necessity of the analytical distinction between types of innovation, since each type of innovation could have different results, showing the importance of the selection of measures that reflect their real impacts. Relatively to the relations between types of innovation, there are some consensual conclusions that there is a considerable level of interdependency between distinct types of innovation and that organizational innovation could support

technological innovation. Nevertheless, more research is needed to clarify the differences between types of innovation, their mutual interdependencies, and to identify the most effective indicators to measure their effects. It is also needed to understand better their relationships and the possible consequences for the organizations.

Although one of the main research topics has been firm's performance, from our point of view more research is needed to understand if the effects of organizational innovation are general or related with specific characteristics of the organization (e.g. size, age, ...) or with their context (e.g. business sector, country, ...). In line with the firm's performance conclusions, the same could be pointed out for the other topics analysed on the presented study, because the literature about the impacts of organizational innovation is still scarce. Clearly, more research about organizational innovation impacts is needed to achieve more consensual results.

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REFERENCES

- Aboal, D., and Garda, P. (2016). "Technological and non-technological innovation and productivity in services vis-à-vis manufacturing sectors." *Economics of Innovation and New Technology*, 25(5), 435–454.
- Armbruster, H., Bikfalvi, A., Kinkel, S., and Lay, G. (2008). "Organizational innovation: The challenge of measuring non-technical innovation in large-scale surveys." *Technovation*, 28(10), 644–657.
- Azar, G., and Ciabuschi, F. (2017). "Organizational innovation, technological innovation, and export performance: The effects of innovation radicalness and extensiveness."

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International Business Review, 26(2), 324–336.

- Ballot, G., Fakhfakh, F., Galia, F., and Salter, A. (2015). "The fateful triangle: Complementarities in performance between product, process and organizational innovation in France and the UK." *Research Policy*, 44(1), 217–232.
- Bolívar-Ramos, M. T., García-Morales, V. J., and García-Sánchez, E. (2012). "Technological distinctive competencies and organizational learning: Effects on organizational innovation to improve firm performance." *Journal of Engineering and Technology Management*, 29(3), 331–357.
- Camisón, C., and Villar-López, A. (2011). "Non-technical innovation: Organizational memory and learning capabilities as antecedent factors with effects on sustained competitive advantage." *Industrial Marketing Management*, 40(8), 1294–1304.
- Camisón, C., and Villar-López, A. (2014). "Organizational innovation as an enabler of technological innovation capabilities and firm performance." *Journal of Business Research*, 67(1), 2891–2902.
- Damanpour, F. (1987). "The Adoption of Technological, Administrative, and Ancillary Innovations: Impact of Organizational Factors." *Journal of Management*, 13(4), 675–688.
- Damanpour, F., and Aravind, D. (2012). "Managerial Innovation: Conceptions, Processes, and Antecedents." *Management and Organization Review*, 8(2), 423–454.
- Damanpour, F., and Evan, W. M. (1984). "Organizational Innovation and Performance: The Problem of "Organizational Lag." " *Administrative Science Quarterly*, 29(3), 392–409.
- Evangelista, R., and Vezzani, A. (2010). "The economic impact of technological and organizational innovations. A firm-level analysis." *Research Policy*, 39(10), 1253–1263.
- Evangelista, R., and Vezzani, A. (2011). "The impact of technological and organizational innovations on employment in European firms." *Industrial and Corporate Change*, 21(4), 871–899.
- Geldes, C., Felzensztein, C., and Palacios-fenech, J. (2017). "Industrial Marketing Management Technological and non-technological innovations , performance and propensity to innovate across industries : The case of an emerging economy." *Industrial Marketing Management*, 61, 55–66.
- Gunday, G., Ulusoy, G., Kilic, K., and Alpkan, L. (2011). "Effects of innovation types on firm performance." *International Journal of Production Economics*, 133(2), 662–676.
- Kafetzopoulos, D., & Psomas, E. (2016). "Organisational learning, non-technical innovation and customer satisfaction of SMEs." *International Journal of Innovation Management*, 20(3), 1650041.
- Kim, L. (1980). "Organizational innovation and structure." *Journal of Business Research*, 8(2), 225–245.
- Kitchenham, B., and Brereton, P. (2013). "A systematic review of systematic review process research in software engineering." *Information and Software Technology*, 55(12), 2049–2075.
- Laforet, S. (2013). "Organizational innovation outcomes in SMEs: Effects of age, size, and sector." *Journal of World Business*, 48(4), 490–502.
- Noruzy, A., Dalfard, V. M., Azhdari, B., Nazari-Shirkouhi, S., and Rezazadeh, A. (2013). "Relations between transformational leadership, organizational learning, knowledge management, organizational innovation, and organizational performance: An empirical investigation of manufacturing firms." *International Journal of Advanced Manufacturing Technology*, 64(5–8), 1073–1085.
- OCDE. (2005). *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*. OCDE Publishing (Vol. 3rd edition).
- Pino, C., Felzensztein, C., Zwerg-Villegas, A. M., & Arias-Bolzmann, L. (2016). "Non-technological innovations: Market performance of exporting firms in South America." *Journal of Business Research*, 69(10), 4385–4393.
- Prange, C., and Pinho, J. C. (2017). "How personal and organizational drivers impact on SME international performance: The mediating role of organizational innovation." *International Business Review*, 26(6), 1114–1123.
- Sapprasert, K., and Clausen, T. H. (2012). "Organizational innovation and its effects." *Industrial and Corporate Change*, 21(5), 1283–1305.
- Walker, R. M., Damanpour, F., and Devece, C. A. (2011). "Management innovation and organizational performance: The mediating effect of performance management." *Journal of Public Administration Research and Theory*, 21(2), 367–386.