

A LITERATURE REVIEW ON ORGANIZATIONAL MEMORY FROM 1991 TO 2021

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ABSTRACT

Organizational memory has been found among the organization's characteristics outlined through organizational learning and knowledge management literature in the last three decades. The purpose of this paper is to reveal the nature, the place, and the role of the organizational memory from an examination of the literature starting with the year 1991, when Walsh and Ungson published, in a reference work for researchers, the first major contribution to the development of the concept. Our analysis has found 213 papers that from their title appeared to be dedicated to the study of the organizational memory, revealing three approaches towards the definition of the memory: based on the content, the structure, or hybrid (content and structure).

KEYWORDS: *organizational memory, organizational studies.*

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1. INTRODUCTION

Organizational memory is one of the characteristics of the organization that has been outlined in the last thirty years in studies on organizational learning and knowledge management. In general, it is considered that the memory would have the same role for an organization as it has for the individual: recalling the past. A simple review of a few works that deal with this concept, however, highlights the multitude of meanings and nuances attributed to it, with different opinions regarding the nature of memory in an organization, its content, forms, role, and importance.

The objective of this paper is to present the results of our analysis of the literature dedicated to organizational memory in the last thirty years, from 1991 to 2021, regarding the meanings attributed to the concept from the perspective of its nature, structure, and role. Why 1991? Because it is the year in which Walsh and Ungson published the study "Organizational Memory" in the Academy of Management Review, a reference work that made a deep analysis of the stage of development of the concept at that time and made major contribution to the definition of the organizational memory, the understanding of its structure and its ways of use.

According to Stein and Zwass (1995) the source of the concept can be found in the research of Durkheim's School of Sociology, about the collective memory. And the organizational memory is an instance of collective memory (Stein & Zwass, 1995). According to Hirst et al. (2018) in many definitions collective memories are considered as publicly available symbols maintained by society. These symbols represent shared interpretations that are built when individuals exchange information. So, individuals contribute to the construction of the collective memory. At the same time, the collective memory shapes the individual memory. Halbwachs (1992), one of Durkheim's disciples, considers that it is the group membership that provides the material for memories and tells the individual what to remember and what not to remember. In this context, we can consider that

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organizations, as groups of individuals, have their collective memories built through communication processes and these memories influence individual memory and behavior.

Starting from this construct of collective memory, introduced at the beginning of the century, the concept of organizational memory was developed in close connection with the theories of knowledge management and organizational learning. For example, Huber (1991) defines four concepts on which organizational learning depends: knowledge acquisition, information distribution, information interpretation and organizational memory. In addition, organizational memory has been included in research papers from the most varied fields, such as innovation (Moorman & Miner, 1997), marketing (Neill, 2010), information technology (Mastrogiorgio et al., 2021), customer services (Kristoffersen, 1996), organizational culture (Kameo, 2017) and others.

2. RESEARCH METHODOLOGY

In examining the works dedicated to organizational memory, we looked at the nature, the place, and the role memories may have in the organization. We've search papers published from January 1991 - December 2021 which are present in the academic online index Web of Science Core Collections, with all six citation databases: Science Citation Index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index, Emerging Sources Citation Index, Book Citation Index, and Conference Proceedings Citation Index. We performed the search to find papers that contain the term "organizational memory" in their title. Alternative forms of the term were also included (like "organisational memory", "organsational memories", and "organizational memories") and the titles that contained the two keywords and their variations were also searched, even if they were not next to each other. The search was restricted to the paper title only, primarily to produce a list of more manageable dimensions, but also on the premise that if the search term is found in the title of the paper, then it is more likely that the paper focuses on the study of the subject concerned.

331 papers resulted, and through a first filtering, those from other fields than the following, were eliminated: economics, business, management, information systems, multidisciplinary sciences, social sciences. Their number was thus reduced to 213, distributed by year of appearance, as it can be seen in Table 1.

The results include indexed papers whose appearance occurred either in various conferences (94 papers) or in journals (119 papers). It is worth noting that the year 1997 was the most prolific year for works dedicated to the study of organizational memory, when the 30th Hawaii International Conference on System Sciences had a section dedicated to Organizational Memory, and fifteen papers were presented. The following two years have also recorded an increased number of works dedicated to organizational memory, related to another two conferences, 31st Hawaii International Conference on System Sciences, and 4th AIS Americas Conference on Information Systems, but then the interest was reduced, and the number of annual indexed paper varied between four and eleven.

Except for 1999, when the Journal of Organizational Computing and Electronic Commerce had an issue dedicated to organizational memory, and Organization Studies, the monthly peer-reviewed academic journal published by Sage Publications, that covers the field of organization studies, and published eight articles between 2010 and 2020, other journals did not pay special attention to the subject in the analyzed period. Thus, apart from the already mentioned journals, there were eight journals that published more than two articles each (Journal of Knowledge Management, Academy of Management Review, Expert Systems with Applications, International Journal of Psychology, Journal of Organizational Change Management, Vine Journal of Information and Knowledge Management Systems, Organization Science, Sloan Management Review).

The research method used certainly has limitations, some of which are easy to notice, such as the lack of books dedicated to this subject, or the lack of papers in which organizational memory is studied but for which the authors do not use the term in the title of the paper, either because they

use another word to refer to the same thing (for example, "remembering" or even "knowledge" instead of "memory"), either because the title has a different type of construction. It would be interesting for future research to consider the presence of the term "organizational memory" also in the Abstract or among the keywords by which it is indexed.

Table 1. Distribution of the works examined according to the year of publication

Publication Year	Annual number of papers	Type of paper: proceedings	Type of paper: articles, reviews
1991	2	1	1
1992	2	1	1
1993	0	0	0
1994	1	0	1
1995	4	1	3
1996	3	2	1
1997	17	15	2
1998	14	10	4
1999	12	2	10
2000	8	3	5
2001	4	0	4
2002	8	7	1
2003	6	3	3
2004	7	5	2
2005	4	2	2
2006	8	4	4
2007	7	7	0
2008	9	6	3
2009	7	5	2
2010	9	3	6
2011	11	3	8
2012	10	1	9
2013	5	1	4
2014	5	1	4
2015	4	1	3
2016	4	2	2
2017	11	5	6
2018	5	0	5
2019	8	2	6
2020	10	1	9
2021	8	0	8
Total	213	94	119

Nevertheless, because the search results include the works that contain those definitions that have a high degree of acceptance, like Walsh & Ungson (1991), Stein & Zwass (1995), and Moorman & Miner (1997), we are confident that the results obtained are relevant for the purpose of the research, namely identifying the stage of defining the concept of organizational memory.

After the first filter mentioned, the papers were searched for definitions to differentiate the ones that propose a definition of the concept from those that had used existing definitions or did not define at all organizational memory, its meaning being assumed to be known. In most of the cases, definitions given by other authors were used, whether or not this was specified.

We have identified seventeen papers in which the authors set out to define the concept or add additions to existing definitions, the rest of the papers being built around some of these definitions or considering the concept of organizational memory as self-evident to the reader. Most likely, the authors of these works believe that since the term memory has an easy meaning for everyone, it can be easily intuited through an understanding process based on anthropomorphism, that is, what

memory means to the individual, in the eyes of the reader, the same thing it also means memory for the organization.

3. THE NATURE OF ORGANIZATIONAL MEMORY

Where the term is defined or used but also explained, among the most cited meanings is the one given by Walsh & Ungson (1991, p. 61), namely the organization's memory represents "stored information from an organization's history that can be brought to bear on present decisions". For Walsh & Ungson (1991), organizational memory arises from interpretations about organizational decisions and their subsequent consequences. Organizational memory differs from simple information both by its positioning in time (memory contains information in the past, as interpretations of some decisions made) and by their way of use in the organization (while the information used in decision processes represent indications that individuals perceive them as reducing the ambiguity of decisional stimuli, memory represents stored information about stimulus and response, which become relevant for present decisions). In other words, when an organization keeps over time information resulting from the experiences it goes through, information about the relationships between causes and effects, it builds a memory that can be used in current decision-making processes.

The same nature that Walsh & Ungson (1991) attribute to organizational memory can be found in the definitions of other examined authors. For Moorman & Miner (1997, p. 93), it consists of "collective beliefs, routines behavioral, or physical artifacts that vary in content, level, dispersion, and accessibility", for Kingston & Macintosh (2000, p. 1), it represents "the sum of all knowledge held by an organization", for Nilakanta & all. (2006) organizational memory is the collection of historical knowledge of the corporation, for Akgün & al. (2012, p. 99) it is the "past strong episodic emotional experiences or events that are unconsciously embedded and imaged for use in present and future actions, and operations of organization", and for Balmer (2015) the organizational memory is not only what is remembered but also what is forgotten in relation to a corporate past.

If for Walsh & Ungson (1991) organizational memory is defined primarily by content, for Stein & Zwass (1995) organizational memory is represented by the means through which past knowledge can be used in the present. Because the last two authors change the nature of the concept, considering that memory represents a structure or set of processes and not content, the meaning given by them is embraced by most of the authors who treat organizational memory as an informational (often computer) system placed at the service of knowledge management. Thus, memory is interpreted as a system of connections through which scattered knowledge is gathered together when it is needed.

Since information technology is omnipresent in all areas of the organization, both in execution and management processes, the approach of organizational memory as an organization structure dedicated to the use of information and/or knowledge accumulated over time, has an important weight. Among the papers examined, no less than ninety-five are published in journals or as conferences proceedings in the field of information or computer science and emphasize the use of the information system of organizational memory and, sometimes more specific, the use of the computer systems as means by which information and knowledge are acquired, kept, and utilized in organizations.

This approach is used by some authors to emphasize the main role that information systems play in making organizations' activities more efficient. For example, for Vasconcelos et al. (2003, p. 1412) the organizational memory "a comprehensive computer system that captures a company's accumulated knowledge assets and makes them available to enhance the efficiency and effectiveness of knowledge-intensive work processes."

Alstete & Meyer (2020), considers that to develop and implement an effective and efficient

organizational memory information system a combination of the following elements is needed: information technology, knowledge management, intelligent agents, and end users.

However, understanding the organization's memory as a structure necessary to preserve information and knowledge, and above all, without distinguishing the type of information and knowledge that is the object of this type of memory, carries a major risk: that of considering the organization's memory as a means of information processing or a computer system. This is a simplification that does not help the organizations to get the full potential of the concept.

Stein & Zwass's definition (1995) has gained wide recognition, and the idea of the means by which past knowledge is used in the present is found in the form of a set of processes that take place in the organization and allow it to capture, retain and reuse information, knowledge and past experiences (Tervonen et al., 1997; Argote, 2015; Nagayoshi & Nakamura, 2017) or in the form of an organizational memory information system defined as a framework for knowledge acquisition, learning, exploration and reuse of knowledge (Linger & al., 1999; Ochoa et al., 2009). Ackerman & Malone (1998, p. 31) talks about "an organization's ability to benefit from its past experience to respond more effectively (e.g., more quickly or more accurately) in the present" and develop a computer system that supports the development of this ability in a company.

A third approach includes in the definition of organizational memory both its content (information and/or knowledge from the past) and the processes and/or means by which they become useful in the present. For Anand et al. (1998, p. 796), organizational memory is "a convenient metaphor to define the information and knowledge known by organizations and the processes by which this information is obtained, stored and accessed by the members of the organization", for Schwartz (1998) it consists of a semi-formal organizational knowledge base and a formal set of meta-knowledge that can be applied to that knowledge base, and for van den Brink (2020, p. 381) organizational memory is "an aspect of an organization's history in which knowledge and behavior are captured and stored in such a way that they become accessible in the future".

4. MEMORY'S LOCATION

Regarding the places where the memory or the information and knowledge is kept, the best-known approach is also that of Walsh & Ungson (1991), who identify storage bins, inside the company and one outside it. These are: individuals (individual memory, beliefs, values, thought structures), organizational culture (language, symbols, stories, shared beliefs), transformations (processes, procedures, rules, systems), structures (organizational roles), ecology (organization internal environment) and external archives (competitors, partners, former employees, consultancy firms).

The structure proposed by Walsh & Ungson (1991) is considered incomplete by Stein & Zwass (1995) because it does not include the information systems as a storage assembly. At the same time, it can be considered much too broad since external archives are not, in most cases, useful to the organization. For example, a competitor cannot be a source of knowledge about the past as competition is usually in an adversity position, and recalling, for the purpose of decision-making processes, the knowledge that went out with a fired employee, is almost impossible. Even though it is true that there are many places outside the organization where information about its past is kept, they can be considered part of the organization's memory only if they can be accessed when they are needed. The same can be said about the information found in individuals: if they are not willing to make it available to the organization, they cannot be considered as part of the organization's memory.

In the light of this nuance, it is interesting to mention a type of organizational memory defined by Ebberts & Wijnberg (2009), namely the expectations memory, which would assume that there is at the organization level a stock of implicit and explicit expectations regarding the reward of individuals who participate in the creation of a procedural memory of the organization (procedural memory is the type of memory about how to do things). As Huang & Chen (2017), pointed out, not

all the employees, are eager to interact with their colleagues. And, according to Mukherji (2014), not only the employees but also the customers and other key stakeholders, prefer to enter into relationships with an organization with a favorable reputation.

Thus, before considering that the memory of the organization benefits from the individual memories of its members, it is necessary for there to be a positive expectations memory in the organization that will lead to performance.

This 'storage bin' (Walsh & Ungson, 1991) approach to how organizational memory operates was, and to an extent continues to be, how organizational memory is characterized in discussions of organizational learning (Coraiola & Murcia, 2020).

For Conklin (1992), storage places are fewer, he considers memory only a set of records an organization incorporates in artifacts and documents. For Borrelli et al. (2005) these consists of shared resources, production routines, competences, shared values, and objectives, and for Moorman & Miner (1997) organizational memory has three forms: collective beliefs, behavioral routines, and physical artifacts.

It is worth noting that the storage places of information from the past can be grouped into two categories: some tangible (such as documents, physical artifacts, written procedures) and some intangible (such as individuals' memories, beliefs, values, behavioral routines).

The importance of places to store information and knowledge of organizations is mainly due to the possibility to access them. Thus, the tangible places are easy to access, and the members of the organization are, most of the time, responsible for using them, which makes the history preserved in these places integrated into the present activities. Keeping them in intangible areas, individual memories being the most relevant, raises problems regarding the ability to access. A solution in this sense is the transactive memory, which retains the memory metaphor but adds another level of analysis, the group level, which assume the existence of directories kept by the members of a group through which the existence, place and means of accessing the information kept by other individuals are identified (Anand et al., 1998; Nevo & Wand, 2005; Peltokorpi, 2012; Whelan & Teigland 2013; Odoardi et al., 2021).

5. THE ROLE OF ORGANIZATIONAL MEMORY

In the identified definitions, several roles for organizational memory are distinguished. As with the nature of memory, there are divided but not mutually exclusive opinions. Thus, for Stein & Zwass (1995), the importance is given by the effectiveness obtained from the use of memory, for Walsh & Ungson (1991) the information about the past, which makes up the memory, is useful in the decision-making processes of the present, for Ackerman (1998) memory allows an organization to respond more effectively in the present, for Randall et al. (2001) organizational memory aims to ensure continuity in the organization and over time, for Cegarra-Navarro & Martelo-Landroguéz (2020) organizational memory may enable both the application of routines and protocols and the mitigation of unproven theories and rumors, and for Chen et al. (2021) the firm's innovation performance depends on the organizational memory alignment with other knowledge systems and the strategy.

It is noted that the roles defined for memory center around the need to use past experiences to solve present problems. We believe that a special emphasis should be placed when analyzing the role of memory in the organization on the contextual interpretation of information about the past, so as not to copy answers from the past for questions from a present with other particularities.

Organizational memory can have both a positive role in dealing with present situations and a negative one. The role of memory is a negative one when memory is linked to inefficient patterns of thought and action that are repeated and it has a positive role when organizational learning occurs, and past mistakes are not forgotten (Ackerman, 1998).

However, for other authors (Conklin, 1992; Morman & Milner, 1998; Anand et al., 1998; Kingston & Macintosh, 2000; Nagayoshi & Nakamura, 2019; van den Brink, 2020), the role of memory is not important enough to be included in the definition of the concept. Organizational memory remains for them only a set of information, knowledge and/or processes and skills related to them, which belong to the organization.

6. CONCLUSIONS

The approach we had in our research has several limitations. With our method we may have considered only a part of the works dedicated to the subject, as some of the more recent papers may not be indexed yet, or articles relevant to our research do not contain in the title the term or variations of the term "organizational memory". Future research may want to consider the presence of the term "organizational memory" also in the abstract or among the keywords by which it is indexed, to capture a higher share of the work aiming to develop the concept. The publications we've searched were from main areas where the organizational studies of interest are published (economics, business, management, information systems, multidisciplinary sciences, social sciences) and the resulting papers have used an existing body of knowledge that was cited, referenced, or interpreted in the effort to bring new contributions to the understating of organizational memory. Thus, we are confident that the search has resulted in relevant papers for the purpose of the research, namely identifying the stage of defining the concept of organizational memory.

We've revealed several approaches in the way the memory is understood (content centric, structure centric, or hybrid – content and structure) which show an obvious progress in defining it, but the diversity of approaches and the lack of a unique or very limited set of definitions (we found seventeen definitions, from metaphors to practical ones) means that the understanding of the concept is still fragmented, which makes it difficult both to create a theoretical framework in which to evolve the organizational memory and to use it extensively and coherently in practice.

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