

## Knowledge Management and Continuous Improvement in a Private University from Lima, Peru

### [Gestión del Conocimiento y Mejora Continua en una Universidad Privada de Lima, Perú]

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#### Resumen

La gestión del conocimiento y la mejora continua son factores claves de éxito que se aplican en las organizaciones de forma independiente; sin embargo, existe una relación significativa entre ambas, por ello las organizaciones que buscan ser líderes de su sector deben analizarlas en conjunto. Considerando que las universidades tienen un rol protagónico y deben trascender las expectativas de nuestra sociedad, he considerado pertinente realizar este artículo cuyo propósito es establecer la relación entre la Gestión del Conocimiento y la Mejora Continua en una universidad Privada de Lima, Perú. Tiene un enfoque cuantitativo porque se utilizó el análisis estadístico para probar lo establecido en las hipótesis. El diseño es no experimental transversal, ya que se presenta información como se da en la realidad y en un tiempo determinado, es transeccional correlacional, porque mide y evalúa la relación entre las variables. La muestra está constituida por 45 individuos entre jefes de áreas y coordinadores de escuelas, a quienes se les aplicó un cuestionario con 32 preguntas, cuyos datos se procesaron en el programa estadístico SPSS versión 25. Finalmente se ha demostrado la relación significativa existente entre gestión del conocimiento y mejora continua, obteniendo un Rho de Spearman, 0,730, al 1% de nivel de significancia. Asimismo, los hallazgos afirman que las fases crear, almacenar, aplicar y transferir conocimiento también tienen relación significativa con la mejora continua.

Palabras clave: Gestión del conocimiento, mejora continua, universidad.

#### Abstract

Knowledge management and continuous improvement are key success factors that are applied in organizations independently; However, there is a significant relationship between the two, therefore organizations that seek to be leaders in their sector must analyze them together. Considering that universities have a leading role and must transcend the expectations of our society, I have considered it pertinent to carry out this article whose purpose is to establish the relationship between Knowledge Management and Continuous Improvement in a Private University from Lima, Peru. It has a quantitative approach because statistical analysis was used to test what was established in the hypotheses. The design is non-experimental, cross-sectional, since information is presented as it occurs in reality and in a given time, it is transeccional, correlational, because it measures and evaluates the relationship between the variables. The sample is made up of 45 individuals between heads of areas and school coordinators, to whom a questionnaire with 32 questions was applied, whose data were processed in the statistical program SPSS version 25. Finally, the significant relationship between management of the knowledge and continuous improvement, obtaining a Spearman Rho, 0.730, at the 1% level of significance. Likewise, the findings affirm that the phases of creating, storing, applying and transferring knowledge also have a significant relationship with continuous improvement.

**Keywords:** Knowledge management, continuous improvement, university.

**1. Introduction**

Knowledge is a primary resource for organizations, so much so that Agudelo and Valencia (2018) state that knowledge is considered a transcendent element for public and private institutions, since its function is to determine the levels of action of individuals. as of organizations, since by itself knowledge is not relevant, but if there is a person who manages it, it will become an important element. "Knowledge is a strategic element, a vital resource and a primary asset for organizations" (De Freitas and Yáber, 2017). Likewise, Marrero, Matheus and Carrión (as cited in Marín et al., 2013) affirm that "knowledge in the business environment is conceived as an intangible asset that adds value to it. To understand knowledge within the organizational scope, it is essential to know the meaning of data and information; Organizations consider that all information must address a process called "Knowledge Funnel" which is made up of three elements that are listed in order of priority: data, information and finally knowledge, which is transformation of the interrelation of data and information, and it is the people with their experiences and according to the context who generate this vital resource (De Freitas and Yáber, 2017). This can be contrasted in figure 1.

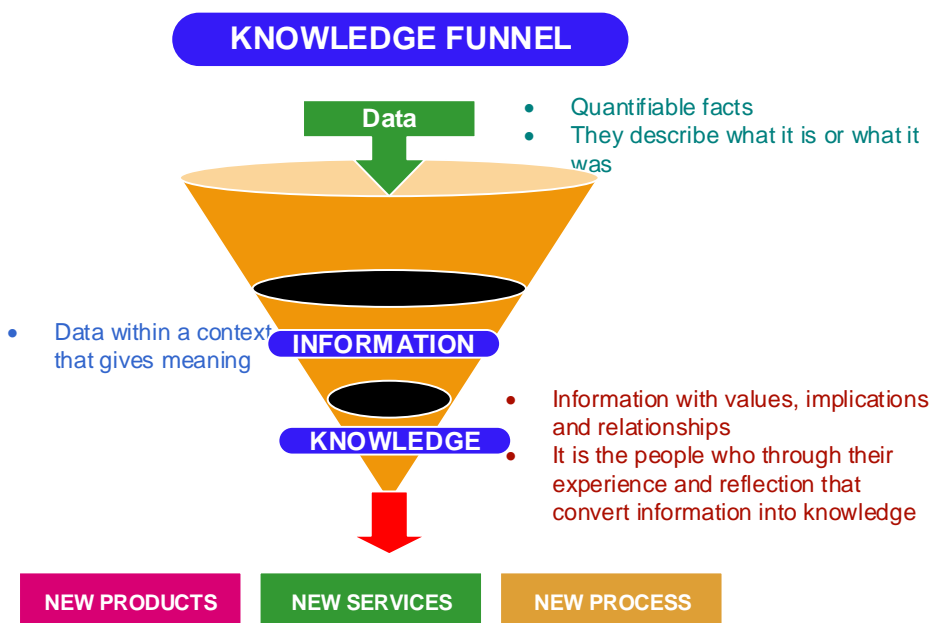


Figure 1. The knowledge funnel.

Source: [https://www.researchgate.net/publication/304343279\\_Knowledge\\_management\\_in\\_education\\_journals](https://www.researchgate.net/publication/304343279_Knowledge_management_in_education_journals)

What is knowledge management? In the organizational field, all resources are managed to achieve institutional purposes, knowledge being a transcendent resource must be managed systematically to achieve a significant impact on various aspects of the organization, for this we must understand its definition, according to Quizhpe, et al (2016) "is a process that is made up of a series of elements and successive stages that are dependent and sequential among themselves, such as the creation, storage, application / use and transfer of knowledge". Likewise, "knowledge management aims to capture, organize, share, disseminate and create formal and informal knowledge, to improve productivity and provide increasingly efficient goods and services"

(Pabón, 2016). It is a fundamental cycle within organizations because it helps to cultivate their learning, allowing to identify, select, organize and transmit strategic information to all members, making them make coherent decisions and solve difficulties in a timely manner (Torres and Lamenta, 2015). "It is a worker-organization relationship aimed at managing information; that involves identifying, selecting, organizing and putting it to use. In today's institutions, whether public or private, knowledge drives action and continuous improvement" (Agudelo and Valencia, 2018). "It is a systematic process that allows the improvement of the performance of the workers of a company, achieving the creation, collection, organization, transmission, use and exploitation of knowledge" (García and Gómez, 2015).

Nonaka and Takeuchi (as cited in De Freitas and Yáber, 2017) indicate that knowledge management will be the only sustainable competitive advantage in this ever-changing economy. It has four phases, whose functions must be assigned precisely to each member of the company; It is known that everyone manages knowledge, but to improve it is necessary to maintain dynamism in each link, this is achieved when officials assume a role when receiving and transmitting information, which is transformed into knowledge (Agudelo and Valencia, 2018). Creation of knowledge: it is the first phase, it requires two basic procedures; the first approach to the object of knowledge is of an empirical nature, the same one that is direct and is carried out through the senses and methodological, technical and instrumental procedures. The second approach to the object is the theoretical one that is generated from the review, analysis, interpretation, synthesis and reconstruction of the theory developed on the respective object of knowledge (Quizhpe, et al, 2016). Knowledge storage. It is essential in all organizations to preserve or retain knowledge, if this does not happen, the efforts made over the years in the implemented processes of a company would be lost, causing the repetition of activities already concluded (Maedche, Motik, Stojanovic, Studer & Volz, 2003, as cited in Bellinza et al., 2011). Application and use of knowledge: In this phase, an information management system is required that provides updated data on user requirements in order to manage knowledge efficiently. Then it is inferred that effective knowledge management will only be possible if intranets, portals, scenarios, platforms, among other tools are created that encourage members of an organization to consume this information and continue developing their knowledge (Boomer, 2004, as cited in Bellinza et al, 2011). Knowledge transfer. In organizations it is essential to have an area that is responsible for the distribution of knowledge to one or more members, to one or more specific areas and within the same members of a work team, so it can be stated that these actions personal serve as a mechanism to transfer knowledge (Hawamdeh & Suliman, as cited in Bellinza et al, 2011); Such transfer is only possible if they are complemented with the technological tools that contribute to share and distribute knowledge, such as specific platforms and software according to the organization's need.

The four stages that make up the knowledge management process play a fundamental role, because they allow organizations to be generators and guide them in aspects such as: institutional competitiveness, the development of the capacity to adapt to change, continuous improvement and decision making, considering data, information and knowledge as a basis (Quizhpe et al., 2016). As can be seen in figure 2.

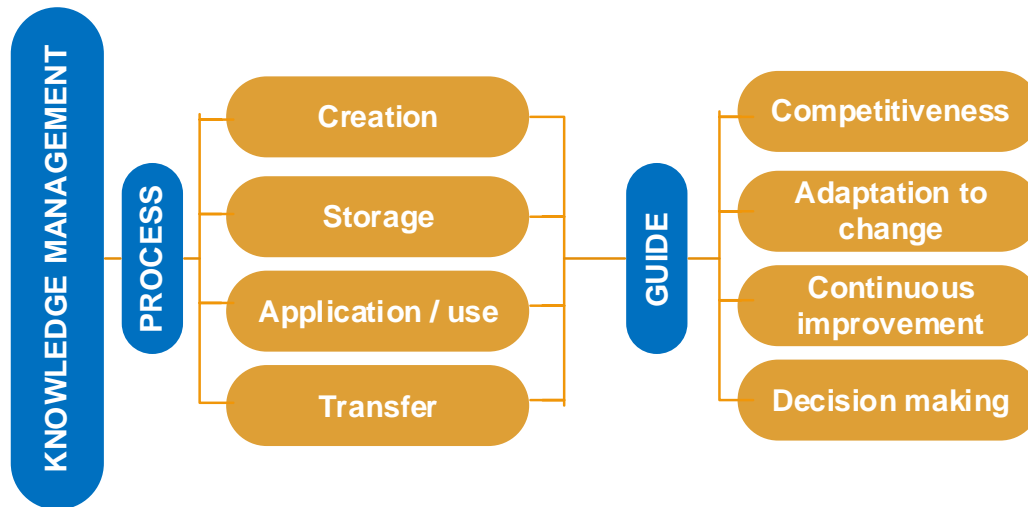


Figure 2. Knowledge Management Process according to Quizhpe, Quizhpe and Gómez (2016).  
Source: Quizhpe, Quizhpe and Gómez (2016).

Continuous improvement is understood as a paradigm that implies improvement in all the strategic activities of an organization, this implies planning, verification or monitoring and the permanent collaboration of the members of the organization for the execution, improvement of activities through continuous learning. In Spain, the service companies GECACO, CADEAH and COORTEMA reveal that quality management has a significant impact on innovation, so it is understood that good quality management practices increase continuous improvement, the development of innovative products and better mechanisms in production, this is achieved only if companies promote the development of the creation, storage, transfer, application and use of knowledge (García-Fernández, 2016). The Most Admired Knowledge Enterprises, is a company that recognizes the ability of companies to transfer knowledge, thus providing an international distinction in order to stimulate the improvement of performance in their operational, administrative and management areas. We can highlight the Colombian company Ecopetrol, it was ranked 10th in the American continent in 2012, obtaining the international award for knowledge management, a similar reward was obtained by the companies Microsoft, Google, Apple, IBM, Amazon, whose impact of applying management knowledge is evident in these companies as they are international leaders in their sectors.

In 2017, Atos, a company dedicated to digital services established in Buenos Aires received the award of leader in knowledge management for employees and clients. According to the Most Admired Knowledge Enterprises survey, this award recognizes it as one of the most outstanding companies in Europe in the management and exchange of knowledge, for his dedication in the "training of professionals in knowledge", which is achieved by leadership in managing people, team collaboration and the adequate distribution of information at the organization. In Atos, Knowledge Management is implemented as a mechanism to guarantee quality, continuous improvement, and the performance of the organization.

Continuous improvement is a contribution of Edward Deming with his famous PDCA cycle, it consists of four stages. In organizations these stages correspond to planning, doing, checking and acting (Bonilla et al, 2010). To plan: In this stage, the objectives, goals, activities to be executed and how to measure progress are defined. Previously, the situational state is identified

through a diagnosis, where the problems to be solved and the key areas for improvement come from; those that must be placed in order of priority and impact on the organization". To Do: In this stage, the plan that has previously been prepared is executed, and the necessary aspects for monitoring are determined, when developing the actions, the compliance indicators are identified, which will serve to evaluate the achievements and counteract the deficiencies. This stage represents the development of the action plan, where behavior must be monitored, being necessary to train staff for their involvement and knowledge of the relationship between the variables managed (Munch and Sandoval, 2015). To Check: In this stage, the initial plan is compared with the actions carried out, which is developed through the results of the indicators, identifying and analyzing the deviations. There are main improvement activities included in this cycle, such as: i) Measure and analyze the data obtained after implementing the changes, ii) Understand if we are approaching the established goal, iii) Review and resolve pending issues. To Act: At this stage, corrective actions are determined and new actions are rethought. In case the achievement of the expected goals is identified, the processes are standardized and systematized to ensure the same or better results ((Bonilla et al., 2010; Vargas and Aldana, 2014).

Continuous improvement and knowledge management are related to the organizational culture and are based on the organization's document system. Continuous improvement is based on the needs and expectations of society and customers, and organizational knowledge management does not exist independently of man's consciousness, therefore both are intangible and must be applied in all strategic processes of the organization. Both require the involvement of all members of an organization, without this active participation failure may arise (Esquivel et al., 2017).

Universities are strategic organizations in society due to the work they carry out in the training of future professionals in a country, however at present their performance is traditional, being necessary to assume a more entrepreneurial, leading and dynamic role with their social environment, To achieve this, they must consider knowledge management among their objectives as well as be oriented towards continuous improvement, both management systems complement each other to contribute to improving performance results (Esquivel et al., 2017). Likewise, several researchers state that knowledge management in universities is a little explored field of research, but they can be implemented, as it is done in other organizations, this can impact on competitive advantage, corporate responsibility and as well as the improvement of the programs and student learning outcomes (Benítez et al, 2016).

In a Private University from Lima, knowledge related to academic and administrative aspects is created, stored, applied and transferred, however, there is evidence of a lack of communication between the areas, a complex and disjointed information system, disorganization in the storage of information, repetition of errors, it seeks to solve the same problems in various areas, generating staff attrition, delay in the transfer of knowledge, lack of knowledge management policies, whose notable consequences would be high dropout rates, dissatisfied students, difficult placement in the ranking of the best university at the national and world level, among others; Therefore, in this research, the general problem is determined: What is the relationship between Knowledge Management and continuous improvement in a Private University from Lima, 2020? and the specific problems What is the relationship between knowledge creation and continuous improvement of a Private University from Lima, 2020?, What is the relationship between the storage of knowledge and continuous improvement of a Private University from Lima, 2020?, What is the relationship between the application / use of knowledge and continuous improvement of a Private University from Lima, 2020?, What is the relationship between knowledge transfer and continuous improvement of a Private University from Lima, 2020?. Likewise, the General Objective is: To establish the relationship between Knowledge Management and Continuous Improvement of a Private University from Lima, 2020; and the specific objectives are: To establish the relationship between knowledge creation and continuous improvement in Private University from Lima, 2020. To establish the relationship between knowledge storage and continuous

improvement in a Private University from Lima, 2020. To establish the relationship between the application and use of Knowledge and continuous improvement in a Private University from Lima, 2020. Establish the relationship between knowledge transfer and continuous improvement of a Private University from Lima, 2020.

## 2. Materials and Methods

This research has a quantitative approach since it uses statistical analysis to test what is established in the hypotheses. As Hernández et al. (2014) statistical analysis and numerical measurement reflect a quantitative approach, since it is required to collect data to demonstrate the hypothesis, in order to determine behavioral models and test theories. The Design is non-experimental, transectional, since none of the variables "Knowledge Management" and "Continuous Improvement" are manipulated and information is collected at a single moment at January 2020, to later describe the degree of relationship of variables in a given time, for which the scope is "transectional correlational" (Hernández et al, 2010). The sample is made up of 45 heads of areas and / or school coordinators, who are more involved in knowledge management and continuous improvement of the university. According to Hernández et al. (2010), "the non-probabilistic or directed sample is the subgroup of the population in which the choice of elements does not depend on probability but on the characteristics of the investigation". The technique used is the survey, as it is a quantitative investigation and the instrument applied is the questionnaire, which consists of 32 questions in total, of which 16 questions correspond to Variable 1: Knowledge Management and 16 questions to Variable 2: Continuous improvement, evaluated according to the Likert scale. This instrument has the validity of experts. As Bernal (2006) states "The questionnaire is a set of questions designed to generate the necessary data, in order to achieve the objectives of the research project." For the hypothesis test, the Spearman ordered rank coefficient was used, processed through the statistical program SPSS version 25, which allowed determining the relationship between the variables.

## 3. Results

The frequency distribution on the results of the information provided by 45 collaborators between heads of areas and school coordinators in a Private University from Lima, in the year 2020, shows that 4.4% rate knowledge management as mild, the 28.9% have a moderate perception, while 66.7% of those surveyed rate knowledge management at a strong level, as shown in table 1.

Table 1: Frequency distribution on Knowledge Management in a Private University from Lima, 2020

| Level        | Frequency | Percentage   |
|--------------|-----------|--------------|
| Mild         | 2         | 4,4          |
| Moderate     | 13        | 28,9         |
| Strong       | 30        | 66,7         |
| <b>Total</b> | <b>45</b> | <b>100,0</b> |

The frequency distribution on the information's results provided by 45 collaborators between heads of areas and school coordinators in a Private University from Lima, in 2020, 4.4% rate continuous improvement as mild. 46.7% have a moderate perception, while 48.9% of those surveyed rate continuous improvement at a strong level, as can be seen in table 2.

Table 2: Frequency distribution on Continuous Improvement in a Private University from Lima, 2020

| Level        | Frequency | Percentage   |
|--------------|-----------|--------------|
| Mild         | 2         | 4,4          |
| Moderate     | 21        | 46,7         |
| Strong       | 22        | 48,9         |
| <b>Total</b> | <b>45</b> | <b>100,0</b> |

**General hypothesis testing**

HO: There is no significant relationship between Knowledge Management and continuous improvement in a Private University from Lima, 2020.

H1: There is a significant relationship between Knowledge Management and continuous improvement in a Private University from Lima, 2020.

Condition:

When p value is greater than 0.05, the null hypothesis (Ho) is affirmed

When p value is less than 0.05, the alternative hypothesis (H1) is affirmed and the null hypothesis (Ho) is rejected.

Table 3 shows that Spearman's Rho correlation coefficient obtained a result of 0.730; which indicates that the p value (sig = 0.000) is lower than the significance level of 0.01, therefore the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, the existence of a significant correlation between Knowledge Management and continuous improvement of a Private University from Lima, 2020, is determined.

Table 3. Correlation between the Knowledge Management and continuous improvement variables

|                        |                      | Knowledge Management | continuous improvement |
|------------------------|----------------------|----------------------|------------------------|
| Spearman's Rho         | Knowledge Management | 1,000                | 0,730**                |
|                        |                      | .                    | 0,000                  |
|                        | N                    | 45                   | 45                     |
| continuous improvement | Knowledge Management | 0,730**              | 1,000                  |
|                        |                      | 0,000                | .                      |
|                        | N                    | 45                   | 45                     |

\*\* Correlation is significant at the 0,01 level (2-tailed).

This result is consistent with what Rodriguez-Ponce (2016) states, who affirms that knowledge management has a positive impact on the quality of institutions. The results obtained in the Pearson correlations show that institutional quality is significantly correlated with each of the phases of knowledge management since the correlations between quality and the variables create, share and apply knowledge are statistically significant ( $p < 0.001$ ). Rodríguez-Ponce, et al. (2013) also obtained results that show a significant relationship ( $p < 0.001$ ) between knowledge management and academic management in Chilean universities. They specify that this is complemented with the quality evaluation, since they are part of the key actions of the universities to generate strategic value. It is verified that knowledge management will take on greater importance in higher education institutions and will be used as a management tool. Likewise, Huamán (2018) and Hurtado (2018) carry out research to determine the relationship between

knowledge management and job performance. Both investigations concluded the existence of a positive relationship between knowledge management and job performance, as the p-value is 0.000 lower than the significance level of 0.001; therefore, they determine that, at more levels of knowledge management, there will also be a higher level of job performance. Montoya (2016) also determined the existence of a high positive and significant relationship between the variables Knowledge Management and Educational Quality, obtaining a result p value of 0.000 lower than the significance level of 0.001.

López (2016) states that there is a positive and significant relationship between the variable knowledge management and institutional commitment since they obtained a result of p value of 0.000 that is lower than the significance level of 0.001. The aforementioned authors highlight the importance of knowledge management within the education sector due to its positive relationship with quality, with commitment and work performance. Therefore, it can be inferred that Knowledge Management should be considered a crucial aspect for the Private University from Lima, since this ensures continuous improvement in a competitive environment where there are more and more demands for the education sector.

Specific hypothesis test 1

HO: There is no significant relationship between the creation of Knowledge and continuous improvement in a Private University from Lima, 2020.

H1: There is a significant relationship between the creation of Knowledge and continuous improvement in a Private University from Lima, 2020

Table 4 shows that the Spearman's Rho correlation has a result of 0.507 which allows to affirm the existence of a significant correlation between the Knowledge Creation variables and continuous improvement; This result implies that the p value (sig = 0.000) is lower than the significance level 0.01, then the alternative hypothesis (H1) can be affirmed, which reflects the existence of a significant relationship between the Creation of Knowledge and the continuous improvement of a Private University of Lima, 2020.

Table 4: Correlation between the Knowledge Creation and continuous improvement variables

|                   |                           |                         | Knowledge<br>Creation | continuous<br>improvement |
|-------------------|---------------------------|-------------------------|-----------------------|---------------------------|
| Spearman's<br>Rho | Knowledge<br>Creation     | Correlation Coefficient | 1,000                 | 0,507**                   |
|                   |                           | Sig. (2-tailed)         | .                     | 0,000                     |
|                   |                           | N                       | 45                    | 45                        |
|                   | continuous<br>improvement | Correlation Coefficient | 0,507**               | 1,000                     |
|                   |                           | Sig. (2-tailed)         | 0,000                 | .                         |
|                   |                           | N                       | 45                    | 45                        |

\*\* Correlation is significant at the 0,01 level (2-tailed).

The previous finding is consistent with what Rodriguez-Ponce (2016) states, who shows that the variable create knowledge is significant and relevant to influence institutional quality, since the result obtained was a p value (sig. 0.081), less than the significance level of 0.10. Therefore, it states that the creation of knowledge has a positive impact on the quality of institutions.

Specific hypothesis test 2

HO: There is no significant relationship between knowledge storage and continuous improvement in a Private University from Lima, 2020.

H1: There is a significant relationship between the storage of knowledge and continuous improvement in a Private University from Lima, 2020.

Table 5 shows that Spearman's Rho obtains a result of 0.508; These results show that the p value (sig = 0.000) is less than the significance level of 0.01, then the alternative hypothesis (H1) is accepted. Therefore, the existence of a significant correlation between the Storage of Knowledge and the continuous improvement of a Private University from Lima, 2020 is determined.

Table 5: Correlation between the Knowledge Storage and continuous improvement variables

|                   |                           |                         | Knowledge<br>Storage | continuous<br>improvement |
|-------------------|---------------------------|-------------------------|----------------------|---------------------------|
| Spearman's<br>Rho | Knowledge<br>Storage      | Correlation Coefficient | 1,000                | 0,508**                   |
|                   |                           | Sig. (2-tailed)         | .                    | 0,000                     |
|                   |                           | N                       | 45                   | 45                        |
|                   | continuous<br>improvement | Correlation Coefficient | 0,508**              | 1,000                     |
|                   |                           | Sig. (2-tailed)         | 0,000                | .                         |
|                   |                           | N                       | 45                   | 45                        |

\*\* Correlation is significant at the 0,01 level (2-tailed).

The result is supported by what the Garcia-Fernandez (2016) research mentions, who refers to the knowledge storage variable, determining that companies with higher levels of knowledge storage tend to use tools such as the intranet or databases, being the head of the area responsible for storing the knowledge; This allows the company to obtain the knowledge generated quickly, which facilitates making modifications to its products or processes in order to adapt them to the needs of the company in the face of changes in the market. Likewise, Al-Abbadia et al. (2020) state that the storage of knowledge in trade and service organizations exerts a positive effect on the performance of innovation, since a  $p < 0.05$  was obtained. This study recommends that companies should focus on the nature of knowledge that employees possess, in order to verify their role and use it to contribute to business innovation. These investigations ensure that the storage of knowledge within organizations implies the use of information technologies, databases, among others; which contribute to innovation since this knowledge can be used quickly to adapt products and processes to the frequent changes that occur in the market; which contributes to continuous improvement and therefore to the competitiveness of the institutions.

### Specific hypothesis test 3

HO: There is no significant relationship between the application and use of Knowledge and the continuous improvement of a Private University from Lima, 2020.

H1: There is a significant relationship between the application and use of Knowledge and the continuous improvement of a Private University from Lima, 2020.

In table 6, it can be seen that Spearman's Rho is equal to 0.443; This result allows us to affirm that the p value (sig = 0.002) is less than the significance level of 0.01, then the alternative hypothesis (H1) is accepted and the null hypothesis (H0) is rejected. This allows determining the existence of a high correlation between the variables Application and use of Knowledge and continuous improvement in a Private University from Lima, 2020.

Table 6: Correlation between the Application and use of Knowledge and continuous improvement variables.

|                   |  |                         | Application and<br>use of<br>Knowledge | continuous<br>improvement |
|-------------------|--|-------------------------|--|---------------------------|
| Spearman's<br>Rho | Application<br>and use of<br>Knowledge | Correlation Coefficient | 1,000                                  | 0,443**                   |
|                   |  | Sig. (2-tailed)         | .                                      | 0,002                     |
|                   | continuous<br>improvement              | N                       | 45                                     | 45                        |
|                   |  | Correlation Coefficient | 0,443**                                | 1,000                     |
|                   |  | Sig. (2-tailed)         | 0,002 .                                | .                         |
|                   |  | N                       | 45                                     | 45                        |

\*\* Correlation is significant at the 0,01 level (2-tailed).

These results are consistent with what Al-Abbadia, et al. (2020), who carried out a study in service and commerce companies, where they affirm that the application of knowledge exerts a positive effect on the performance of innovation, since a  $p < 0.05$  was obtained. Ngoc-Tan and Gregar (2018) demonstrated that the use of knowledge is significantly associated with administrative innovation and technical innovation in the scenarios of public universities in Vietnam, obtaining a p value (sig = 0.006) lower than the significance level of 5%. They conclude that the application of knowledge must be managed by managers to know how to deploy organizational knowledge to solve problems and achieve competitiveness. In addition, they argue that it is essential to carry out an evaluation of organizational knowledge to generate new patterns and knowledge for future use, this will promote sustainable use and a culture of knowledge management in the institution. Rodriguez-Ponce (2016) shows that the variable apply knowledge is significant and relevant to influence institutional quality, since the result obtained was a p value (sig. 0.000), less than the significance level of 0.001. Therefore, it states that applying knowledge has a positive impact on institutional quality. The aforementioned authors strengthen what is stated in this research regarding the importance of the application and use of knowledge in the business environment, which is decisive to sustain quality, innovation and academic management in universities.

Specific hypothesis test 4

HO: There is no significant relationship between knowledge transfer and continuous improvement in a Private University from Lima, 2020.

H1: There is a significant relationship between knowledge transfer and continuous improvement in a Private University from Lima, 2020.

In table 7, it is shown that the result of the Spearman correlation coefficient is equal to 0.508 and according to these results it is indicated that the p value (sig = 0.019) is less than the significance level of 0.05, then the hypothesis is rejected null (H0) and the alternative hypothesis (H1) is accepted. Therefore, it is concluded that there is a significant correlation between the Knowledge Transfer variables and continuous improvement in a Private University from Lima, 2020.

Table 7: Correlation between the Knowledge Transfer and continuous improvement variables

|                   |                           |                         | Knowledge<br>Transfer | continuous<br>improvement |
|-------------------|---------------------------|-------------------------|-----------------------|---------------------------|
| Spearman's<br>Rho | Knowledge<br>Transfer     | Correlation Coefficient | 1,000                 | 0,348**                   |
|                   |                           | Sig. (2-tailed)         |                       | 0,019                     |
|                   |                           | N                       | 45                    | 45                        |
|                   | continuous<br>improvement | Correlation Coefficient | 0,348**               | 1,000                     |
|                   |                           | Sig. (2-tailed)         | 0,019                 |                           |
|                   |                           | N                       | 45                    | 45                        |

\*\* Correlation is significant at the 0,01 level (2-tailed).

This result is in line with the research work of Garcia-Fernandez (2016), who alludes to the knowledge transfer variable, where it is determined that companies with high levels of this practice formally use forums for knowledge transfer, periodic meetings, the catalog of experiences (different aspects experienced by members of the company) and training. Informally they use the dialogue they share with companies and clients. Both methods for transferring knowledge are transfer protocols, according to the managers interviewed, which allow the development of innovation to a greater extent, because the transfer of knowledge is a preliminary phase for the development of innovation in the companies studied.

#### 4. Conclusions

- In general, this study has managed to establish the significant relationship between the variables Knowledge Management and continuous improvement of a Private University from Lima, 2020. This is affirmed with the Spearman correlation result, which indicates that the p value (sig = 0.000) is less than the 1% level of significance. The findings of this research affirm the importance of knowledge management and the phases, creating, storing, applying and transferring knowledge, in universities, as well as in the business environment in general, since good practices contribute to continuous improvement and its impact on innovation and competitiveness.
- The creation of knowledge has shown that it has a significant relationship with the continuous improvement of a Private University from Lima, 2020, obtaining a p value (sig = 0.000) lower than the significance level of 1%. This implies being flexible in the face of changes to promote new knowledge that can be shared for the purpose of organizational development.
- The storage of knowledge has shown that it has a significant relationship with the continuous improvement of a Private University from Lima, 2020, obtaining a p value (sig = 0.000) lower than the significance level of 1%. This study shows the importance of information systems, digital and physical files to store knowledge, the same that accompanied by an adequate organization will allow the systematic and timely use of knowledge, whose impact will be reflected in continuous improvement and hence in competitiveness.
- The application and use of knowledge has been established to have a significant relationship with the continuous improvement of a Private University from Lima, 2020, obtaining a p value (sig = 0.002) lower than the significance level of 1%. It should be noted that an adequate use of knowledge will be possible if the storage of knowledge is managed first, which is also due to having a strong organizational culture and adequate communication channels.

- The transfer of knowledge has been established to have a significant relationship with the continuous improvement of a Private University from Lima, 2020, obtaining a p value (sig = 0.019) lower than the significance level of 5%. This result allows us to conclude that transferring the necessary knowledge required by each work team and individual in an organization will allow us to deepen and build more knowledge. This transfer can be carried out through training sessions, forums, supported by computer platforms and other means previously defined by the organization.
- This study also reveals that knowledge management is a strategic tool that must be implemented, promoted and managed by the directors of each area of an organization and achieve the involvement of all members of an organization.

## 5. Acknowledgments

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