


Research

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## TRANSFORMATIONAL LEADERSHIP AND SUSTAINABLE GREEN ENVIRONMENTAL DEVELOPMENT IN TEACHERS AT HERMILIO VALDIZAN NATIONAL UNIVERSITY

## LIDERAZGO TRANSFORMACIONAL Y DESARROLLO SOSTENIBLE AMBIENTAL VERDE EN DOCENTES DE LA UNIVERSIDAD NACIONAL HERMILIO VALDIZÁN

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### ABSTRACT

The green sustainable development concept articulates the various scientific disciplines of knowing how to act, think, live, feel. Therefore, the transformative leader must promote the change from a black economy to a green environmental economy. Therefore, guarantee natural rights through sustainable empowerment over time. The research was applied, explanatory level, and descriptive-correlational design, with a probabilistic and stratified sampling. Due to its scope, it is descriptive, and due to its quantitative, qualitative, and mixed purpose. Methodologically, the research puts various bibliographic sources into dialogue. The analysis of the results has been carried out using inferential and descriptive statistics. The method used is the scientific method and as specific methods: hermeneutic, dogmatic, and heuristic. The survey technique and the survey questionnaire instrument were used. The main conclusion is that there is a strong ( $\rho = 0.788$ ) and highly significant direct correlation with ( $p$ -value: 0.000) between transformational leadership and green sustainable development. The students, teachers, and administrators of the Hermilio Valdizán National University had a medium or regular level, it has been discovered in

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them that they give society guidance for proper recycling, conducive discussions to avoid paying high prices for electricity consumption, buy only what is needed, stop buying junk food in favor of health, use university or public transportation instead of private; This, for the generational sustainability with the practice of a circular economy through the use of responsible technology.

**KEYWORDS:** transformational leadership – green sustainable development – resource management – economic attitude – green environmental innovation

## **RESUMEN**

El concepto desarrollo sostenible verde articula las diversas disciplinas científicas del saber actuar, pensar, vivir, sentir. Por ende, el líder transformador debe propiciar el cambio de una economía negra a una economía ambiental verde. Por ende, garantizar los derechos naturales a través del empoderamiento sostenible en el tiempo. La investigación fue aplicada, nivel explicativo, y diseño descriptivo-correlacional, con un muestreo probabilístico y estratificado. Por su alcance es descriptiva y por su finalidad cuantitativa, cualitativa y mixto. Metodológicamente, la investigación pone en diálogo fuentes bibliográficas diversas. Se ha realizado el análisis de los resultados utilizando los estadígrafos inferencial y descriptiva. El método utilizado es el método científico y como métodos específicos: hermenéutico, dogmático y heurístico. Se utilizó la técnica de encuesta y el instrumento cuestionario de encuesta. Como principal conclusión se tiene que existe una correlación directa fuerte ( $\rho = 0,788$ ) y altamente significativo con ( $p$ -valor: 0,000) entre el liderazgo transformacional y el desarrollo sostenible verde. Los estudiantes, docentes y administrativos de la Universidad nacional Hermilio Valdizán tuvieron un nivel medio o regular, se ha descubierto en ellos que dan orientación a la sociedad para el reciclado adecuado, propicia conversatorios para no pagar elevados precios por el consumo de electricidad, comprar solo lo que se necesita, dejar de comprar alimentos chatarra en pro de la salud, utilizar el transporte de la universidad o público en vez de privado; ello, para la sostenibilidad generacional con práctica de una economía circular a través del uso de tecnología responsable.

**PALABRAS CLAVE:** liderazgo transformacional – desarrollo sostenible verde – gestión de recursos – actitud económica – innovación ambiental verde

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## **1. INTRODUCTION**

Education plays a very important role in Peruvian and global society due to the environmental impact on today's collective consumer culture. The important thing is to increase education in the field of sustainability, students must be informed of sustainability, this is applied through pro-environmental actions, since the habit develops from an early age, from playing, talking, eating, sleeping, clapping, laughing; It must be managed, implemented in the daily lifestyle of students, professionals, and society so that they practice actions in strengthening critical thinking and solving problems in terms of green sustainable development. As well as Habit (2017), cited in (Gardner, 2017) sustains that sustainable work is achieved through sustainability education and is applied through pro-sustainability actions. Since the habit can be part of any activity, from eating and sleeping to think and react through reinforcement and repetition, sustainability behaviors must be implemented in the daily lifestyle of students so that they can continue these actions as they become critical members of society.

Environmental problems constitute a global dimension, that is, it involves the entire planet, affects all ecosystems as a consequence of the development of technology and the industrialization of countries that seek economic growth, which is why some first-line international economic organizations, as the World Bank and the Organization for Economic Cooperation and Development (OECD), confirm these worrying predictions. For example, the OECD has presented a very discouraging account of the challenges facing humanity: combating climate change, halting the loss of biodiversity, supplying fresh water, ensuring adequate public sanitation, and reducing the impacts of environmental deterioration on people's health (OECD, 2011).

In the same way, the states of America and the world have touched on the problem of the environment not in its true dimension to face in their real and forceful situations; It gives us the impression that natural phenomena have been ahead of the research carried out by man and that, in most cases, man feels powerless in his purpose of avoiding and/or attenuating the deterioration of ecosystems and biodiversity. The claim to be able to manage nature and attach little importance to the balance of natural resources is changing rapidly in the face of insistent warnings from Mother Earth.

This process of change is based on a quick look at the detriment of the environment, a result of the irrational management of renewable natural resources, by the accelerated pollution of the air, seas, rivers, and soils, in the constant information about the environment that arrives and impacts through information technologies, and environmental education programs inserted in most of the curricula worldwide and at all levels of education.

Agenda 21 emphasizes that education must:

- Create awareness about the environment and development in all sectors of society on a global scale and as soon as possible.
- Seek to facilitate access to education on the Environment and development, linked to social education, from school age to adulthood in all population groups.
- Universities should stimulate the participation of students in local and regional studies on environmental health, drinking water, sanitation, food, ecosystems, fauna, and flora, etc.

In 2015, the United Nations launched the Sustainable Development Goals (SDGs), a historic and unprecedented opportunity to unite countries and people around the world. The SDGs will determine the course of action to eradicate poverty, promote prosperity and well-being for all, protect the environment, and globally tackle climate change.

The United Nations in its report on the Millennium Goals (MDG, 2017) maintains that Goal No. 7 refers to "guaranteeing the sustainability of the environment" whose

goal is to incorporate the principles of Sustainable Development in national policies and programs and reverse the loss of environmental resources.

It is urgently needed to start with the human being as an individual and collective entity: to determine the levels of transformational leadership and green environmental sustainable development. It must be made aware that management is important to understand what we do, but the measurement of our impacts is what will determine the sustainability of the planet. Our way of life, our consumption styles, our habits; it is these that define sustainability.

In truth, it is time to take responsibility for a process; that is to say, about a set of activities in favor of environmental sustainability and become active agents in the defense of the planet and not inhabitants of the world who see with indifference how the natural legacy of the new generations fades before their eyes.

In the department of Huánuco, it has been possible to directly observe that they lack attitudes in favor of environmental awareness since it is common to find in the courtyard of educational institutions, in classrooms, in the toilet services, waste or garbage on the floors; in the streets, etc.; What's more, garbage is incinerated within the sight and patience of society. Likewise, the depletion of water has been observed drop by drop. Besides, it follows that there is no awareness of planting a tree, much less sowing a seed for the common good since some educational institutions do not have them. Regarding what has been said, (Brack, 2012), says: Water pollution, caused mainly by sewage that cities and towns dump. The second problem is the inadequate disposal of solid waste... The city is generating a new type of citizen with a totally different approach and who does not understand nature because he has not lived it.

In summary, it is essential to understand that environmental problems are very complex and require an interdisciplinary approach to meet the needs of an increased population in the coming decades in the face of the challenge of an operational capacity to manage and restore the natural resources on which all life depends. (Bartolotta, 2015). The university plays a very important role through university social responsibility, in the academic and research dimension, participation in social development, and environmental and institutional extension services. As it is envisioned, no one can handle its impacts alone; the impacts are always social. Therefore, individually, the change will not be achieved, if we do it systemically, it will. Montenegro (2019).

### **1.1. Leadership**

According to the Royal Academy of the Castilian Language–RAE (2018), leadership is the exercise of the activities of the leader. For his part, Goleman (2013) says that leadership is the art of convincing people to collaborate to achieve a common goal. Furthermore, by focusing on managing our personal journey, there may be nothing more fundamental than acknowledging a deep emotional connection to our role and

knowing what changes could lead to greater job satisfaction. While for (Drucker, 1993) leadership is performance, each member fulfills their responsibilities.

Leadership is the development of a complete system of expectations, capacities, and abilities that allow identifying, discover, use, reuse, enhance, and stimulate to the maximum the strength and energy of all the human resources of the organization, which increase productivity, efficiency, innovation, and creativity, allowing organizational success and meeting the needs of all the tenants of planet Earth.

Lussier and Achua (2016) argue that: "Leadership is the process of influence between leaders and followers to achieve the objectives of the organization through change." For his part, Pozueta (2015) affirms that Leadership is based on the development of the key emotions that every leader must have to influence, develop, encourage, identify, and launch his team towards the achievement of its goals and objectives.

In short, leadership is the ability to make decisions, manage, promote, encourage, motivate, delegate, coordinate, monitor, and evaluate the work team in favor of the objectives to be achieved in a given organization, especially with the change of attitudes, listening skills, and a lot of communication. Since leadership is everyone's business for conflict resolution in the diversity of problems.

## **1.2. Transformational leadership**

For Lussier and Achua (2016), transformational leaders are known to move and change things in "great ways", by communicating to followers a special vision of the future, using the highest ideals and motives; influence to promote the idea of a new vision and possibilities together with the followers. Instead, Jordán and Garay (2014), point out that, "transformational leadership is based on a collective ethical commitment that occurs when people encourage each other to move to higher levels of motivation and coexistence."

In conclusion, transformational leadership is the process in which an individual promotes and creates connections between them, generating an organizational network to raise motivation and morale jointly in achieving sustainable agreements on environmental, cultural, social, political, and linguistic issues.

## **1.3. Transformational leadership factors**

The transformational leadership factors refer to a set of elements necessary to achieve the configuration and implementation of it in the institutional environment. Bass and Avolio, (2006a) achieve results in one or more of the following ways: they are charismatic in the eyes of their followers and are a source of inspiration for them; they can deal individually to meet the needs of each of their subordinates; and they can intellectually stimulate their subordinates. These factors represent the four basic components of transformational leadership: **a) Idealized Influence**



**(Charismatic Leadership):** Leaders have a vision and sense of mission; that they earn respect, trust, and security; and that they acquire an individual identification of their followers. Leaders of idealized influence are capable of obtaining the extra effort required from followers to achieve optimal levels of development and performance. **b) Individualized consideration:** These leaders focus on diagnosing the needs and capabilities of followers. They specify the needs of the followers and attend to them individually. They also delegate, train, advise and provide feedback for use in the personal development of followers. They raise the level of need and security of the disciples to acquire higher levels of responsibility. Followers' responsibilities take on greater responsibility for their personal development, which may include such activities as the challenges of the job itself. **c) Intellectual stimulation:** Leaders actively encourage a new look at methods and problems. They encourage creativity and emphasize a rethinking and reexamination of assumptions underlying problems. They use intuition as well as more formal logic to solve problems. Intellectually stimulating leaders develop followers who attack problems using their own unique and innovative perspectives. Followers become more effective problem solvers with and without leader facilitation. They become more innovative in their analysis of problems and the strategies they use to solve them. **d) Inspirational leadership:** Leaders give encouragement, increase optimism and enthusiasm, and communicate their visions of achievable futures fluently and confidently (Bass, 1985). Provides vision, which stimulates energy to achieve high levels of performance, but communication is very important in adhering to good living practices.

#### **1.4. Sustainable development**

According to the Brundtland Report (1987), sustainable development is one that meets the needs of the present without limiting the potential to meet the needs of future generations.

Without a doubt, Bernard (1999) maintains that sustainable development is a system or process that can continue indefinitely without depleting any of the material or energy resources that it needs to function. The word was used for the first time in terms of sustainable production in human activities such as forestry and fishing. These early ideas have given rise to a vast field of interdisciplinarity in sustainability.

Specifically, sustainable development manages the protection, conservation, and improvement of the quality of life in society in interaction with Nature. It implies awareness, sensitivity, social, economic, political, cultural, intercultural responsibility, and university responsibility; as well as consumption patterns and lifestyles, applied to development without endangering the ability of future generations to satisfy their own needs and enjoy ecological happiness.

#### **1.5. The green economy/green growth**

The green economy is specified as one that is transcribed in "the improvement of human well-being and social equity, significantly reducing environmental risks and ecological scarcity" (Becker, 2017).

For the Organization for Economic Cooperation and Development - OECD, (2011) green growth means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being depends. To achieve this, it must catalyze investment and innovation that underpin sustained growth and open the way to new economic opportunities.

We require green growth since the risks to development are increasing the deterioration of the environmental common good. If the problem is not controlled, it means increased water scarcity, unproductive agricultural land, excessive pollution, climate change, and an irreversible loss of mega-diversity.

These tensions can weaken prospects for green growth. It is becoming more and more expensive to replace physical capital with natural capital. For example, if water becomes scarce or contaminated, more processes will be needed to purify it for human consumption. New ways of producing and consuming have to be found, and even redefine what we mean by the term progress and how we measure it.

It is necessary to clarify, as (Chankrajang and Muttarak, 2017) point out, part of that progress was due to industrial activities (oriented to export), changes in lifestyle, consumption, and mobility patterns also played a significant role. How societies manage to respond to environmental pressures depends largely on the behavior of human beings acting individually or collectively. Consequently, promoting a sustainable lifestyle and consumption is a key strategy to reduce the human impact on climate in developing countries, especially given the fact that it is these countries that suffer the most from the global environmental impact.

As an alternative solution, "recent studies have shown that promoting universal education can be an effective means not only to alleviate poverty and to promote economic growth in developing countries, but also to reduce vulnerability to climate change" (Lutz, Muttarak, and Striessnig, 2014). In the same way, (Lutz and Muttarak, 2014) continue to affirm that it can be efficient and effective to give part of this fund to educators instead of engineers. Public investment in universal education in poor countries in the near future should be seen as one of the main priorities to improve the adaptive capacity of societies in the face of climate change.

## **1.6. Green growth strategies**

For the OECD (2011) green growth strategies, the goal is to establish incentives or institutions that increase well-being by:

- Improving resource management and implementing productivity.
- Encouraging economic activity to take place where it is most advantageous for society in the long term.



- Leading to new ways of complying through innovation.

In this sense, the growth of a green economy depends on the institutional scenarios and policies, the degree of development, the availability of resources, and the particular aspects of environmental pressure. Advanced, emerging, and developing countries face various challenges and opportunities in taking a green approach to their growth. On the other hand, there are considerations that must be addressed in all scenarios, OECD (2011).

Within this order of ideas, (Meyer, 2015) is committed to education, people in higher education are more educated in financial savings, that is why they participate in actions that are more aware of sustainability. (Hwang, Park & Kim, 2016) Although eco-labels were introduced with the intention of encouraging green shopping behavior by consumers, they have had little effect on consumer purchasing decisions and therefore exist a significant gap between awareness of the eco-label and actual purchasing behavior (...) the results indicate that, although consumers, in general, are very aware of the publicly valuable information that eco-labels provide, information of private value exerts a much greater power over their purchasing intentions. Therefore, a complementary policy that converts public value to private value could promote the purchase of eco-labeled products. Who carried out theoretical analysis and related two approaches: experimental and instructive, obtaining the combined approach. The idea of this approach is based on direct practice with the environment, in which meanings are developed through contact, so they are nourished with knowledge of the sector. The instructive character of this approach maintains differences around the fact that the meaning is not acquired by contact with the environment, but the learner elaborates a meaning and transfers it to his environment. Furthermore, the combined approach arises from the experimental and instructive application, and the reciprocal contact of meanings, of the environment with the subject and the subject with the environment; and dialogue is used to emphasize meanings.

Then, changes are seen in terms of attitude (Escobedo, 2015) maintains that, with ISO 14001: 2015, companies on their own initiative fulfill a series of obligations, whoever obtains it differs from the others and has many opportunities. Well, they manage the environmental impact to obtain certification.

## **2. OBJECTIVES**

Through the contributions of the research-focused bibliography of both variables. The research pursues a main objective: Interpret the level of relationship between transformational leadership and green sustainable development in the professors of the Hermilio Valdizan National University.

From the general objective, three secondary objectives were developed:

- Interpret the level of relationship between transformational leadership and green environmental resource management at the Hermilio Valdizán National University.

- Interpret the level of relationship between transformational leadership and green environmental economic activity at the Hermilio Valdizán National University.
- Interpret the level of relationship between transformational leadership and green environmental innovation at the Hermilio Valdizán National University.

### 3. METHODOLOGY

#### 3.1. Type of study

The present investigation had as perception the descriptive positivist approach; From the analysis of each one of the variables, relationships were established to identify and explain the level of relationship between both study variables. This inquiry constituted a theoretical contribution that allowed greater clarity about the behavior of the variables (Kerlinger and Lee, 2002), the design used in the research was correlational, to establish the non-causal relationship between the variables seeking to determine the level of relationship between both.

#### 3.2. Population

According to Oseda, Santacruz, Zevallos, Sangama, Cosme, and Mendivel (2018), "the population involves the total number of subjects to whom the results will be generalized; that is, it is made up of all the subjects to which the researcher has access".

The population was made up of 244 teachers from the Hermilio Valdizán National University. According to Kerlinger and Lee (2002), the correlational descriptive design is that design where no variables are manipulated, they are only measured and then compared to see what relationship exists between them.

#### 3.3. Process

Coordination was carried out with the deans of the different Professional Careers for data collection. Then, with the authorization of the corresponding authority, the survey questionnaires were applied to the specified sample. This collection was carried out in the months of September, October, and November 2019.

### 4. RESULTS

To demonstrate the hypothesis, the data obtained are presented in the following tables and interpretations

**Table 1:** *Measurement of the levels of V1: Transformational leadership*

Levels	Frequency	Percentage
Very high	18	7.38
High	56	22.95

Medium	158	64.75
Low	12	4.92
Very low	0	0.00
Total	244	100.00

**Source:** Researchers' database (2019)

Regarding the levels of variable 1: Transformational Leadership at the Hermilio Valdizán National University, it is found that most of them, representing 64.75%, were at the medium level, followed by 22.95% at the high level, then 7.38% at the very high level, followed by 4.92% at the low level. Which can be seen in table 2. It should be mentioned that the predominant level diagnosed is the medium or regular level, which is worrying because it is about reflecting on our performance, it is also perceived that this trend is increasing towards the high level, which is favorable the empowerment of our actions.

**Table 2:** Measurement of V2 levels: Green sustainable development

Levels	Frequency	Percentage
Very high	10	4.10
High	61	25.00
Medium	145	59.43
Low	28	11.48
Very low	0	0.00
Total	244	100.00

**Source:** Researchers' database (2019)

Regarding the levels of variable 2: Green sustainable development at the Hermilio Valdizán National University, the majority of them, representing 59.43%, were at the medium level, followed by 25.00% at the high level, then 11.48% at the very high level, followed by 4.92% at the low level. Which can be seen in table 3. It is worth mentioning that the predominant level diagnosed is the medium or regular level, which is worrisome because it is about reconsidering our performance, it is also perceived that this trend is increasing towards the high level, which is favorable.

**Table 3.** Correlation of variables: Transformational leadership and green sustainable development

Correlation of variables	Spearman's rho	P value
Transformational leadership and green sustainable development	0.788	0.000
N	244	244

Spearman's "rho" = 0,788

Regarding the hypothesis test, as the design used was the correlational one, the statistic used was the Spearman rho correlation coefficient as it is ordinal scale data,

two-tailed bilateral test. Now, since Spearman's  $\rho=0.788$  and the p-value:  $0.000 < 0.005$ : then the null hypothesis  $H_0$  is rejected. and the alternative hypothesis  $H_1$  is accepted: that says: There is a direct and significant relationship between transformational leadership and green sustainable development at the Hermilio Valdizán National University.

In this research, it has been generally found that the type of relationship between transformational leadership and green sustainable development is direct and significant at the Hermilio Valdizán National University. To corroborate these results, there are some related studies, as stated by Cortés-Peña (2016) that there is an attitudinal concern of young people to strengthen their pro-environmental behavior practices and initiate processes of sustainable economic development.

In the same way, the results obtained tell us that the predominant level in environmental education is medium or regular (Pérez-Franco, Pro-Bueno, and Pérez-Manzano, 2018) cited in (Casa, Cusi, and Vilca, 2019) they affirm in their research that environmental education should promote environmental awareness, generating attitudes favorable to the protection of the environment and sustainable development, to contribute responsible students with solid principles.

In truth, green sustainable development falls when environmental attitudes are predispositions of man's thinking to act actively for or against the environment, based on experiences, knowledge, and mainly the values that human beings assume about the environment, the result of cognitive, affective, and behavioral processes. (González, Machín, and Galán, 2018).

As mentioned by (Piza-Flores, Aparicio, Rodríguez, and Beltrán, 2018) the planetary environmental crisis demands that universities fulfill their mission of training graduates with the necessary competencies to attend to emerging social issues, including those related to the environment, as a way to achieve sustainable development.

In transformational leadership, leaders move and change actions by communicating and integrating a vision and mission into their followers using the most compelling ideals and motives for attitude change as well as mitigating environmental problems. As stated by (Fernando, 2015), the sustainable leader must believe in his role as a transformer of society. Sustainability and social responsibility cannot be left alone in the business sphere. It is vital to educate all the parties involved to generate a culture related to sustainability issues. Therefore, to move forward, sustainability requires awareness and knowledge, which transforms the sustainable leader into a leading agent of this transformation. (...) This sustainable leader must coordinate the process of mentality change towards sustainability, in the search for more balanced development.

While Gutiérrez (2017) makes known in his research on the concept of the water cycle, the students consider only evident and obvious aspects in a closed process that does not admit different perspectives, they do not relate all the possible physical

processes of change of state nor concepts such as runoff, groundwater, sublimation, and infiltration because they are aspects that are not so evident in their daily lives. Furthermore, most of the students believe that the natural water cycle is not related to the urban water cycle, nor do they take into account aspects and/or effects of living beings.

In this part, Palavecinos, Amérigo, Ulloa, and Muñoz (2016) describe the importance of having instruments that allow initiating studies in the Chilean context in the area, considering contextual factors, such as the worsening of the environmental crisis in the country, the citizen concern about the situation, and the need to carry out cross-cultural studies to continue deepening the knowledge of the subject worldwide.

It is evident that the UNHEVAL-university community participates in a responsible, sustainable, and supportive way with the development of public policies aimed at achieving the common good and social justice for the strengthening of human dignity and respect for Nature. Which demands from each human being an ethical and moral commitment on the part of the students, teachers, and administrators of the Hermilio Valdizán National University.

This assertion is corroborated by (Montenegro, 2019) when it affirms that nature is the home of all, we must respect it, take care of it, and protect it so that it continues to offer us its benefits, for the good life of all in the present and the future generations. Let's practice reciprocity, solidarity, creativity, balance, and knowing how to be a sensitive human being.

In conclusion, teachers at the Hermilio Valdizán National University had a medium or regular level of green sustainable development, in the same way, it has been perceived in them that they give orientation to society for proper recycling, promote discussions so as not to pay high prices for the consumption of electricity or water, buying only what is needed, stop buying food or products such as a plastic water bottle polluting health and the environment, use university or public transport instead of private; this, for generational sustainability.

Also, the university community stated that they do not agree to paint the trunks of the trees, since they end up damaging them with a toxic layer to the tree. Which contravenes sustainable environmental economics. Consequently, they proposed that instead of painting them; fertilize them with organic fertilizers so that they show the splendor of their natural beauty, provide us with oxygen for the sustainability of life through the management of resources for the circular economy, economic activity, and green environmental innovation. Since there is a need to design strategies that increase the influence of teachers to strengthen environmental behavior among their students, and towards society.

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Santacruz Espinoza, A., Montenegro Muguerza, H., Pizarro Alejandro, A., & Estacio Flores, H.  
*Transformational leadership and sustainable green environmental development in teachers  
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