Knowledge Management in Times of Uncertainty: Barriers and Opportunities in Graduate Education

Aiko Varela Aguilar[1] and Elsa Catalina Olivas Castellanos[2]
[1]Tecnologico de Monterrey, Hermosillo, Mexico
[2]Tecnologico de Monterrey, Mexico

aiko.varelaa@tec.mx
cat.olivas@tec.mx

Abstract: In Higher Education Institutions (HEIs), graduate education is essential in the socialization, production, and transfer of knowledge and innovations for society. In this sense, graduate programs contribute to a knowledge society by training future researchers in collaboration with experts in a knowledge area, innovating in research with them, sharing these innovations through formal and informal practices, and ensuring learning through systematic reviews and discussions with research networks. These knowledge management (KM) dynamics can be hindered by a turbulent environment in which social, economic, political, and cultural demands call for changes to current KM practices. This paper examined two leading graduate research programs in the northwestern region of Mexico that underwent several changes in their institutional structures and scientific practices due to environmental shifts. We analyzed 1) the challenges faced by these programs from a public university in Mexico due to changes in policies, 2) how they managed to generate knowledge, and 3) what opportunities emerged during this period. Documentary analysis was conducted as a case study using a qualitative approach, which helped us conduct an in-depth analysis and understand the KM strategies adopted in both contexts. We sought participation from program directors and scholars who met certain leadership criteria. This study highlights that political change was both a barrier and an opportunity for knowledge production, as it imposed budget cuts on science but also introduced new perspectives that enabled wider impact in knowledge transfer. Nevertheless, the KM strategies that emerged from the pandemic, such as diversifying funding sources and adapting certain scientific practices, were solutions for advancing science, quality education, and research on social retribution.

Keywords: Educational innovation, Higher education, Knowledge management, Policy education, Research collaboration, Science and technology

1. Introduction

Knowledge has become an essential component for economic and social development (Mijangos and Manzo, 2012). Contemporary organizations recognize this as a corporate asset and a competitive advantage due to its capacity to innovate; consequently, they have adopted Knowledge Management (KM) practices to improve decision-making (Davenport and Prusak, 1998; García and Gómez, 2015).

In this context, Higher Education Institutions (HEIs) also contribute to knowledge society by managing knowledge through substantial activities such as teaching, training highly skilled human capital, and producing, applying, and transferring new knowledge (Jiménez, Cornelio and Vera, 2017). These institutions are increasingly integrating their research efforts and innovations with community needs to foster social and economic development (Tassone *et al.*, 2018; González, Rodríguez and González, 2021). Most of the above-mentioned occur within graduate programs, where students socialize, learn scientific values, traditions, and technical skills, and produce original knowledge to advance in it (Campanario, 1999; Ben-David, 2017).

It is important to note that a turbulent environment can impede KM dynamics. For example, situational factors like the geographical location of organizations (Minakata, 2009), financial or political pressures (Jiménez, Cornelio and Vera, 2017), or, in smaller spheres (as in organizational culture), factors such as beliefs, values, and practices may affect KM management processes (Cabrera, Romo and Rodríguez, 2025). In this regard, Nonaka and Takeuchi (1995, pp. 49–50) observe that:

> *"Organizations deal with uncertain environments not merely through passive adaptation, but through active interaction […] The organization that wishes to cope dynamically with the changing environment needs to be one that creates information and knowledge, not merely processes them efficiently. Furthermore, the organizational members must not be passive but must rather be active agents of innovation."*

Nevertheless, all organizations (including graduate programs) are complex due to the convergence of rules, formal structures, subjectivities, and situational frameworks during the decision-making process (Vergara, 2010), and consequently in KM. Therefore, it is necessary to understand KM processes in educational institutions. However, research on KM in HEIs remains fragmented and lacks a comprehensive understanding;

moreover, the study of this field is predominantly concentrated in Europe or carried out primarily in the private sector (Ramjeawon and Rowley, 2018; Quarchioni, Paternostro and Trovarelli, 2022).

Previous literature has described KM as a process where knowledge is acquired, created, shared, or applied to generate innovations or improvements (Bueno-Broterson, Araya-Guzmán and Salazar-Concha, 2025). Other studies have analyzed various approaches to KM, including research, teaching, assessment, mentoring, training, and informal learning (Galgotia and Lakshmi, 2022; Syihabuddin *et al.*, 2025). Some researchers found that human resources, leadership, organizational culture, curriculum, technology, and quality assurance mechanisms are key enablers of KM (Galgotia and Lakshmi, 2022; Santos, Carvalho and Martins, 2024; Hussein, 2025). In addition, studies have identified challenges and barriers to KM (Ahmad *et al.*, 2017; Kassa and Ning, 2025). Finally, some research has examined the effects of KM on teaching, organizational performance, and organizational learning (Adeinat and Abdulfatah, 2019; Mohammadi and Faskhodi, 2022; Al-Sulami *et al.*, 2023).

Based on this review, the present study aimed to explore the barriers and opportunities to KM in two graduate programs at a public university in the northwestern region of Mexico. These underwent several changes in their institutional structure and scientific practices due to governmental and political changes and the effects of the COVID-19 pandemic. In this context, we analyzed 1) the challenges faced by these two graduate programs due to changes in policies, 2) how they managed to generate knowledge, and 3) what opportunities emerged during this period.

In the Latin-American context, KM research in HEIs is still in its embryonic stage. The existing literature focuses on the description and exploration of KM processes or enablers (Ríos, 2012; Avendaño and Flores, 2016; Jiménez, Cornelio and Vera, 2017; González, Rodríguez and González, 2021). To fill this gap in research, this study sheds light on how a learning organization faces a turbulent environment and engages in new learning processes.

2. Transformations of Institutional Organizations and Knowledge Management

Organizations have generated practices in response to the speed of social change and integration into a global context. In Mexico, innovation and market practices, such as entrepreneurship, internationalization, administrative and academic accreditations/certifications, or the commitment to create quality programs to compete in international rankings, point to heteronomous processes in universities, given that the government conditions funding and resources on the compliance of certain indicators (Acosta, 2019).

In this context, KM contributes to institutional efficiency and the construction of significant educational actions (Bueno-Broterson, Araya-Guzmán and Salazar-Concha, 2025); however, KM processes differ from one institute to another (Adeinat and Abdulfatah, 2019). In this regard, the theory of organizational knowledge creation (Nonaka and Takeuchi, 1995) analyses how organizations generate, create, and transfer knowledge internally, creating a cycle of learning in which individual and collective knowledge converge.

In changing environments, the new institutional (NI) theory has found an echo in educational researchers. DiMaggio and Powell (1991) and Meyer and Rowan (2006) note that it can respond to the complex framework presented by HEIs. They offer an alternative to answer how institutional arrangements form, mediate, or direct institutions. In other words, this theoretical approach focuses on how individuals and organizations innovate and contribute to change, without being constrained by organizational structures or their own activities (Scott, 2014).

In this regard, this study takes the NI perspective to observe the environmental pressures to change in educational organizations (their formal and administrative structure), the cultural context that surrounds them, and the rationalities of educational actors to achieve their personal interests, which could result in defying the shift, maintaining their old mindset in a new field, or 'changing their strategies to obtain rewards within the same set of rules of the game' (Powell and Dimaggio, 1991, p. 25). The organizational knowledge creation theory explores the knowledge practices and interactions among individuals that foster or hinder organizational learning.

3. Methods

We analyzed the cases of the graduate programs in 1) Physics and 2) Materials Science, both of the Universidad de Sonora (UNISON), one of the leading public institutions in postgraduate education and scientific research in the northwestern region of Mexico, in the state of Sonora. UNISON depends heavily on

federal policies and programs that have funded projects, strengthened its structure, and consolidated its postgraduate offerings. Such are the cases of these programs, both established in 1984. The Materials Science and Physics graduate programs were created to train people to consolidate teaching and research in their respective disciplines. The development of both programs relied on sponsorship from the Ministry of Science, Humanities, Technology, and Innovation (SECIHTY) and the Ministry of Public Education (SEP). These programs have cultivated networks, produced knowledge in high-impact journals, and fostered student mobility, among other activities that earned them recognition from SECIHTY as a high-quality program.

We carried out a case study. This approach was chosen for in-depth analysis and comprehension of events within their context (Stake, 1995; Yin, 2003). In this regard, the above-mentioned programs were chosen because of their departments' notable record of scientific production, collaboration, and internationalization. We conducted semi-structured interviews that explored interviewees' experiences with government research policies and the challenges and opportunities that have emerged recently. The study was approved by a committee of three experienced qualitative researchers at UNISON.

Participants were recruited through purposeful sampling. Since KM strategies are fostered from directive spheres, we sought the participation of program directors and scholars who followed certain leadership criteria: 1) a minimum of four years of experience in the graduate program, and 2) membership in the National System of Researchers (known by the acronym SNII in Spanish), a program endorsed by SECIHTY. The informants participated voluntarily. An invitation was sent via email, informing them of the study's purpose and that the data would be used confidentially and anonymously if they agreed to participate. We contacted the program directors for their approval, and after establishing a rapport, we connected with prospects and secured interviews with 14 participants (see Table 1).

Table 1: Characteristics of participants of the study

Participant	Gender	SNI Level	Academic Program
1	Female	2	Materials Science
2	Male	1	Materials Science
3	Male	2	Materials Science
4	Female	3	Materials Science
5	Female	2	Materials Science
6	Male	1	Materials Science
7	Female	2	Materials Science
8	Male	2	Physics
9	Male	3	Physics
10	Male	3	Physics
11	Male	2	Physics
12	Male	1	Physics
13	Male	1	Physics
14	Male	3	Physics

Once consent was obtained, the interviews were conducted in person and via videoconferencing platforms. In addition, an extensive document review was conducted to reconstruct events (including university development plans and regulations, staff resumes, and federal acts, among other documents). This explained the study's focus and validated the information obtained from the interviews (McMillan and Schumacher, 2001).

The data were analyzed using MAXQDA 22 qualitative analysis software. This aided in organizing the information and coding it for thematic analysis based on the study's areas of interest. The coding process was iterative and simultaneous with the analysis, following Saldaña's (2009) guidelines. The initial codes and categories followed the themes of the interview, based on the theoretical framework: a) Program's organization, b) Institutional context, c) Routines and transitions. We inductively added codes for subjects that were not anticipated.

We reviewed the initial codes, created new categories, refined them, and reduced them to explain the case. The final themes and codes were:

1. Program's dynamics and environment

- *Program institutionalization*
- *Disciplinary activities*
- *Bureaucratic dynamics*

2. Normative transitions

- *Heterogeneous reactions*
- *Decision-making*
- *Possible alternatives to change*

To better understand the dynamics of change and the KM process in the studied programs, we organized the results as follows: 1) Challenges faced during the transition period, and 2) Knowledge production in a new reality.

4. Results and Discussion

4.1 Challenges Faced During the Transition Period

Both programs have different dynamics and internal operational norms. However, they are subject to human resources training, thesis and dissertation supervision, scientific publication, and project dissemination, impacting both students' and professors' development. These were affected by policy changes, which led to trust dissolutions. Some of the changes were due to the onset of the COVID-19 pandemic, including the cancellation of student mobility scholarships.

In the interviews, some participants mentioned benefiting from funds without complications. In contrast, a considerable group had to multiply their efforts to get their research proposals approved. As noted by some participants: 'Project calls still exist; I don't see any impact. People say that SECIHTI doesn't support them, but there are financial limits (...) There's a budget, and not everyone can be funded' (Interviewee 14, Physics); 'Due to the pandemic, most resources were allocated to the health sector, and there began to be many restrictions on other projects. Even if the projects were submitted multiple times (...), nothing was obtained because resources were limited' (Interviewee 9, Physics).

This highlights how recent changes impacted academics. Meanwhile, the ones affected reduced their research and limited their overall internationalization practices. In addition to material and equipment purchases, the canceled funds supported international collaboration activities. Some have sought university financial support, but it is partial and restrictive, which generated dissatisfaction among the informants: 'The trusts were established as a strategy to ensure that funds allocated to projects weren't subject to annual budget fluctuations… It is difficult to incur expenses at the UNISON if an activity is conducted at the end of the fiscal year (Interviewee 3, Materials Science).

Regarding students, the university financed them through a *fee trust* funded by their tuition. After the new regulations, all graduate programs that intend to maintain SECIHTI's recognition must not charge tuition fees. Consequently, the funds are no longer available, which restricts access to the training required to complete their degree.

A concern for interviewees was the restriction on purchasing and maintaining laboratory equipment. Previously, those who benefited from programs could fund the purchase of materials or reagents. However, these can no longer cover new equipment or maintenance expenses, threatening work when it becomes outdated: 'The budget cuts affected us a lot. The equipment is becoming obsolete, and [it's] going out of service. We won't have anything to work with!' (Interviewee 13, Physics). We need to acquire new equipment, but SECIHTI is not supporting us (...) The university does not have the resources(...)' (Interviewee 1, Materials Science).

The findings show that the graduate programs studied consider all KM activities (acquisition, creation, sharing, and application of knowledge) regularly at both administrative and academic levels. However, in a changing context, these practices face barriers such as a lack of economic and technological resources, bureaucratic processes that impede innovation and progress, and institutional factors stemming from the university's new regulations. These results align with the challenges identified by Kassa and Ning (2025), who observed that

public institutions lack KM sustainability due to continuous changes in human resources and organizational structures. This difficults the implementation of a successful KM strategy in public universities.

4.2 Knowledge Production in a new Reality

There are strategies for continuing research in both programs. In experimental work, relationships within the country and abroad have enabled students and professors to process their data in other laboratories while communicating results virtually. Interviewee 1 from Physics said they usually 'send samples by courier or ask to deliver them when someone goes to another institution'. This practice is also shared among Materials Science researchers; however, collaborations between public institutions are at risk.

In our findings, both feed from the same funding and are affected by limited resources: *'We rely on collaboration with other* institutions (…). This way, we are overcoming resource constraints. However, this is temporary, because if the equipment does not have the proper maintenance and we don't purchase new ones, this will "blow" at some point' (Interviewee 9, Physics).

There are groups of professors, mainly in Materials Science, who, due to time and project limitations, choose to crowdfund. Interviewee 7 from this program declared 'Sometimes we buy things; sometimes the Department does. Equipment maintenance is expensive, and due to limited resources, we fundraise among professors to pay for repairs. We do it because we need that equipment´. These actions have become a common solution in the recent context.

Student mobility and conference participation have also undergone adjustments to ensure graduation requirements are met. In this regard, Interviewee 12 from Physics stated the following: 'I have sent [them] abroad, but everything has been covered through my SECIHTI project; that's why it has been easier to manage these activities.' Although academic activities have been limited to available funding, scheduling conflicts, travel arrangements, and time zone differences, media and technology have supported the continuity of academic plans during the transitional period.

Since both programs were created, they have relied mostly on government funds and continue to do so. External funding is uncommon among informants. In this regard, UNISON annual reports observe that most scientific projects rely on internal sources or SECIHTI's. This means there is resistance to exploring new forms of financing among research groups.

UNISON has promoted calls for projects funded by external organizations. Interviewees kept this in mind, but few reported acting on it. The Materials Science program stood out: 'We just submitted a research proposal to the faculty authorities (...) [Now] we seek funding from a European foundation' (Interviewee 5, Materials Science); 'Fortunately, I have not lacked SECIHTI projects, but I have also had collaborations with France (...) I also received financial support from an American society' (Interviewee 3, Materials Science).

Regarding the diversification of funding sources in both programs, some informants mentioned avoiding working with the industry. Interviewee 6, from Materials Science, noted: 'We're already working on our research, and to work with companies, you must dedicate exclusively to that'.

These insights present a series of KM enablers in graduate programs within a restrictive environment. All the informants stood out for their leadership, as they sought alternatives to certain limitations in their practices (ensuring the continuity of their projects through collaborations, crowdfunding, reallocating project funds, or changing the dynamics of academic activities). This mindset can be explained by a scientific culture that fosters communication and collaboration among researchers who share the same research line and interests (Campanario, 1999). This disciplinary factor fosters more KM enablers, such as the creation of communities of practice (in which individuals share expertise and learn from one another) and an organizational culture that may transcend academic boundaries and impact the program's administration. Santos, Carvalho, and Martins (2024) have already identified these enablers in the case of Portuguese private institutions; nevertheless, our findings offer a new perspective by explaining the dynamics of scientific communities and their impact on KM and graduate education.

5. Discussion

The organizational culture plays a pivotal role in the success and development of KM (Ahmad *et al.*, 2017). In this sense, individuals can motivate others to create/share/acquire/apply knowledge or limit organizational dynamics and the introduction of new rules (Kassa and Ning, 2025). Our study also presented the negative side

by showing a high dependence on public funding and a reluctance to seek external resources from industry or NGOs.

Resistance to change is a common barrier for KM. Li, Liu and Liu (2016) explain that resistance results from the individual's perception of greater loss, greater time and effort demands, and/or social pressures. Following Nonaka and Takeuchi's theory (1995), this reaction might delay or interrupt knowledge conversion within organizations since a reconfiguration of rules should lead to new knowledge and, therefore, to an internalization of practices.

Some informants in our study resisted changing their routines, regardless of alternatives for continuing academic research. For NI, this is common when a policy is enforced abruptly (Jelonek and Mazur, 2020; Sabzalieva, 2022). Bernasconi (2006) notes that adherence to old politics can generate conflicts in adapting to change. In our study, this is significant as both graduate programs were funded and developed under public policy programs. Therefore, their communities are used to these practices; thus, it is difficult for them to engage in new funding dynamics.

In our study, seeking collaboration with foundations, scientific societies, or other higher education institutions is an example of achieving this goal and an opportunity for KM to foster knowledge-based interorganizational collaborations. Some individuals in our study have managed to generate knowledge. From an institutionalist perspective, these adjustments can be explained as follows:

- An attempt to maintain scientific authority and rewards. According to Meyer and Rowan (2006), individuals choose to change their practices to restrictive institutional settings for their benefit. In this sense, the adaptation of UNISON members might be instrumental in keeping their economic incentives and social recognition.
- A logic of appropriateness in which, knowing their role within an institution, individuals take action to fulfill their institutional responsibilities and foster stability in the organization (Vergara, 1997). This would explain the researchers' willingness to crowdfund their projects.

Both explanations indicate that the studied programs are undergoing an adaptation process; however, to assess organizational stability and adaptation, individuals must adopt routines and shared beliefs regarding new rules (Vergara, 1997; March and Olsen, 2006). In this sense, some of the strategies mentioned might be emergent rather than transcendent.

An exception to superficial changes is the researchers' disposition to work and share information remotely. Beyond presenting restrictions, the pandemic contributed to innovations and continuity in both programs. This finding highlighted that changes are more invasive during a political transition than during a global crisis (Sabzalieva, 2022): during the pandemic, adapting to new practices was crucial for graduate programs to survive, while the political change threatened individuals' academic paths and beliefs.

6. Conclusions

This article contributed to the study of changes in public educational institutions in a developing country, their implications for KM, and how a learning organization can face a turbulent environment and engage in new learning processes. Although this study cannot generalize to all graduate programs, it highlights shared issues across similar contexts, prompting a recommendation for research into the challenges and opportunities, primarily in the Global South. It also contributes to an understanding of individual and subjective factors (such as values and beliefs) in KM processes, prompting educational managers and stakeholders to consider these drivers in decision-making. This approach would provide a more comprehensive overview to support the redefinition of public and university policies in the development of highly skilled human capital.

This trend may be transferable to other Global South contexts, specifically in Latin America, where research in most institutions still depends on public funding, and the articulation with the private sector is neither institutionally consolidated nor paired with the researcher's interests.

Acknowledgements

We want to acknowledge the technical and financial support of the Writing Lab, Institute for the Future of Education, Tecnológico de Monterrey, Mexico, in the production of this work.

Competing interests: The authors declare no competing interests.

Ethics declaration: The ethics approval was granted by a qualitative research committee designated by the Educational Innovation Program of the Interdisciplinary Faculty of Social Sciences at University of Sonora. This group of experts reviewed the methodology and interview protocol to ascertain whether the information sought would not compromise the confidentiality or the identity of the informants.

AI declaration: The authors used Grammarly Pro version to check the correct grammar of our original text, since our native language is not English but Spanish. The authors reviewed and edited the content as needed and took full responsibility for the content of the publication.

Data availability statement: Data is not currently openly available to protect the interviewee's identity.

References

Acosta, A. (2019) "La épica de los indicadores," in L. Lomelí Vanegas and R. Escalante Sermerena (eds.) *Autonomías bajo acecho*. Primera edición. Ciudad de México: Siglo XXI Editores, pp. 47–54.

Adeinat, I.M. and Abdulfatah, F.H. (2019) "Organizational culture and knowledge management processes: case study in a public university," *VINE Journal of Information and Knowledge Management Systems*, 49(1), pp. 35–53. Available at: https://doi.org/10.1108/VJIKMS-05-2018-0041.

Ahmad, N. *et al.* (2017) "Knowledge Management: a Gateway for Organizational Performance," *Journal of the Knowledge Economy*, 8(3), pp. 859–876. Available at: https://doi.org/10.1007/s13132-015-0282-3.

Al-Sulami, Z.A. *et al.* (2023) "Investigating the relationship between knowledge management practices and organizational learning practices in the universities' environment," *International Journal of Electrical and Computer Engineering*, 13(2), pp. 1680–1688. Available at: https://doi.org/10.11591/ijece.v13i2.pp1680-1688.

Avendaño, V. and Flores, M. (2016) "Modelos teóricos de gestión del conocimiento: descriptores, conceptualizaciones y enfoques," *Entreciencias: diálogos en la Sociedad del Conocimiento*, 4(10), pp. 201–227. Available at: www.entreciencias.enes.unam.mx.

Ben-David, J. (2017) *Centers of Learning: Britain, France, Germany, United States*. New York: Routledge. Available at: https://doi.org/10.4324/9781315081625.

Bernasconi, A. (2006) "Breaking the Institutional Mold: Faculty in the Transformation of Chilean Higher Education From State to Market," in H. Meyer and B. Rowan (eds.) *The New Institutionalism in Education*. State University of New York Press, pp. 187–202.

Bueno-Broterson, Y., Araya-Guzmán, S. and Salazar-Concha, C. (2025) "Knowledge management and organizational performance. Analysis in the Chilean educational context," *Prometeica*, 32. Available at: https://doi.org/10.34024/prometeica.2025.32.19799.

Cabrera, D., Romo, L.M. and Rodríguez, R.H. (2025) "The Positive Influence of Organizational Culture on Knowledge Management in Public Education Institutions in the Department of Caquetá, Colombia," *Sustainability (Switzerland)*, 17(16). Available at: https://doi.org/10.3390/su17167253.

Campanario, J.M. (1999) "La ciencia que no enseñamos," *Enseñanza de las Ciencias*, 17(3), pp. 397–410.

Davenport, T.H.. and Prusak, Laurence. (1998) *Working knowledge : how organizations manage what they know*. Boston: Harvard Business School Press.

DiMaggio, P.J. and Powell, W.W. (1991) "Introduction," in W.W. Powell and P.J. DiMaggio (eds.) *The new institutionalism in organizational analysis*. Chicago: University of Chicago Press, pp. 1–40.

Galgotia, D. and Lakshmi, N. (2022) "Implementation of Knowledge Management in Higher Education: A Comparative Study of Private and Government Universities in India and Abroad," *Frontiers in Psychology*. Frontiers Media S.A. Available at: https://doi.org/10.3389/fpsyg.2022.944153.

García, M. and Gómez, M. (2015) "Prácticas de gestión del conocimiento en los grupos de investigación- estudio de un caso," *Revista Interamericana de Bibliotecología*, 38(1), pp. 13–25.

González, J.J., Rodríguez, M.T. and González, O.U. (2021) "La gestión del conocimiento en la universidad pública latinoamericana," *Conocimiento Global*, 6(1), pp. 443–456.

Hussein, A.M. (2025) "Optimizing Holistic Education for Sustainable Development," *International Journal of Scientific Research and Management (IJSRM)*, 13(03), pp. 4022–4027. Available at: https://doi.org/10.18535/ijsrm/v13i03.el03.

Jelonek, M. and Mazur, S. (2020) "Necessary changes, adverse effects? The institutional patterns of adaptation of economics universities to changes prompted by the reform of Poland's science and higher education system," *Management Learning*, 51(4), pp. 472–490. Available at: https://doi.org/10.1177/1350507620913896.

Jiménez, A.L.L., Cornelio, R.R. and Vera, Y.J. (2017) "Gestion Del Conocimiento En Universidades Públicas Mexicanas," *European Scientific Journal, ESJ*, 13(1), p. 54. Available at: https://doi.org/10.19044/esj.2017.v13n1p54.

Kassa, E.T. and Ning, J. (2025) "Knowledge Management Practices in the Universities: A Qualitative Inquiry," *SAGE Open*, 15(3). Available at: https://doi.org/10.1177/21582440251357152.

Li, J., Liu, M. and Liu, X. (2016) "Why do employees resist knowledge management systems? An empirical study from the status quo bias and inertia perspectives," *Computers in Human Behavior*, 65, pp. 189–200. Available at: https://doi.org/10.1016/j.chb.2016.08.028.

March, J.G. and Olsen, J.P. (2006) "Elaborating the New Institutionalism," in R.A.W. Rhodes, S. Binder, and B. Rockman (eds.) *The Oxford Handbook of Political Institutions*. Oxford: Oxford University Press, pp. 3–22.

McMillan, J. and Schumacher, S. (2001) *Research in Education. A conceptual introduction*. 5th. Edición. Madrid: Addison Wesley Longman.

Meyer, H. and Rowan, B. (2006) "Institutional Analysis and the Study of Education," in H. Meyer and B. Rowan (eds.) *The new institutionalism in education*. Albany: State University of New York Press, pp. 1–13.

Mijangos, J.C. and Manzo, K.S. (2012) "Gestión del conocimiento de tres cuerpos académicos consolidados del área educativa," *Sinéctica* [Preprint], (38). Available at: http://www.sinectica.iteso.mx/index.

Minakata, A. (2009) "Gestión del conocimiento en educación y transformación de la escuela. Notas para un campo en construcción," *Sinéctica*, (32), pp. 1–21. Available at: http://www.itu.int/wsis/background/index.htm.

Mohammadi, M. and Faskhodi, A.A. (2022) "Modeling the Dynamics of Knowledge Management in Educational Institutes: A System Dynamics Approach," *Education and Self Development*, 17(2), pp. 86–104. Available at: https://doi.org/10.26907/esd.17.2.09.

Nonaka, I. and Takeuchi, H. (1995) *The Knowledge-Creating Company*. New York: Oxford University Press.

Powell, W.W. and Dimaggio, P.J. (1991) *The New Institutionalism in Organizational Analysis*. Chicago: The University of Chicago Press.

Quarchioni, S., Paternostro, S. and Trovarelli, F. (2022) "Knowledge management in higher education: a literature review and further research avenues," *Knowledge Management Research and Practice*, 20(2), pp. 304–319. Available at: https://doi.org/10.1080/14778238.2020.1730717.

Ramjeawon, P. and Rowley, J. (2018) "Knowledge Management in Higher Education Institutions in Mauritius," *International Journal of Educational Management* [Preprint]. Available at: https://doi.org/https://doi.org/10.1108/ijem-05-2017-0129.

Ríos, T.J. (2012) "La gestión del conocimiento y la educación superior universitaria," *Gestión en el Tercer Milenio*, 15(30), pp. 43–48. Available at: https://doi.org/https://doi.org/10.15381/gtm.v15i30.8797.

Sabzalieva, E. (2022) "Surviving a Crisis: Transformation, Adaptation, and Resistance in Higher Education," *Higher Education Governance and Policy*, 3(1), pp. 1–15. Available at: https://doi.org/10.55993/hegp.1054946.

Saldaña, J. (2009) *The Coding Manual for Qualitative Researchers*. Londres: SAGE.

Santos, E., Carvalho, M. and Martins, S. (2024) "Sustainable Enablers of Knowledge Management Strategies in a Higher Education Institution," *Sustainability (Switzerland)* , 16(12). Available at: https://doi.org/10.3390/su16125078.

Scott, W. (2014) *Institutions and organizations. Ideas, Interests and Identities*. Fourth Edition. Thousand Oaks: SAGE.

Stake, R.E. (1995) *The Art of Case Study Research*. Thousand Oaks: SAGE Publications Inc.

Syihabuddin, M. *et al.* (2025) "Mini Review on Knowledge Management in Higher Education Challenges and Strategies for Effective Implementation," *Socio-Economic and Humanistic Aspects for Township and Industry*, 3(1), pp. 199–206. Available at: https://doi.org/10.59535/sehati.v3i1.466.

Tassone, V.C. *et al.* (2018) "(Re-)designing higher education curricula in times of systemic dysfunction: a responsible research and innovation perspective," *Higher Education*, 76(2), pp. 337–352. Available at: https://doi.org/10.1007/s10734-017-0211-4.

Vergara, R. (1997) "'El redescubrimiento de las organizaciones': de la teoría organizacional a la ciencia política," in J. March and J.P. Olsen (eds.) *El redescubrimiento de las organizaciones: la base organizativa de la política*. México D.F.: Fondo de Cultura Económica, pp. 9–40.

Vergara, R. (2010) "Introducción," *Organización e instituciones*, pp. 17–47.

Yin, R.K. (2003) *Case Study Research. Design and Methods*. 3rd. Edition. Thousand Oaks: SAGE Publications Ltd.