Influencia de la creatividad, competencias y colaboración del capital humano en el desempeño contextual de las instituciones de educación superior

Incidence of Creativity, Competences and Collaboration of Human Capital in the Contextual Performance of Higher Education Institutions

Influência da criatividade, habilidades e colaboração do capital humano no desempenho contextual das instituições de ensino superior

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Resumen
La presente investigación tiene como objetivo determinar la influencia que el capital humano, medido a través de los factores de creatividad, competencias y colaboración, tiene sobre el desempeño contextual de instituciones de educación superior localizadas en el estado de Tamaulipas, México, con la finalidad de brindar a la gerencia educativa información que sea de utilidad para potenciar el funcionamiento de su organización. El estudio se realizó bajo un enfoque cuantitativo, de alcance descriptivo-correlacional-explicativo con la participación de 95 encuestados. La técnica de análisis de datos implementada corresponde al modelo de regresión lineal. Así, como parte de los resultados, se logró determinar que la colaboración, competencias y creatividad del capital humano influyen positiva y significativamente en el desempeño contextual de instituciones de educación superior. Específicamente, se observó que la colaboración explica 36.1 % el desempeño contextual del personal adscrito a estos centros educativos; las competencias tienen un aporte de 35 % sobre esta variable, y la
creatividad logró alcanzar 31 % de incidencia en el desempeño contextual. Es decir: al existir mayores lazos de compañerismo y confianza entre los empleados, mayor será el desempeño alcanzado a nivel contextual. Asimismo, al poseer el personal las cualidades, competencias y aptitudes necesarias para el desarrollo de sus actividades, así como la creatividad y agilidad para solucionar problemas y generar nuevo conocimiento, el desempeño contextual será mayor positiva y significativamente, tal como lo evidencian los datos observados en la presente investigación.

**Palabras clave:** calidad educativa, capital humano, desempeño contextual, desempeño organizacional, eficacia educacional.

**Abstract**

The present research aims to determine the influence that human capital, measured through the factors of creativity, competences and collaboration, has on the contextual performance of higher education institutions located in the state of Tamaulipas, Mexico in order to provide educational management with information that is useful to enhance the operation of your organization. The study is carried out under a quantitative approach, descriptive-correlational-explanatory scope with the participation of 95 respondents. The data analysis technique implemented corresponds to the linear regression model. As part of the results, it was observed that collaboration explains in 36.1 % the contextual performance of the personnel assigned to these educational centers, while the competences have a contribution of 35 % on this variable, and creativity managed to reach a 31 % incidence in contextual performance. That is: as there are greater bonds of companionship and trust among employees, the higher the performance achieved at the contextual level. Likewise, as staff possess the qualities, competencies and aptitudes necessary for the development of their activities, as well as the creativity and agility to solve problems and generate new knowledge, the contextual performance will be positively and significantly higher, as evidenced by the data observed in the present investigation.

**Keywords:** educational quality, human capital, contextual performance, organizational performance, educational effectiveness.
Resumo

O objetivo desta pesquisa é determinar a influência que o capital humano, medido através dos fatores de criatividade, competências e colaboração, tem no desempenho contextual de instituições de ensino superior localizadas no estado de Tamaulipas, México, a fim de fornecer gestão educacional com informações úteis para aprimorar a operação de sua organização. O estudo foi realizado sob abordagem quantitativa, com escopo descritivo-correlacional-explicativo e contou com a participação de 95 respondentes. A técnica de análise de dados implementada corresponde ao modelo de regressão linear. Assim, como parte dos resultados, foi determinado que a colaboração, as habilidades e a criatividade do capital humano influenciam positiva e significativamente o desempenho contextual das instituições de ensino superior. Especificamente, observou-se que a colaboração explica 36,1% do desempenho contextual do pessoal lotado nesses centros de ensino; as competências têm uma contribuição de 35% nesta variável e a criatividade consegue atingir um impacto de 31% no desempenho contextual. Ou seja, quanto mais laços de companheirismo e confiança existem entre os colaboradores, maior é o desempenho alcançado ao nível contextual. Da mesma forma, como os funcionários possuem as qualidades, competências e aptidões necessárias ao desenvolvimento de suas atividades, bem como a criatividade e agilidade para resolver problemas e gerar novos conhecimentos, o desempenho contextual será positiva e significativamente superior, conforme evidenciado pelo observado dados na presente investigação.

Palavras-chave: qualidade educacional, capital humano, desempenho contextual, desempenho organizacional, eficácia educacional.

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Introduction

In recent decades, social demands and labor market demands have led organizations to innovate in the implementation of improvement mechanisms for the effective management of their resources and capacities. This in order to face the challenges of the environment and be increasingly competitive in the face of the needs of society. Educational organizations are not the exception in this institutional work, but, on the contrary, in the current age of knowledge, education plays a transcendental role in social development and in the national
economy. In higher education institutions (HEIs) this role is particularly noticeable, since they have the responsibility of training professionals who will join the labor market in the near future to increase the value of their work centers.

From this perspective, it is important to comment that in recent years Mexico has made significant progress in education. However, as the Organization for Economic Cooperation and Development [OECD] (2019) points out, there are still important challenges to be addressed in higher education. In fact, one of them is the quality offered to students, since the statistics obtained by the OECD place Mexico with indices lower than the averages obtained by the rest of the countries that make up this organization, a finding that makes visible the need to transform public policy towards the modernization of the higher education system, and thus align its objectives to the changing needs of the global economy.

The main intention is that through educational policy, lines of action are designed that guarantee the relevance of study plans and programs, in such a way that didactic strategies are integrated in their planning that contribute to substantially raising the quality of student learning. students, as well as the development of competencies, abilities and skills necessary for their good performance in the labor market. In this sense, the competencies and abilities of the human capital that make up the organizational citizenship of HEIs represent today one of the most valuable links in achieving the objectives established by these educational centers. Since, through the actions and behaviors of the personnel, it is possible to comply with the organizational strategies and the achievement of the educational policies issued by the sector. This is due to the fact that, beyond technology and work methodologies, it is the capacities, knowledge and knowledge of teachers and administrators that allow the educational organization to generate competitive advantage. (Di Doménico y De Bona, 2005; Segredo, 2016).

Under this context, it is important to ensure that the human capital assigned to higher-level educational institutions has the necessary qualities for the efficient exercise of its function, since the performance that these work centers project to society and society will depend on this. nation (Durán, 2016; Samá, 2020; Vallejo and Portalanza, 2017). Given this, the interest of this research arises, which aims to analyze the influence that skills, creativity and collaboration of human capital have on the performance of HEIs, mainly in the facet of contextual performance, which includes supportive behaviors social and psychological that
the staff of the institution manifests towards their co-workers and the organization in order to achieve the goals established by the top management (Borman, 2004; Borman and Motowidlo, 1993; Delgado et al., 2018).

The purpose of this study is to provide senior management with timely and useful information for the generation of lines of action that strengthen the intellectual attributes of human capital for the benefit of better performance and, therefore, better education for students.

**Theoretical framework**

**Human capital: concept and main factors**

Human capital is one of the terms that has received the greatest value in organizational discourses due to the impact it produces on labor productivity and economic growth (Diene, Diene and Azomahou, 2016; Pelinescu, 2015; Ramírez, 2015; Valdés, Ocegueda and Romero, 2018). Authors such as Hamadamin and Atan (2019) and McGuirk, Lenihan and Hart (2015) say that if a company has an advantage over another, it is most likely due to the capabilities of the human talent that make it up, in terms of skills, experience and work skills.

From the literature review, it has been discovered how multifaceted this concept of human capital is, so it has been chosen here to include not just one but several of its definitions. For example, Bontis, Chong and Richardson (2000) point out that human capital is conceptualized as the stock of knowledge, skills, attitudes and intellectual ability of employees to think of innovative solutions to problems raised in the workplace. Asiaei and Josoh (2015) and Ifeanyichukwu (2017) comment that human capital refers to the set of skills, knowledge and experiences of personnel that represent the basis for organizational development.

Another relevant definition is the one suggested by Keeley (2007), who defines human capital as the mixture of innate aptitudes to the individual and the set of learning that is acquired throughout his life through training and education received. As a complement, Morales, Jacobo, Ochoa and Ibarra (2020) point out that this concept refers to the skills, knowledge and attitudes of the staff, and emphasizes the influence that these elements have on organizational performance. Flores, Álvarez and Pedraza (2020), on the other hand, mention that human capital refers to a series of intangible assets that are the exclusive
property of each individual, essential for the fulfillment of the assigned activities (for example, intellect, creativity, know-how).

The aforementioned sources have also made clear the wide range of elements incorporated into the term human capital, all of them aimed at generating competitive advantages as long as there is adequate management by senior management. Regarding this last point, various scientific studies have corroborated the significant impact that these components have on the performance of the organization (Escandón, Arias and Salas, 2012; Pardo and Díaz, 2014; Villegas, Hernández and Salazar, 2017). The relevance of continuing with research that analyzes the qualities that human capital possesses is none other than identifying those that add more value to processes and services, and ultimately, implementing good organizational practices that help to improve the competencies and skills that are required in order to provide a timely response to the new era, so competitive and complex (Tobón, 2015).

However, it is equally important to mention that empirical research has proposed a series of factors under which it is possible to measure the human capital construct in scientific terms. An example of this is the study developed by Ruggeri and Yu (2000), who highlight the potential, acquisition and availability as determining factors that make up this variable. For his part, Gómez (2016) determined that human capital is determined by five main factors: training, environment, specialization, experience and politics.

Mariño, Rodríguez and Rubio (2013), on the other hand, point out that the variable in question is determined by the factors of motivation, experience, satisfaction, and training and development, following the statistical results obtained in their research. While De Castro, Alama, Navas and López (2009) point out that experience and skills, motivation and professional development and permanence are the three factors that group the human capital variable. Other authors such as Bontis (1998), Crema and Verbano (2014), Sánchez, Melián, and Hormiga (2007) and Vasconcelo (2017) affirm that human capital is basically made up of three components: collaboration, creativity and skills, based on the analysis of their inquiries.

It should be noted that this last classification of human capital (collaboration, creativity and competences) has been widely accepted by the academic-scientific community: these factors have been recurrent in the studies addressed under this line of
research (Chen, Zhu and Xie, 2004; Edvinsson and Malone, 1999; Euroforum, 1998; Rodríguez and Rubio, 2006; Roos, Roos, Dragonetti and Edvinsson, 2001; Shih, Chang and Lin, 2010), which is why they are also taken here as a reference in order to assess the variable of human capital in HEIs. The definition of these factors is presented in Table 1.

**Tabla 1. Factores del capital humano**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Definición</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competencias</td>
<td>Hace referencia a la capacidad que tienen las personas para responder eficazmente a las exigencias del trabajo, según su aprendizaje, cualidades, habilidades y aptitudes adquiridas (Ruiz, Jaraba y Romero, 2005).</td>
</tr>
<tr>
<td>Creatividad</td>
<td>Refiere a la facilidad con la que los individuos de una organización resuelven conflictos y desarrollan soluciones para las negociaciones, la agilidad con la que generan ideas y conocimiento nuevo, y la forma en la que intercambian información con los demás miembros de la organización (Woodman, Sawyer y Griffin, 1993).</td>
</tr>
<tr>
<td>Colaboración</td>
<td>Se concibe como el elemento del capital humano que refleja los lazos de compañerismo y confianza que tienen los integrantes de la institución para trabajar en equipo, compartir recursos, resolver problemas en conjunto y mantener una buena comunicación con los directivos de la compañía (Felício, Couto y Caiado, 2014).</td>
</tr>
</tbody>
</table>

Fuente: Elaboración propia con base en los autores citados

When talking about skills in the education sector, Carro, Hernández, Lima and Corona (2016), Hernández (2017), Herrera (2017), Martínez, Hernández and Gomora (2016) comment that the determination of the skills to be developed in students is one of the fundamental elements that all HEIs establish in their study plans and programs. However, given the current academic scenario, it is important that both the teaching and administrative staff also possess the necessary competencies to lead the organization towards educational efficiency, as well as undertake studies that analyze the areas of opportunity regarding this competence in order to optimize its attributes for the benefit of the education sector.
While, with regard to creativity, Elísondo (2015), Hernández, Alvarado and Luna (2015) and Jiménez (2019) affirm that any HEI that has creative and competent human capital to innovate teaching-learning processes and implementing more collaborative work methodologies among the main actors in education will definitely achieve superior performance in their institutional work.

And regarding the collaboration factor and its impact on HEIs, Krichesky and Murillo (2018), Martín and Morales (2013), Montero (2011), Moreno (2006) point out that within higher education educational centers, collaboration is one of the key aspects to promote improvement processes in teaching, since it allows generating a shared vision, which facilitates decision-making and, above all, the implementation of lines of action that favor student learning.

In short, the competencies, creativity and collaboration of human capital are important elements that influence the performance of HEIs, organizations whose main purpose is the production and generation of knowledge, where the intellect of the staff represents the most precious asset (Accounts, 2018; Durán, 2016). Hence the decision to consider each of them in this research, in order to determine the level of influence they exert on the organizational performance of HEIs, specifically in the contextual performance facet, which is described below.

**Job performance: definitions and measurement facets**

According to Díaz, Díaz, Isla, Hernández and Rosales (2012), performance is one of the topics that has presented the greatest progress in the field of study of organizational psychology, since the information generated through its analysis It represents the starting point for other organizational procedures, such as staff training, job recognition, incentives and rewards, and decision-making, among others (Ramos, Barrada, Fernández & Koopmans, 2019).

Fogaca, Barbosa, Campos, Pereira and Coelho (2018) argue that performance encompasses all the behaviors that an employee exhibits when doing their job. Chiavenato (2000) is a little more precise and mentions that, in effect, performance refers to the actions or behaviors of workers, but it is not about any type of action or behavior, but only those that are essential for the fulfillment of the objectives established by the organization.
For their part, Milkovich and Bourdeau (1994) say that performance is the way in which the organization's personnel comply with the requirements of the assigned activities. While Robbins (2004) states that performance points to the ability of staff to coordinate and organize their activities.

When analyzing these definitions, it is possible to conclude that performance refers to any response or action of an individual that is aimed at achieving organizational objectives. Of course, it is linked to aspects that have to do with the quality, quantity, cost and time that a person uses to fulfill a function (Araújo and Guedes, 2016; Marchezi, von Borell, Matos and dos Santos, 2019). In addition, it applies criteria of cooperation, responsibility, knowledge, assistance and supervision in order to guarantee the achievement of the goals and the efficient use of available resources (Chiang and San Martín, 2015).

Now, Ramos et al. (2019) comment that there are various ways through which performance in public and private institutions can be measurable, depending on the interest and purpose of the analysis that is desired to be carried out. Taking into account the above, Borman and Motowidlo (1993), Coleman and Borman (2000) and Conway (1999) carried out a taxonomy of the different dimensions that management performance contemplates, and they managed to validate a model that determines the three main facets in the operationalization of this construct, namely: task performance, contextual performance and counterproductive behaviors (table 2).
<table>
<thead>
<tr>
<th>Faceta</th>
<th>Definición</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desempeño de tareas</td>
<td>Contempla la eficiencia del personal para dar cumplimiento a las funciones técnicas que le son asignadas por la organización. Se enfoca en evaluar la contribución del empleado en un área específica relacionada con su puesto de trabajo y las habilidades que esta requiere (Basoredo, 2011; Campbell, McHenry y Wise, 1990).</td>
</tr>
<tr>
<td>Desempeño contextual</td>
<td>También llamado <em>desempeño cívico</em>. Evalúa las conductas de apoyo y solidaridad que expresan los empleados hacia el logro de las metas institucionales, más allá de las obligaciones técnicas de su puesto de trabajo, ayudando a la creación de entornos de trabajo favorables (Borman y Motowidlo, 1993; Borman, 2004; Delgado <em>et al.</em>, 2018).</td>
</tr>
<tr>
<td>Conductas contraproducentivas</td>
<td>Refiere a comportamientos desfavorables que incumplen con la normativa institucional y afectan el bienestar de la organización y de los colaboradores que la integran (Sackett, 2002; Spector, Fox, Penney, Bruursema, Goh y Kessler, 2006).</td>
</tr>
</tbody>
</table>

Fuente: Elaboración propia con base en los autores citados

It should be noted that contextual performance, unlike the performance of tasks and counterproductive behaviors, is a variable that transcends all levels of the organization, since it values aspects that are more related to motivational behaviors, that is, it is more implicit than explicit in the actions of the staff (Gorriti, 2007). This has allowed him to occupy an important role in the study of organizational psychology and behavior (Bilal, Bahadar, Yasir and Mateen 2015; Kalia and Bhardwaj, 2019). Contextual performance measurement provides useful information for strategic decision-making, since this information allows knowing the behavioral trends that employees experience in the general context of the institution, beyond the work area.

Specifically in HEIs, Bernasconi (2010) points out that performance standards should not only contemplate professional profiles and teaching compliance, but also consider the various roles that staff play in terms of teaching, administrative and political burden. internal, which requires a holistic evaluation that considers the performance of the staff at the contextual level. Likewise, Bilal et al. (2015) establish that examining the contextual
performance of education workers allows to have a comprehensive vision of the behaviors and behaviors that affect the achievement of objectives in an efficient and effective way, since, through the analysis carried out, they are able to identify areas of opportunity related to the commitment of personnel beyond their work obligations.

On the other hand, Vilcamichi (2017) recognizes that assessing the performance of citizens that integrate HEIs at the contextual level generates important benefits for the proper development of educational activities; This is due to the fact that, among other aspects, contextual performance defines the work climate under which the teaching-learning processes are practiced, which facilitates collaborative support between staff and the reinforcement of positive behaviors; in short, it provides the favorable conditions for the continuous improvement of the institution.

Based on these assertions, it is possible to conclude that evaluating contextual performance represents an important component that will allow HEIs to continue advancing towards the new demands of the environment, towards transformation and modernization. However, it must be remembered that in order to achieve efficient contextual performance it is important to ensure, first of all, that the personnel that make up the organizational citizenship possess the skills, creativity and collaboration ties required to obtain the expected results, since that scientific research recognizes the importance of these components of human capital as a fundamental part of performance measurement systems (Gates and Langevin, 2013).

In this sense, the present research proposes as a research model the existence of a linear relationship between the factors of competences, creativity and collaboration with respect to the contextual performance of HEI (figure 1). The hypotheses are as follows:

- **H1.** Human capital competencies have a positive and significant influence on the contextual performance of HEIs.
- **H2.** The creativity of human capital has a positive and significant influence on the contextual performance of HEIs.
- **H3.** The collaboration of human capital has a positive and significant influence on the contextual performance of HEIs.
Method

To contrast the research hypotheses previously described, the design of this study is characterized by being a quantitative approach (Bernal, 2010; Hernández, Fernández and Baptista, 2014), as detailed in Table 4. The data collection technique was based on a questionnaire made up of three main sections: 1) general data of the respondents, 2) assessment of the factors of competencies, creativity and collaboration of human capital and 3) evaluation of contextual performance.

For the design of the questionnaire, a documentary review of previous studies that have addressed the analysis of the variables contemplated in the present investigation was carried out, in the first instance, identifying with it the conceptual and operational description of each construct. In the case of the factors of competencies, creativity and collaboration, it was the studies by Bontis (1998), Crema and Verbano, (2014), Huang and Jim (2010) and Vasconcelo (2017) that were taken as references, while for the contextual performance variable, the items included in the scale proposed by Coleman and Borman (2000) were selected, previously adapted and validated to the public sector by Díaz et al. (2012).

The decision to take as a reference the contribution of these authors for the design of the questionnaire is due to the fact that the proposed scales meet the criteria and characteristics required to measure the variables of competencies, creativity, collaboration
and contextual performance, since the results obtained in His research supports high reliability and validity indexes in the items examined for the measurement of these factors. However, it is important to mention that, in order to validate the content of the designed questionnaire, expert researchers from the academic body "Public and Business Management" of the Autonomous University of Tamaulipas were asked to issue their judgment regarding the conformation of the scale, its standardization and consistency of reagents; Thus, the experts made observations that contributed to the adequacy of the wording and presentation of the statements. Hence, the measurement instrument was made up of 15 items, from which the analysis of the independent variables of creativity, competences and collaboration was approached, distributed equally among these three components, while for the dependent variable of performance contextual, the number of items assessed corresponds to 27 statements (table 3).
<table>
<thead>
<tr>
<th>Variable de estudio</th>
<th>Ítems valorados</th>
<th>Referente</th>
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</table>
| Creatividad         | 1) El personal de esta institución es capaz de desarrollar nuevas ideas y conocimiento.  
2) El personal de esta institución es brillante y creativo.  
3) El personal de esta institución hace frente a las dificultades con eficiencia.  
4) El personal de esta institución se centra en ofrecer un servicio de calidad.  
| Competencias        | 1) El personal de esta institución aprende continuamente de otros.  
2) El personal de esta institución cuenta con las competencias necesarias para el puesto.  
3) El personal de esta institución cuenta con los estudios profesionales necesarios que demanda su función.  
4) El personal de esta institución es muy profesional.  
| Colaboración        | 1) El personal de esta institución fomenta la confianza y colaboración en los equipos de trabajo.  
2) El personal de esta institución colabora entre sí para resolver problemas y desarrollar soluciones de negociación.  
3) El personal de esta institución es capaz de participar en los programas de flexibilidad laboral.  
4) El personal de esta institución comparte los recursos e información de los usuarios.  
<table>
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<tr>
<th>Desempeño contextual</th>
<th>El personal que labora en esta institución…</th>
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<tbody>
<tr>
<td></td>
<td>1) Manifiesta un entusiasmo constante al realizar el trabajo.</td>
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<td></td>
<td>2) Muestra un esfuerzo superior al normal en su trabajo.</td>
</tr>
<tr>
<td></td>
<td>3) Muestra disposición para llevar a cabo tareas que no forman parte de su puesto de trabajo.</td>
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<tr>
<td></td>
<td>4) Ayuda a otros compañeros.</td>
</tr>
<tr>
<td></td>
<td>5) Coopera con otros compañeros de la institución para la realización de sus actividades.</td>
</tr>
<tr>
<td></td>
<td>6) Sigue las normas y procedimientos de la institución.</td>
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<tr>
<td></td>
<td>7) Asume, apoya o defiende los objetivos de la institución.</td>
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<tr>
<td></td>
<td>8) Ayuda desinteresadamente a otros compañeros.</td>
</tr>
<tr>
<td></td>
<td>9) Se esmera en favorecer a la institución.</td>
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<tr>
<td></td>
<td>10) Mantiene una actitud positiva hacia la institución.</td>
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<tr>
<td></td>
<td>11) Está de acuerdo con las condiciones de trabajo en la institución.</td>
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<tr>
<td></td>
<td>12) Comparte información con los demás sobre futuros eventos, actividades, acciones, etc. que realizará la institución.</td>
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<tr>
<td></td>
<td>13) Participa responsablemente en la institución.</td>
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<td></td>
<td>14) Demuestra lealtad a la institución.</td>
</tr>
<tr>
<td></td>
<td>15) Promueve, promociona y defiende la institución.</td>
</tr>
<tr>
<td></td>
<td>16) Demuestra respeto por las normas y políticas de la institución.</td>
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<tr>
<td></td>
<td>17) Consigue la cooperation y participación de los compañeros en la actividad diaria de la institución.</td>
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<td></td>
<td>18) Trabaja duro con un esfuerzo superior al normal.</td>
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<tr>
<td></td>
<td>19) Participa responsablemente en reuniones y actividades grupales.</td>
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<tr>
<td></td>
<td>20) Se compromete con su propio desarrollo para mejorar su eficacia personal.</td>
</tr>
<tr>
<td></td>
<td>21) Se compromete de forma que beneficie a la institución.</td>
</tr>
</tbody>
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<tbody>
<tr>
<td>22)</td>
<td>Se comporta de forma que beneficie a los compañeros de la institución.</td>
</tr>
<tr>
<td>23)</td>
<td>Ayuda a los compañeros de trabajo con sus problemas personales.</td>
</tr>
<tr>
<td>24)</td>
<td>Presta servicio o ayuda a los usuarios o público en general, más allá de lo normal.</td>
</tr>
<tr>
<td>25)</td>
<td>Sugiere mejoras en procedimientos, administración u organización.</td>
</tr>
<tr>
<td>26)</td>
<td>Permanece en la institución a pesar de las dificultades o dureza de las condiciones.</td>
</tr>
<tr>
<td>27)</td>
<td>Muestra dedicación en el trabajo.</td>
</tr>
</tbody>
</table>

Fuente: Elaboración propia

Continuing with the questionnaire construct validation process, factor analysis was used statistically through which it was possible to validate the underlying structure of the analyzed variables (Kaiser, Meyer and Olkin [KMO]> 0.70; chi squared ≠ 0; significance <0.05; factorial load> 0.60). The next step consisted of analyzing the collected data. In this step, the descriptive statistics technique was used in order to know the profile of the respondents and the perception of the participants regarding the assessment of the study constructs. Following this, in order to determine the incidence of the independent variables on contextual performance, a correlation analysis was carried out by means of which it was possible to identify the statistical association between the factors of competencies, creativity, collaboration and contextual performance. And finally, to respond to the objective and research hypothesis, the linear regression analysis was carried out (table 4).
### Resultados

As previously mentioned, the sample of participation in this research was represented by 95 respondents, 40% male and 60% female, of which 41% correspond to administrative personnel and 59% to teachers.

On the other hand, according to the data provided, it was observed that the predominant education in the respondents is at the undergraduate level (52%), followed by personnel with postgraduate studies (26%) and, finally, those who have a high school or high school level academic level (22%). Likewise, through descriptive analysis it was identified that 17% have been working in the HEI to which they are currently attached for less than five years, 29% have between 6 and 10 years of work seniority, 22% say they have between 11 and 15 years, 13% are between 16 to 20 years of service for their HEI and the remaining 19% say they have more than 20 years of seniority in the organization.
It is noteworthy that there was an equitable distribution in the data collection according to the profile of the respondents, which allows an objective view regarding the assessment of the variables analyzed. In this regard, 76% of the participants believe that the staff of the HEI where they work has the necessary skills to perform their function; 80% say they agree with the creativity of their colleagues, and 60% affirm that the members of the institution are always willing to collaborate in making decisions and activities required by senior management. These percentages delineate a favorable evaluation of the variables of competences, collaboration and creativity.

Similarly, it is highlighted that for the contextual performance the average of responses determined that 84% of the respondents assure that the personnel assigned to their work center show adequate contextual performance towards the HEI where they work. That is, according to the majority of opinions, employees show dedication to their work, they commit to the institution, make superior effort to improve their personal effectiveness, maintain a positive attitude, support and defend the objectives of their organization and help their peers, among other evaluated elements of contextual performance that also favor the assessment of this variable.

Based on these findings, it is concluded that both the variables of competences, collaboration and creativity as well as the contextual performance have highly favorable opinions from the respondents. It goes without saying that these positive percentages were determined by descriptive statistics.

Once the staff's appreciation regarding these variables had been analyzed, the next step consisted in identifying the degree of association that exists between them in order to identify, through correlation analysis, if there is a positive relationship between the study constructs and subsequently obtain more precise estimates using the linear regression technique. Thus, Table 5 details the results obtained from the correlations made. There it is possible to observe that, with a confidence level of 95%, the competencies, collaboration and creativity of human capital are positively associated with contextual performance.
Accord

According to the results observed in table 5, it is possible to define that there is a positive and significant relationship between creativity, competencies and collaboration with respect to contextual performance in HEI, since the resulting data indicate that as each independent variable increases, performance contextual will also be favored in its increase (the closer the correlation coefficient is to one, the greater the degree of relationship between these factors).

That is to say, at a correlational level, it is identified that the creative capacities, the acquired competences and the collaboration ties of the teaching and administrative personnel participating in this research exert a significant association in the contextual performance of these employees, since, when feeling with the intellectual qualities necessary to carry out their work, these personnel acquire greater confidence, knowledge and disposition to support the achievement of organizational objectives, show enthusiasm towards their educational work, help other colleagues, participate in academic activities and, mainly, provide a service of quality to students, so that as said competencies, creativity and collaboration increase, their contextual performance will also increase reciprocally, which suggests that good human capital management practices be implemented within HEIs in order to optimize the qualities of each individual, c thus contributing to a better contextual performance.

Now, in order to strengthen the results obtained from the correlation analysis, the linear regression models generated to predict the influence that each of the independent
variables have on contextual performance are shown below, as stated in the central objective of this research. As a first regression model, the incidence between competencies and contextual performance was analyzed:

\[
\gamma = \beta_0 + \beta_1 \chi_1 + \varepsilon
\]

\[
Desempeño contextual = \beta_0 + \beta_1(competencias) + \varepsilon
\]

And the results obtained detail in a positive and significant way (p <0.05) that the contextual performance is explained in 35% (R²) by the competences that the staff of the HEI possesses, that is, they contribute efficiently to the achievement of the objectives organizational. Likewise, it is identified in this first model that \( \beta_1 \) obtains a value of 0.592, which indicates that, for each point of increase in staff competencies, contextual performance will also increase its value by 0.592 points; thus, the positive linear relationship that exists between these two study variables is verified, a finding that allows us to accept the research H1 (Table 6).

As a second regression model, the incidence between the creativity of human capital and contextual performance is proposed, represented by the following equation:

\[
\gamma = \beta_0 + \beta_1 \chi_2 + \varepsilon
\]

\[
Desempeño contextual = \beta_0 + \beta_1(creatividad) + \varepsilon
\]

In this case, the results obtained statistically demonstrate that creativity also has a positive impact on contextual performance: a value for R² of 0.310 was achieved, which translates into 31% of the contextual performance explained by the creativity of teachers and administrators. that integrate the IES, with a P-value of 0.000 and a \( \beta_1 \) of 0.556 (table 6), measurement parameters that make it possible to accept the H2 proposed in this research, because the values achieved through this regression model thus they confirm it.

Finally, the model that represents the regression between collaboration and contextual performance is presented from the following equation:

\[
\gamma = \beta_0 + \beta_1 \chi_3 + \varepsilon
\]

\[
Desempeño contextual = \beta_0 + \beta_1(colaboración) + \varepsilon
\]
For this model it is important to highlight that, similar to the results observed in the correlation analysis, the collaboration variable is the one with the highest degree of incidence on contextual performance, since, according to the value obtained for $R^2$, the collaboration ties between HEI workers explain their contextual performance in 36.1%, a finding that is evidenced by the results presented in table 6, where it is also shown that the value corresponding to $\beta_1$ in this equation is 0.600, that is, For each incremental point in the collaboration variable, the contextual performance will increase its value linearly by 0.600 points. Thus, the statement made in H3 of this study is accepted.

**Tabla 6. Análisis de regresión lineal**

<table>
<thead>
<tr>
<th>Coeficientes de regresión</th>
<th>Competencias</th>
<th>Creatividad</th>
<th>Colaboración</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\beta_1$</td>
<td>0.592</td>
<td>0.556</td>
<td>0.600</td>
</tr>
<tr>
<td>P-valor</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.350</td>
<td>0.0310</td>
<td>0.361</td>
</tr>
<tr>
<td>$R^2$ ajustado</td>
<td>0.343</td>
<td>0.302</td>
<td>0.354</td>
</tr>
</tbody>
</table>

Fuente: Elaboración propia

In short, the results obtained through the linear regression models confirm the data previously observed in the correlation analysis, this by statistically demonstrating that, as there are greater bonds of companionship and trust between the employees of the HEIs, the higher the performance. achieved at the contextual level. Likewise, as the staff possess the qualities, competencies and aptitudes necessary for the development of their activities, as well as the creativity and agility to solve problems and generate new knowledge, the contextual performance will be positively and significantly higher, in such a way that the staff will contribute a superior effort to meet institutional goals, beyond the technical obligations assigned to your job.
Discussion

According to the results obtained in this study, it has been observed that the intangible qualities of human capital, skills, creativity and interpersonal collaboration ties are variables that exert a positive and statistically significant influence on contextual performance (table 6), empirical evidence that allows accepting the research hypotheses raised in the present inquiry.

Specifically, these results for HEIs represent an area of opportunity for making effective decisions that contribute to the design of good practices to boost the intellectual potential of teachers and administrators who are part of the organizational citizenship, in order to increase their value, and impact on the performance of their functions at a contextual level of the organization. The above taking into account that the literature review (Escandón et al. 2012; Pardo and Díaz, 2014; Villegas et al. 2017) and the statistical regression models analyzed here confirm the linear relationship that exists between these variables of human capital and contextual performance.

Regarding the competence variable, the results presented in this study find support in the previous research carried out by Carro et al. (2016), Hernández (2017), Herrera (2017) and Martínez et al. (2016), who affirm that staff competencies are an intangible asset that generate strategic value for HEIs by making teaching-learning processes more efficient and raising the educational quality offered to students.

On the other hand, with regard to creativity, Elisondo (2015), Hernández et al. (2015) and Jiménez (2019) postulate that there is a clear relationship between this variable and the performance of HEIs. This has been demonstrated in the regression analysis presented that is part of this research, and from which it is possible to affirm that the greater the capacity of the staff to innovate and be creative, the better contextual performance can be achieved within educational organizations, and thus give a pertinent response to market trends and demands of the social environment.

Something analogous happens with the collaboration variable. The data observed here demonstrate the positive and significant influence it has on contextual performance. Furthermore, this attribute of human capital is the one with the highest degree of incidence with the dependent variable, a result that both strengthens and is strengthened by the contributions of Krichesky and Murillo (2018), Martín and Morales (2013), Montero (2011)
y Moreno (2006), quienes aseguran que la colaboración entre el personal es una condición importante para el buen funcionamiento de las HEIs debido a su impacto en la toma de decisiones y la visión compartida de los profesores y los administradores.

Finalmente, es importante comentar que los resultados presentados en esta investigación se basan en su contribución sobre una muestra no probabilística de personal asignado a HEIs que estaban dispuestos a participar en la investigación, de manera que la observación de los datos es difícilmente generalizable a otras organizaciones del sector, razón por la cual se recomienda llevar a cabo futuras investigaciones sobre esta línea temática para ampliar el análisis de la investigación en el contexto educativo.

**Conclusión**

La educación es uno de los derechos fundamentales para cada humano, una situación que obliga a las instituciones educativas a ser cada vez más eficientes en sus procesos educativos y eficiencia, ya que el conocimiento integral de los estudiantes dependerá de ellas. Específicamente puede mencionarse que HEIs juegan un rol protagónico en esta tarea institucional bajo la proposición de que este tipo de organización se encarga de transmitir el conocimiento, habilidades y capacidades necesarias para el ejercicio profesional de los estudiantes que en el futuro próximo entraran al mercado laboral para contribuir al crecimiento económico.

En este contexto, uno de los requisitos esenciales para el desempeño eficiente de HEIs es asegurar que tanto el personal docente y administrativo tengan las características necesarias para garantizar una educación de calidad para los estudiantes. En este sentido, la presente investigación propone el estudio de competencias, creatividad y colaboración como variables latentes que afectan el desempeño de los trabajadores asignados a IES, especialmente en la faceta de desempeño contextual.

De los resultados obtenidos, se concluye que las variables independientes positivamente y significativamente afectan el desempeño contextual. En particular, la colaboración es el factor que proporciona la explicación mayor para el desempeño del personal en términos contextuales. Para lograr un adecuado desempeño contextual, es necesario forjar vínculos de camaradería, apoyo y confianza entre los miembros del ciudadano organizacional.

Además de lo anterior, y según el tendido de respuestas, los constructos analizados en esta investigación lograron obtener opiniones favorables de la mayoría de los participantes, lo que traduce en la aceptación de que los empleados de las HEIs participantes tienen las habilidades,
creativity and collaboration required for the performance of their duties, beyond their job position. However, it is advisable to continue strengthening these qualities through lines of action that contribute to the implementation of good human capital management practices for the benefit of the institution, the students and the education workers themselves, so that the data observed in this Research represents the starting point for strategic decision-making by academic managers in order to increase their value to the teaching-learning processes.

**Future lines of research**

In accordance with the findings found in the present investigation and taking into account its scope and limitations, it is important to comment that there are interesting contributions that can be addressed by the scientific community in future studies, in order to reinforce the data observed here under new perspectives and interpretations. As a first proposal, the analysis of the relationship between competencies, creativity and collaboration with respect to the variables of task performance and counterproductive behaviors is suggested, since these performance facets were not examined here by the primary planned scope, but that, if analyzed, could undoubtedly provide interesting results for decision-making and strategy design in the education sector. On the other hand, it is also visualized as a future line of research to analyze the effect that the personality of individuals has on contextual performance, this under the premise that, in addition to the intellectual qualities of competences, creativity and collaboration, the psychic characteristics of a person is also a determining factor in the performance that they can achieve in their work field, so their study will contribute to the establishment of good practices for the management of those who make up the organizational citizenship.
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