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TRAINING OF MANAGEMENT BOARD MEMBERS IN CHILEAN UNIVERSITIES AFFILIATED TO THE ADMISSION SYSTEM

Formación de miembros de directorios en universidades chilenas afiliadas al Sistema de Admisión

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KEYWORDS

Skills
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Higher education
University governance
Government

ABSTRACT

This research seeks to describe the formal knowledge of directors of private universities in Chile, which are attached to the Admission System to Chilean universities. To do this, a documentary study was carried out, with a non-experimental quantitative approach, which uses primarily primary and secondary sources, particularly active transparency information provided by the website of each university, the results are presented in tables. It was determined that there is insufficient academic training at the doctoral level (only a third of university directors have a Ph.D. degree and just over 36% of rectors have this degree), and little specialization in the field of management of organizations. Additionally, an important gender gap was found in the occupation of managerial positions; all of which shows that both situations continue to be significant challenges in Chilean universities.

PALABRAS CLAVE

Habilidades
Conocimiento
Educación más alta
Gobernanza universitaria
Gobierno

RESUMEN

Esta investigación busca describir los conocimientos formales de los directores de universidades privadas de Chile, que se encuentran adscritos al Sistema de Admisión a las universidades chilenas. Para ello, se realizó un estudio documental, con un enfoque cuantitativo no experimental, que utiliza principalmente fuentes primarias y secundarias, en particular la información de transparencia activa proporcionada por la página web de cada universidad, los resultados se presentan en tablas. Se determinó que existe una insuficiente formación académica a nivel de doctorado (solo un tercio de los directores universitarios cuentan con el título de Doctor y poco más del 36% de los rectores cuentan con este título), y poca especialización en el campo de la gestión de organizaciones. Adicionalmente, se encontró una importante brecha de género en la ocupación de cargos directivos; todo lo cual demuestra que ambas situaciones continúan siendo desafíos significativos en las universidades chilenas.

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1. Introduction

The universities are complex organizations in structure and operation that deliver knowledge and training to students based on specific disciplines. . As an organization, universities have three main objectives; the development of teaching, research, and dissemination (Schnurbus & Edvardsson 2022); therefore, they undertake activities in line with these objectives. Over the last century, universities have increased their demand exponentially, not only in enrollment (Ruano-Borbalan 2022) but also in teaching branches, according to the new needs of society and technology.

Universities trying to adapt to changing and dynamic environments have complexified structures to facilitate the implementation of strategies to accomplish their objectives (Huerta-Riveros & Pedraja-Rejas, 2019; Stolze & Sailer, 2021). As a result, a growth of the administrative structure, in its different hierarchical levels, has been observed, often affecting the efficiency and productivity of the university. Although the entire organization is affected, it is the strategic apex, a group usually composed of the chancellor's office, vice-chancellors' offices, and the Provost's Office, who are responsible for making decisions and defining strategies to achieve the organization's goals, directly influencing the success or failure of an institution (Elbanna *et al*., 2020).

Nowadays, society is immersed in a world filled with data and information, disseminated and coordinated in the economic, political, and social life; therefore, knowledge has become a core issue in the current times, especially in the field of universities, which are considered the quintessential knowledge organizations (Ganga-Contreras *et al*., 2021).

Efficient decision-making process requires, on the one hand, timely and quality information and, on the other hand, people with the required training and expertise to process and analyzes this information effectively, resulting in an assertive, timely, and efficient decision (Maletič *et al*., 2021; Sulich *et al*., 2021). Those who are part of the highest levels of organizations (strategic apex) are entrusted and responsible for making such decisions. Therefore, it is worth asking whether all organizations have a prepared strategic apex in the decision-making process, with the necessary expertise to respond to the organization's requirements effectively.

Alles (2015) defines knowledge as ordered knowledge of a particular topic, subject, or discipline. The knowledge management model is born from this definition, which is a set of processes related to the people that integrate the organization and that allow defining the necessary expertise for the different positions. This model is used to select personnel, beginning with evaluating the candidate's knowledge. It is suggested to start the evaluation with what is easiest to measure and, simultaneously, exclusionary: the required knowledge.

Knowledge is the basis of performance; it is impossible to accomplish the assigned position or task without the required knowledge; in this case, it is important to have the formal knowledge acquired by a person to perform appropriately in a given position. In this regard, Hager (as cited in Asensio 2015) states that: formal learning is associated with a specific curriculum; it has a sense that is ultimately responsible for learning, and it is subject to an external system of evaluation and control that measures and certifies the learning process of individual learners (p. 72).

Asenjo *et al*. (2012, p. 43) also suggest that: "knowledge tends to have a more theoretical character and usually is prefixed and elaborated. This character leads to the excessive weight of conceptual contents, understood as final products with a strong character of truth".

Knowledge is recognized as a core competency, a fundamental source of competitive advantage and value creation. In contrast, managing this knowledge is identified as an increasingly important capability for an organization to succeed (Martins *et al*., 2019). A complementary concept that cannot be neglected in the modern society we live in is that of human capital, a concept that refers to a set of skills, knowledge, capabilities, and attributes embedded in people, which is crucial for organizations to be able to absorb and organize knowledge for innovation (Lenihan *et al*.,2019).

When the structure of an organization grows according to the need to accomplish its purposes, product of a higher demand for its services, as is the case of universities in recent decades, it becomes necessary to distribute work and activities to cope with the new complexities adequately. It is here where the growth of the administrative work structure begins. At the same time, as the organization grows, new "operators" are added to perform tasks and duties, along with coordinators who oversee and coordinate tasks and "managers" (Gonzalez & Codagnone, 2005).

To better understand how organizations are structured and developed, this research will be based on the proposals formulated by Mintzberg (1984). According to this author, organizations are structured in five fundamental parts: strategic apex, middle line, operational core, technostructure, and support staff. The strategic apex of the university structure is composed of the leading authority, i.e., the Rector's Office, Provost's Office, and Vice-Rector's Office; while in the middle line would be the Directors of all areas and the Deans.

The university leadership or strategic apex of universities requires a certain educational level or high level of expertise, particularly due to the complexity of the governance of organizations as intricate and bureaucratized as universities (Ganga-Contreras, 2017; Ganga-Contreras & González-Gil 2020); therefore, it is one of the dimensions that have been studied, mainly from the point of view of the decision-making process corresponding to their

hierarchical level.

In this sense, Elbanna *et al*. (2020) suggest that academic training defines how the world is perceived, how information is processed, and, finally, how decision-making takes place. This description occurs because the level of knowledge allows a better understanding of organizational complexities, influencing the rationality of decision making, mainly strategic decisions, which should be the main concern of upper management. In the same line, several authors concur that the higher the educational level, the higher the rationality, and indicate that this happens because the educational level increases the capacity for analysis, evaluation of alternatives, and integration of the decision in the globality of the organization, derived from their training (Shepherd & Rudd, 2013; Goll & Rasheed, 2005; Francioni *et al*., 2015; Elbanna *et al*., 2020). It is also necessary to consider the type of education, and the field from which they come, as there are areas such as science and engineering, which by nature, are more oriented towards rationality than other areas (Wiersema & Bantel, 1992).

Particularly, this research focuses on a rather complex type of organization such as universities, which by definition should have specialized professionals who are the most competent to perform each function in their structure. Consequently, it is interesting to universities in terms of the knowledge their strategic apex possesses in exercising its functions, given the previously described relevance. In this study, the managers of the Chilean private universities, accredited and ascribed to the Admission System (SUA), will be considered. There is less information and analysis on this group of universities in particular.

2. Materials and Methods

This research is of the "non-experimental" design, as no intervention is made in the object of study; instead, the study is carried out with no manipulation of variables, and the phenomena are only observed in their natural environment to analyze them. The study is descriptive in scope, as it seeks to specify important properties and characteristics of the phenomenon being analyzed.

Regarding the sample, a group of eleven Chilean private universities accredited by the National Accreditation Commission of Chile (CNA-Chile) belonging to the SUA of higher education will be analyzed (see Table 1).

Table 1. Sample of analyzed universities based on their foundation data

University	Foundation data	Period of Accreditation
Universidad Academia de Humanismo Cristiano	Cardinal Raúl Silva Henríquez fostered the creation of a study center in 1975 and it was founded in 1988 as an institute of higher education.	20/12/2017 a 20/12/2021 4 years
Universidad Adolfo Ibáñez	Originally Valparaíso Business School, it was established in 1953 by the Adolfo Ibáñez Foundation. In 1988 it was instituted as a University.	In process
Universidad Andrés Bello	It was founded in 1988 and formally began its academic activities in 1989.	24/12/2017 a 24/12/2022 5 years
Universidad Autónoma de Chile	Founded in Temuco on July 31, 1989, under the name of Universidad Autónoma del Sur. In 2003 the University expanded its presence to the Maule and Metropolitan regions, and was renamed Universidad Autónoma de Chile.	29/10/2019 a 29/10/2023 4 years
Universidad Bernardo O'Higgins	The University was created and constituted as a non-profit Private Law Foundation in 1990.	23/07/2018 a 23/07/2022 4 years
Universidad Católica Silva Henríquez	The Instituto Profesional de Estudios Superiores Blas Cañas was created in 1982. In 1990 the Ministry of Education granted approval for its operation as Universidad Blas Cañas and in 1999 it was authorized to change its current name.	21/12/2017 a 21/12/2021 4 years
Universidad Central	Founded in 1982, it is the oldest private university in Chile.	In process
Universidad del Desarrollo	Founded in Concepción in 1989. It opened its doors the following year.	15/12/2016 a 15/12/2021 5 years

Universidad Finis Terrae	Founded in 1988, achieving its institutional autonomy in 1996, it is a Chilean, private and Catholic university.	19/11/2019 a 19/11/2023 4 years
Universidad Mayor	Founded in 1988 and the first private university to be founded in the field of Science and Technology.	In process
Universidad San Sebastián	Universidad San Sebastián was founded in Concepción by Raúl Poblete Almendra and Javier Pivcevic Bayer.	In process

Source(s): Alarcón, Ganga-Contreras, Pedraja-Rejas, Ruiz-Cuyul, Durán, 2022

The data were collected from primary and secondary sources, through questionnaires sent by e-mail, and information on the universities' websites and other official online reports. The data were collected between April and June 2020. Table 2 details the positions corresponding to the strategic apex according to Higher Education Institution.

Table 2. Detail of charges by university (* Total enrollment incorporates students in all modalities).

University	Positions Nº	Detail of positions	N° of Enrolled students(*)	N° of campuses
Universidad Academia de Humanismo Cristiano	4	Rectory Academic Vice- rectorate Vice-Rectorate for Administration and Finance Vice- Rectorate for Institutional Development	3.960	2
Universidad Adolfo Ibáñez	5	Chancellor Management Provost Academic Vice-Rectorate Vice-Chancellor of Graduate Studies Vice-Chancellor Viña del Mar Campus	12.813	3
Universidad Andrés Bello	10	Chancellor Provost Academic Vice-Chancellor Vice-Chancellor for Research and Doctoral Studies Vice-Chancellor For Quality Assurance Vice Chancellor for Economic Affairs Vice Chancellor for University Services and Student Affairs Vice Chancellor for Professional Development Vice-Chancellor Concepción Headquarters Vice-Chancellor Viña del Mar Headquarters	56.840	4
Universidad Autónoma de Chile	9	Chancellor Academic Vice-Chancellor Vice Chancellor for Administration and Finances Vice-Chancellor for Research and Postgraduate Studies Vice Chancellor for Quality Assurance Vice Chancellor for Market Interrelations Vice-Chancellor Temuco Headquarters Vice-Chancellor Santiago Headquarters Vice-Chancellor Talca Headquarters	30.622	4

Universidad Bernardo O'Higgins	5	Chancellor Academic Vice-Chancellor Vice Chancellor for Administration and Finances Vice Chancellor for Quality Assurance and Development Vice Chancellor for Market Interrelations and Research	8.672	2
Universidad Católica Silva Henríquez	4	Chancellor Academic Vice-Chancellor Vice Chancellor for Student Identity and Development Vice Chancellor for Administration and Finances	6.857	1
Universidad Central	5	Chancellor Academic Vice-Chancellor Vice Chancellor for Administration and Finances Vice Chancellor for Institutional Development Regional Vice Chancellor	13.933	4
Universidad del Desarrollo	8	Chancellor Provost Vice Chancellor for Quality Assurance Vice Chancellor for Innovation and Development Vice Chancellor for Undergraduate Studies Vice Chancellor for Research and Doctoral Studies Vice Chancellor for Graduate Studies, Continuing Education and Extension Programs Vice Chancellor for Economic Affairs	19.891	3
Universidad Finis Terrae	4	Chancellor Academic Vice-Chancellor Vice Chancellor for Economic Affairs Vice Chancellor for Integral Formation	10.310	1
Universidad Mayor	6	Chancellor Academic Vice-Chancellor Vice Chancellor for Quality Assurance and Planning Vice Chancellor for Research Vice Chancellor for Development and Administration Regional Vice Chancellor	23.691	8
Universidad San Sebastián	11	Chancellor Provost Academic Vice-Chancellor Vice Chancellor for Quality Assurance Vice-Chancellor for Research and Postgraduate Studies Vice Chancellor for Market Interrelations And Communications Comunicaciones Vice Chancellor for Economic and Administrative Affairs Vice-Chancellor Santiago Headquarters Vice-Chancellor Concepción Headquarters Vice-Chancellor Valdivia Headquarters Vice-Chancellor Patagonia Headquarters	40.257	4
Total de cargos	71			

Source(s): Alarcón, Ganga-Contreras, Pedraja-Rejas, Ruiz-Cuyul, Durán, 2022

All the universities have a Chancellor, the highest unipersonal authority, while only 4 universities have a provost. Almost all the universities have academic vice chancellors' offices, except for the Universidad del Desarrollo, which divides the academic vice chancellor's office into undergraduate and graduate. Regarding the Vice Chancellor's Office for Administration and Finance or economics, nearly all the universities have it. However, at the Universidad Adolfo Ibáñez, these functions are assumed by the Management Provost, as in the Universidad San Sebastián, where they are carried by the provost, whose role is considered for this Research. In general, the vice chancellors' offices vary between 9 and 3, with an arithmetic mean of 5.09 and a median of 5, with the Vice Chancellor's Office for Headquarters, Campuses, or Regional Offices being the most repeated with 12 in total, followed by the Academic Vice Chancellor's Office with 10, Vice Chancellor's Office for Administration and Finance or Economic Vice Chancellor's Office with 9, Vice Chancellor's Office for Quality Assurance with 6, Vice Chancellor's Office for Research (there are 3 other Vice Chancellors' Offices, one for Research, one for Research and Postgraduate Studies and one for Market interrelations and Research). and Doctorate and Vice Chancellor's Office for Market interrelations (grouping of the Vice Chancellor's Office for Market Interrelations, Vice Chancellor's Office for Market Interrelations and Research and Vice Chancellor's Office for Market Interrelations and Communications) with 3 each. It is paramount to point out that it was not possible to include the data of the Economic Vice Chancellor of Universidad Finis Terrae since they are not in the public domain.

3. Results and Discussion

3.1. Gender

The participation of women in management positions is generally underrepresented worldwide (Maheshwari & Nayak 2020). This situation is not particular to one type of university either. According to the Higher Education Forum (Aequalis, 2017) in Chile in 2017, only 20.5% of the positions of chancellors or vice-chancellors were in female hands. In particular, this research, considering only private universities ascribed to the Admission System, identified a significant gender gap and inequality in managerial positions, given that women hold only 8.5% of these. The disaggregated data in Table 3 shows there are no female university chancellors, a situation that is not too far from what occurs in state universities where there was only one female chancellor up to 2020 (Ganga-Contreras *et al*. 2021). As for the second level, there is only one female provost, and in the vice chancellor's offices, women occupy only 9.8% of these positions, well below the state universities, where 25% of the positions of chancellors, provosts, and vice chancellors are held by women (Ganga-Contreras *et al*. 2021).

Table 3. Managers classified by gender and position.

Position	Male	Female
Chancellor	11	0
Provost	3	1
Vice-Chancellor	51	5
Total	65	6

Source(s): Alarcón, Ganga-Contreras, Pedraja-Rejas, Ruiz-Cuyul, Durán, 2022

3.2. Professional training

The analysis of this criterion considered professional careers, i.e., professional degrees and bachelor's degrees, excluding technical and high school education.

As shown in Table 4, the vast majority of managers have a professional degree (only one manager was identified as not holding a degree - given that he only has a bachelor's degree - and a second case, with no information), followed by 20% (14) of managers holding 2 professional degrees. It was also observed that 3% (2) of the managers hold 3 degrees.

Table 4. Number and percentage of managers in possession of one or more degrees.

Position	1	%	2	%	3	%	None	%	No Data	%
Chancellor	7	63,64	3	27,27	1	9,09	0	0,00	0	0,00
Provost	3	75,00	0	0,00	0	0,00	1	25,00	0	0,00
Vice-Chancellor	43	76,79	11	19,64	1	1,79	0	0,00	1	1,79
Total	53	74,64	14	19,71	2	2,85	1	0,00	1	1,41

Source(s): Alarcón, Ganga-Contreras, Pedraja-Rejas, Ruiz-Cuyul, Durán, 2022

An additional analysis was made of the various professions' disciplines (based on the list of the Organization for Economic Cooperation and Development-OECD and areas of knowledge according to the Frascati Manual). Social Sciences came first with 38.64%, followed by Engineering and Technology with 37.50%, then Humanities with 9.09%, Medicine and Health Sciences with 7.95%, and finally Natural Sciences and Agricultural Sciences with 3.41% and 1.14%, correspondingly. The Non-Information category has 2.27% (see Table 5).

There are substantial differences when compared with state universities at the level of the chancellor's office, given that 52% correspond to the area of Engineering and Technology (Ganga-Contreras *et al*. 2021), while in private universities ascribed to the SUA, only 31% belong to this area. The same percentage is shown by the chancellors who have professional degrees in the area of Humanities, while in state universities, it corresponds to 14%.

Table 5. Undergraduate degree discipline categorized by position.

Position	Agricultural Sciences	Natural Sciences	Social Sciences	Humanities	Engineering and Technology	Medicine and Health Sciences	No Data
Chancellor	1	0	4	5	5	1	0
Provost	0	0	2	0	1	0	1
Vice-Chancellor	0	3	28	3	27	6	1
Total	1	3	34	8	33	7	2

Source(s): Alarcón, Ganga-Contreras, Pedraja-Rejas, Ruiz-Cuyul, Durán, 2022

3.3. Academic Degree

The lowest academic degree is the bachelor's degree, and in this case, only 1.41% of the management has this degree; in contrast, 47.9% of the total have a Master's degree, followed by doctoral studies with 33.80%. There is also 17% with no information. In turn, there are 3 vice chancellors who have post doctorate studies (Universidad San Sebastián, Universidad Andrés Bello and Universidad Mayor), all of which were obtained abroad.

It is interesting to mention that only 36.36% of the total number of chancellor's offices analyzed have a doctorate degree and a similar percentage have a master's degree, the remaining percentage are cases with no information. When compared with state universities, we find that 55.6% of the Chancellors have a doctorate degree and 65% hold a Master's degree (Ganga-Contreras *et al*. 2021). In the provosts' offices, the doctorate predominates (half of them have this degree), followed by the master's degree and bachelor's degree, both at 25%. In the case of state universities, 76% of the provosts hold a doctorate degree and 62% a master's degree (Ganga-Contreras *et al*. 2021). In the Vice Chancellors' Offices, a little more than 30% have a doctoral degree and 50% have a master's degree (see Table 6). In the case of state universities, 67.7% have a doctorate and 57% have a master's degree (Ganga-Contreras *et al*. 2021).

Table 6. Maximum degree attained by management according to position.

Position	Doctorate	%	Master	%	Bachelors	%	No Data	%
Chancellor	4	36,36	4	36,36	0	0,00	3	27,27
Provost	2	50,00	2	25,00	1	25,00	0	0,00
Vice-Chancellor	18	32,14	29	50,79	0	0,00	9	16,07
Total	24	33,80	34	47,89	1	1,41	12	16,90

Source(s): Alarcón, Ganga-Contreras, Pedraja-Rejas, Ruiz-Cuyul, Durán, 2022

Information regarding the place where the academic degrees were obtained showed that 42% were obtained in Chilean universities, 33.3% in the United States, 8.7% in Spain, 4.4% in Mexico, and 1.45% in Argentina and Germany, respectively; for the remaining percentage it was not possible to gather information.

In addition, it was determined that social sciences are the most studied discipline in the master's degree plans, followed by humanities, engineering, and technology with 8.47% and 5.08%, respectively; Finally, medical and health sciences, in addition to natural sciences, each with 1.69%.

Most of the doctorates obtained by management are in Social Sciences (within which Political Sciences and Economics predominate), followed by Natural Sciences and Educational Sciences; the third most frequent is Engineering and Technology, ending with Humanities and Educational Sciences. Breaking down the data by position, the offices of the Chancellor, provost, and vice chancellor have a majority of doctoral studies in Social Sciences; the latter also has a high percentage of participation in the disciplines of Natural Sciences and Engineering and Technology.

Among the directives with doctorates, only 20.83% were obtained in national universities, 29.16% in the United States, Spain, and Brazil with 25.00% and 8.33%, respectively. Germany, Mexico, and England, all with 4.16%. The total number of chancellors and provosts pursued their doctorate abroad. As for the vice chancellors' offices, 27.78% of the doctorates were completed in Chile (see Table 7).

Table 7. Doctorates obtained in Chilean and foreign universities.

Position	Germany	Brazil	Chile	EE.UU.	Spain	México	England	No Data
Chancellor	0	0	0	2	1	0	0	1
Provost	0	0	0	1	1	0	0	0
Vice-Chancellor	1	2	5	4	4	1	1	0
Total	1	2	5	7	6	1	1	1

Source(s): Alarcón, Ganga-Contreras, Pedraja-Rejas, Ruiz-Cuyul, Durán, 2022

3.4. Universities Comparison

The universities were compared by considering the place of foundation and regional presence criterion. The universities were divided into three categories: universities founded in the Metropolitan Region without regional headquarters (Universities A), universities founded in the Metropolitan Region with regional headquarters (Universities B), and universities founded in the regions (Universities C).

Table 8 shows that the regional universities have the highest percentage of management with masters and doctoral degrees (only one case, corresponding to 4.55%, does not present information). Nevertheless, the universities in the capital with and without regional headquarters have similar results regarding the percentage of degrees attained by managers, regardless of the double number of managers in each. It should be mentioned that the first two categories correspond to four universities each, and the regional category to only 3, although the number of positions in regional universities is higher than in universities in the capital without regional headquarters.

Table 8. Academic degree attained by managers, compared by region, foundation and regional presence

Position	Universities A	%	Universities B	%	Universities C	%
Chancellor	8	47,06	14	45,16	1	50,00
Provost	5	29,41	9	29,03	1	45,45
Vice-Chancellor	4	23,53	8	25,81	4	4,55
Total	17	100,00	31	100,00	22	100,00

Source(s): Alarcón, Ganga-Contreras, Pedraja-Rejas, Ruiz-Cuyul, Durán, 2022

Finally, the university management's academic degree that shares information on the education of their directives were compared with those that declined to share information on the matter. Table 9 shows that the directors of "transparent" universities have a higher percentage of PhDs and master's degrees, totaling 85.71% of directors with postgraduate studies. Conversely, the universities that do not have information on the education of their directors on their web pages account for a percentage slightly higher than 75.86

Table 9. Comparison of the highest academic degree attained by management at universities that share information on leadership training with universities that do not.

Highest degree	No	%	Yes	%	Total
Chancellor	9	31,03	15	35,71	24
Provost	13	44,83	21	50,00	34
Vice-Chancellor	7	24,14	6	14,29	13
Total	29	100,00	42	100,00	71

Source(s): Alarcón, Ganga-Contreras, Pedraja-Rejas, Ruiz-Cuyul, Durán, 2022

4. Conclusion

In Chile, the education level is measured by the academic degree, with four accepted levels: bachelor's, graduate, Master's, and doctorate. The post-doctorate is not considered an academic degree; however, it is representative of the deepening of academic research lines. It is striking that no chancellors are holding this level. Therefore, managers must have a high level of knowledge and respect for their peers, as they are part of the organization's human capital.

In this research, it was found that very few management leaders have a degree in administration or specialization in some area of management; therefore, it is considered relevant to reinforce such knowledge, considering that these positions are in charge of making strategic decisions for the entire university organization. The experience in higher education, particularly in management, could be a focus of interest to supply training in this area.

The authorities belonging to the strategic apex of the private universities affiliated to the UAA also have lower participation of women than the system and state universities. Likewise, the professional training of the authorities in private universities is more oriented towards Social Sciences and Engineering and Technology than in state universities, which are oriented towards the areas of Engineering and Technology and Natural Sciences.

Regarding the formation of advanced human capital, the regional universities showed a higher level of training in their managers compared to those found in the country's capital, a fact that is striking, especially considering that the market for managers is more significant in the latter case. When comparing the universities in this study with the state universities, a smaller number of authorities have less doctoral training, corresponding to almost half, as in the case of the Master's degree, although the difference is low.

Finally, transparency in public institutions in Chile is a law; however, there are no regulations that require private institutions (particularly universities) to make transparent the organization's activities; however, some schools have embraced active transparency, providing data such as the organization chart, job descriptions, accreditation process, enrollment numbers, and others. Nevertheless, information is left to the discretion of each institution, frequently making access to specific data challenging, as in the case of this study, which required information on the training and experience of university directors.

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References

Aequalis (2017). *Participación femenina en cargos directivos en instituciones de educación superior chilena*. https://acortar.link/N1JPxF

Alles, M. (2015). *Dirección estratégica de Recursos Humanos: gestión por competencias* [3° ed.], Granica.

Asenjo, E., Asensio, M. & Rodríguez-Moneo, M. (2012). Aprendizaje informal. Museos y Educación. In M. Asensio, C. G. Rodríguez e Y. Castro (Eds.) *Series de Investigación Iberoamericana de Muse*ología, *3*(2), 39-53.

Asensio, M. (2015). El Aprendizaje Natural, la Mejor Vía de Acercarse al Patrimonio. *Education Siglo XXI*, 33, 55-82. https://doi.org/10.6018/j/222501

Elbanna, S., Thanos, I. & Jansen, R. (2020). A Literature Review of the Strategic Decision-Making Context: A Synthesis of Previous Mixed Findings and an Agenda for the Way Forward, M@n@gement, 23, 42-60.

Francioni, B., Musso, F. & Cioppi, M. (2015). Decision-Maker Characteristics and International Decisions for SMEs, *Management Decision*, 53, 2226-2249. https://doi.org/10.1108/MD-03-2015-0094

Ganga-Contreras, F. & González, E. (2020). Tipología de las Universidades Colombianas y Características de su Gobierno Corporativo, Una Revisión desde sus Estatutos, *Fronteiras*, 9, 220-238. https://doi.org/10.21664/2238-8869.2020v9i3.p220-238

Ganga-Contreras, F., Alarcón, N., Paillaman, M., Navarrete, E. & Araya-Castillo, L. (2021). Formación Académica del Ápice Estratégico de las Universidades Estatales en Chile, *Fronteiras*, 10, 261-81. https://doi.org/ https://doi.org/10.21664/2238-8869.2021v10i2.p261-281

Ganga-Contreras, F. (2017). El Flipper Burocrático en las Universidades, *Interciencia*, *42*(1), 58-62. www.redalyc.org/articulo.oa?id=33949290010

Goll, I. & Rasheed, A. (2005). The Relationships between Top Management Demographic Characteristics, Rational Decision Making, Environmental Munificence, and Firm Performance. *Organization Studies*, 26, 999-1023. https://doi.org/10.1177/0170840605053538

González, M. L. & Codagnone, T. (2005). *La organización universitaria*. In Marcelo Héctor Efrón y Roberto Ismael (Eds.), Aportes al debate sobre la gestión universitaria II (pp. 107-116). De los cuatro vientos. http://nulan.mdp.edu.ar/id/eprint/2892/

Huerta-Riveros, P. & Pedraja-Rejas, L. (2019). Planificación y Seguimiento: Procesos Claves Para la Dirección Estratégica de Instituciones de Educación Superior, *Interciencia*, 44, 5-5. www.interciencia.net/wp-content/uploads/2019/01/5-editorial-es-44-01.pdf

Lenihan, H. McGuirk, H. &y Murphy, K. (2019). Driving Innovation: Public Policy and Human Capital, *Research Policy*, 48, 1-19. https://doi.org/10.1016/j.respol.2019.04.015

Maheshwari, G. & Nayak, R. (2020). Women Leadership in Vietnamese Higher Education Institutions: An Exploratory Study on Barriers and Enablers for Career Enhancement, *Educational Management Administration & Leadership*, 1-18. https://journals.sagepub.com/doi/10.1177/1741143220945700#:~:text=https%3A//doi.org/10.1177/1741143220945700

Maletič, D. Pačaiová & Hana, N., Anna, G., Bostjan, & Maletic, M. (2021). Framework Development of an Asset Manager Selection Based on Risk Management and Performance Improvement Competences, *Safety*, 7, 1-18. https://doi.org/10.3390/safety7010010

Martins, V., Rampasso, I., Anholon, Rosley, Quelhas, O., & Leal, W. (2019). Knowledge Management in the Context of Sustainability: Literature Review and Opportunities for Future Research, *Journal of Cleaner Production*, 229, 489-500. https://fardapaper.ir/mohavaha/uploads/2019/11/Fardapaper-Knowledge-management-in-the-context-of-sustainability-Literature-review-and-opportunities-for-future-research.pdf

Mintzberg, H. (1984). *La estructuración de las organizaciones*, Ariel.

Ruano-Borbalan, J. (2022). Reducing Inequality in Higher Education: Limitations and Possibilities, *European Journal of Education*, 1-7. https://doi.org/10.1111/ejed.12506

Schnurbus, V., & Edvardsson, I. R.. (2020). The Third Mission Among Nordic Universities: A Systematic Literature Review, *Scandinavian Journal of Educational Research*, 66, 238-260. https://doi.org/10.1080/00313831.2020.1816577

Shepherd, N. & Rudd, J. (2013). The Influence of Context on Strategic Decision-Making Process: A Review of Literature, *International Journal of Management Reviews,* 16, 340-364. https://doi.org/10.1111/ijmr.12023

Stolze, A. & Sailer, K. (2021). Advancing HEIs' Third-Mission Through Dynamic Capabilities: The Role of Leadership and Agreement on Vision and Goals, *The Journal of Technology Transfer*, 1-25. https://doi.org/10.1007/s10961-021-09850-9

Sulich, A., Sołoducho-Pelc, Letycja & Ferasso, M. (2021). Management Styles and Decision-Making: Pro-Ecological Strategy Approach, *Sustainability*, 13, 1-18. https://doi.org/10.3390/su13041604

Wiersema, M. & Bantel, K. (1992). Top Management Team Demography and Corporate Strategic Change, *Academy of Management Journal*, 35, 91-121. https://doi.org/10.2307/256474