

## Job retention in an advanced era of digital technology and extreme climate change

### Retención laboral en época avanzada de tecnología digital y cambio climático extremo

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#### Abstract

The main objective of this article is to offer theoretical and methodological foundations to contribute, in the current context of the “digital age”, to the maintenance or increase of job retention of working people, inserted in their dynamics of “attraction, retention and development”, from the systemic perspective of Human Resources Management, with emphasis on its key training processes (reskilling and upskilling and attention to senior talent), working conditions (safety and health at work), the designs of profiles of charge for competencies, job evaluation and labor compensation, in their association with the sense of commitment. The methods are documentary analysis and participant observation on labor entities. As a result, the concepts and technical-organizational connections related to these processes are offered in order to mitigate labor fluctuation.

**Keywords:** job retention, digital era, human resources management.

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## Resumen

El objetivo principal de este artículo es ofrecer fundamentos teóricos y metodológicos para contribuir, en el contexto actual de la “era digital”, al mantenimiento o aumento de la retención laboral de las personas que trabajan, insertada en su dinámica de “atracción, retención y desarrollo”, desde la perspectiva sistémica de la Gestión de Recursos Humanos, con énfasis en sus procesos clave de formación (*reskilling* y *upskilling* y atención al talento *sénior*), condiciones de trabajo (seguridad y salud en el trabajo), los diseños de perfiles de cargo por competencias, la evaluación de puestos y la compensación laboral, en su asociación con el sentido de compromiso. Los métodos son el análisis documental y observación participante sobre entidades laborales. Como resultado se ofrecen las concepciones y conexiones técnico organizativas relativas a esos procesos en aras de mitigar la fluctuación laboral.

**Palabras clave:** retención laboral, era digital, gestión de recursos humanos.

## Introduction

The job retention of working people has become an acute and urgent need for labor organizations in this contemporary world, contextualized in recent years by this “digital era,” the impacts of extreme climate change, post-COVID-19, armed conflicts, migrations, geoeconomic confrontations and protectionism, social polarization and misinformation, as characterized by the World Economic Forum (WEF) and the United Nations Development Program (UNDP) in 2025 and 2024 respectively.<sup>1-3</sup> And the need for this job retention is further exacerbated by the exponential advance of technology, imposing on companies the recourse to “digitalization,” in particular the digitalization of their work processes, together with the rise of generative artificial intelligence (AI),<sup>4,5</sup> demanding from working people job skills in line with this technological advance and climate change.<sup>6-8</sup>

For public and business management In the Cuban context, the aforementioned contextualization is valid in its influence on retention, together with the consequences that the economic, commercial and financial blockade of the US government has introduced to the country for more than 60 years and the recognized deficiencies in organizational management.<sup>9</sup> Currently, Cuban companies must have, in order to make this labor “retention” sustainable, a Human Resources Management (HRM) system with its key processes well connected, and this has been proposed for Cuban business activity since 2007, by emphasizing the continuity of “Cuban business improvement” in its specific legal regulations of the Cuban Standardization Office (2007), the Council of State (2007) and the Council of Ministers (2007), which in their respective updates have maintained the need for a HRM system.<sup>10-12</sup>

But simply retaining people who work, minimizing job fluctuations or transfers, avoiding loss of good performance or productivity at work, skills and experience of workers, is not enough today; “retention” must be understood in its dynamics, in the systemic process of “attracting, retaining and developing” people who work, and appreciated –which is essential– from a perspective of “continuous improvement” and jointly, from a perspective –it is insisted– systemic of Human Talent Management or Human Resources Management or Human Capital Management.

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Today, these are included among the key processes that make up a certain HRM system, and stand out for their great influence in achieving the retention of people who work - perceived in their dynamics of "attraction, retention and development" - training, working conditions, job profile designs by competencies, job evaluation and labor compensation - in their connection with the sense of commitment - although all of its key processes,<sup>13-16</sup> in their connections or interactions, are necessary.

The main objective of this work is to offer theoretical and methodological foundations to contribute to maintaining or increasing the job retention of people working in labor organizations, inserted in their dynamics of "attraction, retention and development", from the perspective of the Human Resources Management system, with emphasis on key HRM processes related to training (reskilling and upskilling and attention to senior talent), working conditions (emphasizing safety and health at work), job profile designs by labor competencies, job evaluation (discriminating complexity) and labor compensation, in its connection with the sense of commitment.

## **Materials and methods**

The object of study has been Cuban labor organizations, and with particular relevance Cuban state-owned companies. The method of documentary analysis used, covering both foreign and national scientific literature, made possible the current contextualization in this era of the "digital age," with its advance of digital technology and extreme climate change, on the subject of job retention, as well as the theoretical and methodological foundations that are expressed, the latter supported by the method of participant observation, whose evidence was reported (through theses and endorsed articles) by a group of PhD students and masters in science graduates, whose topics included the field of Human Resources Management, and who were all supervised by the author.<sup>17-28</sup>

The group of Cuban companies that were the object of study is well reflected in the theses and articles of those graduates that are referenced here. In their theses and articles, the HRM system that was adopted was treated as a common fact, mainly the one developed by the researcher Alfredo Morales (2006)<sup>28</sup> and that gave rise to the human capital management model endorsed by Cuban standards (NC) 3000-3002: 2007. And in these investigations, the key processes related to training, working conditions (involving safety and health at work), the determination of work competencies, the design of job profiles by competencies and labor compensation were studied: all of them to some extent linked to the retention of working personnel, highlighting the essential systemic functionality of the Cuban HRM model expressed in the aforementioned NC.

## **Results and discussion**

The research process allowed the design of a methodology for the development of political and ideological improvement of frameworks that acts as a praxeological construct of application, focused on the concretization of the improvement of the studied process.

Recognizing the world's turbulence and disasters, which require quick, practical and dynamic solutions, and calling for cooperation and solidarity by removing walls and building bridges, putting human beings

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(the people) at the center, and highlighting the strategic significance of the digital economy, for the sake of the post-COVID-19 era, at the **2022 World Economic Forum**, Xi Jinping said:

*“Countries of the world should uphold true multilateralism and persist in removing barriers instead of erecting walls, opening up instead of closing in, and integrating instead of disconnecting, to promote the construction of an open economy. We must guide the reform of the global governance system in accordance with the principles of equity and justice, uphold the multilateral trading system centered on the WTO, and develop, based on full consultation, effective and generally acceptable rules for artificial intelligence and the digital economy, among others, with a view to creating an open, equitable and non-discriminatory environment for scientific and technological innovation.”<sup>29</sup>*

The lack of solidarity and cooperation, with the imposition of walls, is one of the main causes of global labor emigration. The emigration or mobility of the labor force, particularly of highly qualified workers, is closely related to the level of esteem given to those jobs or positions in the places where they emigrate. The above is supported by a joint survey conducted by the Boston Consulting Group (BCG) and Network30, in which they received more than 200,000 responses from 189 countries. This survey revealed that 64% of this labor force (talent) would move to other countries seeking such esteem for the sake of their professional goals. And in this survey, highly qualified young workers from Latin America stand out in particular.

“Why go to another country? The report determined that the first motivation for people to change territory is personal development and the possibility of growing in that area”<sup>31p.11</sup> –said Jean Michel Caye, Manager of the BCG, during the 15th World Congress on Human Resources held in 2014, and precisely alluding to the report of that 2014 global survey. And it is the opinion of this author (A.C.) that the solution to this migratory trend, which has become much greater today, will require a global policy and the removal of walls, but without a doubt this estimation of work, in search of employee commitment, is of notable importance to mitigate or reduce it. In the referred World Congress, Jeffrey Pfeffer, highlighted:

*“...organizations have failed until now by being interested only in efficiency and profitability, among other economic factors. The time has come to focus on individuals and worry about their well-being so that employees feel committed again.”<sup>32, p. 14</sup>*

In a similar vein, the United Nations Development Programme (UNDP) is proposing to “focus on individuals” and considering that “people come first” in its “Human Development Report”, where it highlights the need to sustain human progress: by reducing vulnerabilities and building resilience in people, where the sense of commitment to people and collective action is a relevant component.<sup>33</sup> And in its most recent claim, the UNDP (2024)<sup>3</sup> calls for “getting out of stagnation” and “reimagining cooperation in a polarized world”: it traces a path to follow and invites a conversation about the reimagining of cooperation, aiming for bridges and not walls.

This author has understood well that achieving high commitment in workers with their work organization, or high sense of belonging, must become a fundamental result of Human Resources Management, and is a very important antidote to labor fluctuation; this feeling of commitment achieved by all the actions of HRM is a fundamental element of job retention in these times, and he has argued this in his research work, even proposing technologies for it <sup>(13, 34)</sup>.

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In the **Cuban Standards (NC) 3001: 2007-Requirements**,<sup>15,28</sup> derived from the research of Alfredo Morales expressed in his doctoral thesis, --and which we came to practice in quite a few Cuban companies where the “retention” was well reflected in its previously mentioned dynamics--, it was expressed in its Introduction:

*“The achievement of the requirements will allow organizations to attract, retain and permanently develop their workers, as well as develop human capital to materialize their strategic objectives”—  
underlined by the author, A.C.<sup>35 p.134, 15, 28</sup>*

And the “develop” component of the dynamics in which it was noted to appreciate the “retention”, has its essential base in the key process of the HRM system which is training. In today's rapidly developing digital technology and chaotic climate change, the ongoing development of employees - and to achieve "retention" - implies "Managing training" with excellence: Diagnosing training needs (of skills to acquire and improve: reskilling and upskilling and attention to senior talent), Projecting (planning) them, Conducting (organizing) them and Controlling them strategically. Consistently following the Deming cycle, preceded by a rigorous diagnosis of work skills to achieve and develop. And it is necessary to point out in this “diagnosis of learning or training needs” that at the same time when we have tried to study “retention”, which is generally referred to as its antipode, “job fluctuation or transfer or job rotation”, we resort to diagnosing this fluctuation (even potential fluctuation), using a “Survey on fluctuation” and calculation expressions to see its economic effects, as well as its technical-organizational links with labor discipline and job satisfaction, which are referred to in the book Organization of work, by Marsán et al.<sup>36</sup>

And a stop here, to close the cycle of the dynamics of retention: “*attraction*”, associated with the key process of HRM which is the selection and integration of personnel, starting from the job profiles or jobs to be designed, where the labor competencies go, and they mean the reference pattern or base to achieve the “attraction” that materializes with the personnel selection process.

Qualification and requalification are terms that do not precisely define the content that today makes up these two anglicisms referring to competencies or skills (Gil, 2021).<sup>37</sup> *Reskilling* is an anglicism that refers to professional recycling, that is, to the training of a worker for another position, through the provision of new skills. This process is usually carried out when a vacancy needs to be filled for which no candidates are found. In this case, the company may choose to retain a professional who has demonstrated his efficiency in another position, training him for the new discipline. *Upskilling* is an anglicism that refers to the training of a professional in new skills that allow him to grow in his current role, improving his productivity in the position itself or facilitating internal promotion in the company. Through *upskilling* actions, workers improve their performance and acquire strategic importance for the organization, which will not want to do without their talent.

The difference between the two concepts lies in the objective of the training: while *upskilling* seeks to teach a worker new skills to optimize his or her performance, *reskilling*, also known as professional recycling, seeks to train an employee to adapt him or her to a new position in the company. *Reskilling* refers to *the process of learning new skills or competencies to adapt to new work conditions or roles*. This concept arises as a response to the rapid technological and economic changes that transform industries, creating new opportunities and challenges for workers.

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The World Economic Forum's **Future of Jobs Report 2025**,<sup>2</sup> provides a comprehensive overview of the trends that will reshape global labour markets by 2030. This analysis is based on data collected from more than 1,000 employers representing 14 million workers across 22 industry sectors and 55 economies, including all G20 economies, representing more than 14 million workers worldwide:

- In developed countries, population ageing is driving demand for health and care professionals.
- In emerging economies, workforce growth is driving a boom in the education sector.
- Key skills: Talent management, teaching and personal motivation are gaining in importance under current global conditions.
- 40% of current worker skills will change by 2030.
- Skills such as creativity, resilience and technological literacy will be key.
- *Upskilling and Reskilling*: 59% of workers will need additional training, either to perform their current roles or to be relocated within their organizations.
- More than 80% of companies prioritize diversity, equity and inclusion initiatives, with an emphasis on the incorporation of women into the labor market.
- Half of employers plan to reorient their businesses in response to advances in AI, highlighting the importance of adopting proactive strategies to integrate this technology.
- By underlining the urgent need to prepare the workforce for imminent changes, collaboration between employers, governments and workers will be essential to maximize opportunities and mitigate associated risks.

The first issue, related to population aging -- a characteristic of developed countries, which is also evident in Cuba -- is linked to the need to pay attention to "Senior Talent." The Seres Foundation, based on its analyses within the Demographic Labs, where companies such as *Caixa Bank, DKV, El Corte Inglés, Endesa, Lee Hecht Harrison, Seguros Santalucía, Sacyr and Seur* have participated, has prepared, with the Adecco Foundation, the **White Paper on Senior Talent** <sup>(38)</sup>, which includes the best practices to raise awareness among companies, public administrations and society about the role that senior talent will acquire in the labour market in the coming years with greater longevity.

A talent that, according to the World Health Organization (WHO), refers to a person over 60 years of age. Senior means superior in rank and experience to those who perform the same profession or position. Also known as executive level, the senior level of seniority "requires a high level of experience, knowledge and responsibility within a company." Senior-level employees have the greatest decision-making power in a company and their role is to provide leadership and guidance to employees with less seniority. **Senior** profiles are professionals with extensive work experience in their area of specialization and have advanced technical skills or abilities, knowledge and general mastery of all the processes to carry out the tasks of their work sector.

The job meaning of senior implies that these "high-level professionals have experience, are autonomous and can make important decisions without the need for supervision." They also streamline processes and bring innovation to companies. They can lead people or groups.

Spain has one of the oldest populations in Europe, and the same situation applies to its workforce. The situation is similar in Cuba, where measures have been taken to resort to "*Outplacement*"; but this

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attention will have to be systematized – and with it the “retention” – mainly to the country’s experienced professionals and managers (senior), who are recognized by many of our institutions, who are the fundamental and decisive support of productive and service management in these times, examples of dedication and professionalism, which are certainly essential to us. It must be done in a systematic, organized, planned manner. And the experience of Spain, which is reflected in the aforementioned book, must be taken advantage of. There, Francisco Mesonero, General Manager of the Adecco Foundation, expressed:

*“Today, the management of senior talent must become one of the critical vectors of competitiveness and growth in Spain (...). This White Paper is the result of this conviction, (...). Through these pages, proposals for the management of senior talent are collected in a simple and approximate way, illustrated with examples from numerous leading companies in the field (...). Not in vain, the pooling of these initiatives will serve as a basis for proceeding to a strategic review of diversity management, aimed at providing companies and public authorities with the necessary knowledge to act with judgment in the aging scenario that surrounds us. Because only governments and companies that integrate senior talent management into their management team today will be able to be references in society and in the labor market of tomorrow.”<sup>38, p.10</sup>*

And while the experienced and already veteran seniors will have to be given priority attention from the GRH, because it is currently a fundamental support in Cuba as in Spain, the young people who will be the continuity will have to be given the same priority attention. And several of the doctoral and master's students under supervision - all young - carried out research studies along these lines, disseminating their results.<sup>24, 39-42</sup>

In "retention", the consideration of working conditions and in particular those related to safety and health at work, have a relevant place, and are part of the process of Work Organization in the Cuban company (where the demands of Ergonomics and the Environment are also located). Poor working conditions are uneconomical, extremely uneconomical. This author, in classes, likes to repeat the following: The person who was head of one of the most important work study departments in the world, of the **Imperial Chemical Industries** of England, as the International Labor Office (ILO) referred to in one of its texts, used to repeat: "Do not use a penknife when you need a machete." In other words, it is of no use to improve the layout of a workshop or the methods of the worker by using highly technical procedures and saving a few seconds in a certain operation, if whole hours are lost due to poor working conditions throughout the building. Indeed, the permissible or comfortable levels of lighting, noise, ventilation, temperature... and cleanliness are decisive in preserving the health and well-being of workers, as well as in labor productivity and company profits! We like to illustrate with this experience: Don Burr, president of **People Express**, says: “If there are coffee stains on the seats, passengers think that no one takes care of the maintenance of the airplane engines.” How right they are!<sup>13, p.296</sup>

This potential emigration, and much of it already real, that was reported in the aforementioned BCG Network Survey, has a lot to do with the estimation that is held in the countries to which people emigrate, of those jobs or positions and their good or decent working conditions. In the country, where much progress has been made in public health, attention must be maintained on occupational health and safety, in whose trajectory, for various reasons, there have been fluctuations, as reported by researcher Jorge Román.<sup>43</sup>

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A significant measure adopted in 2021 by the Council of Ministers, to increase the efficiency and productivity of work in the Cuban state enterprise, was to improve the remuneration for work (labor compensation) in the business system by granting it greater autonomy, based on a more efficient management of human resources through Decree 53/2021.<sup>44</sup> This measure involved the key HRM process of job analysis and design, leading to the design of job profiles by companies and the establishment of their own salary scales, which required the key HRM process of job evaluation to determine the different complexities of the positions. With this measure, the design of the job profiles or qualifiers and the different groups of the salary scale, as well as the salary scale itself, were previously established for the entire country, centered by the Ministry of Labor and Social Security (MTSS): with this decentralization in the organization of the salary system, the necessary specificity of each company was responded to, going to the design of the "tailor-made suit" that was advocated as an aspiration almost from the beginning by Cuban Business Improvement.

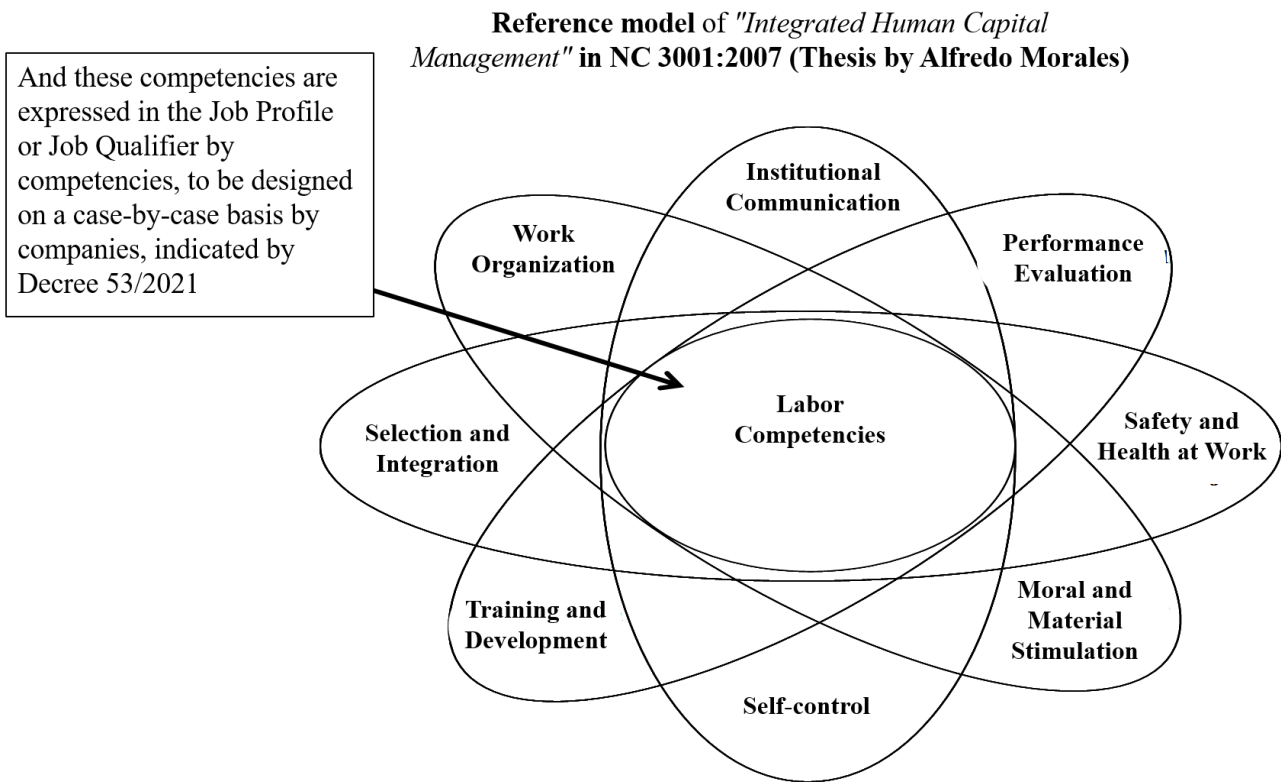
The competency-based job profile or job qualifier is of strategic relevance in business management, since it defines "what the worker must do or perform"; there are the value-added tasks (the TTR: work time related to the task) that the worker must contribute and that must contribute at the same time to the achievement of the strategic objectives of the company. The design of new qualifiers or job profiles is a focus in the implementation of Decree 53/2021.

**Figure 1** expresses the reference model that represents the assumed HRM system (derived from the doctoral thesis of Alfredo Morales, which was the basis of the aforementioned NC 3001: 2007, with its nine key processes, where its main technical basis is constituted by the key process of Work Organization: where the work processes, the designs and analysis of jobs that derive the job profiles and the working conditions are included, including the ergonomic and environmental requirements.

In order to carry out the evaluation of positions or jobs, in order to determine the different complexities (relative value of each position, associated with the socially necessary work time invested in them, implying the law of value), in order to be able to place the different positions in the groups of the salary scale, it is a basic technical-organizational requirement to have the job profiles of all the positions that will occupy one of the groups of the range of that scale. In turn, the occupation of the different positions in the groups of the salary scale, would constitute the basis for the distribution of profits, of the company's profit, in addition to the salary scale to be distributed to them. Labor compensation, expanded its spectrum. Furthermore, in order to carry out the implementation of Decree 53/2021, a commission of the Council of Ministers decided to teach a "HRM Course", which was widely disseminated by the MTSS and placed on its website (<https://www.mtss.gob.cu/descargas/bibliografia-curso-gestion-de-los-rrhh>). This course, which was taught at the same time as involving the development of consulting, involved the implementation of the Decree, including a technology called "*HRM Planning, Organization, Compensation and CMI Technology in the Implementation of Decree 53/2021*".<sup>45</sup>



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**Figure 1.** The model that reflects the assumed HRM system (NC 3001: 2007), having at its center or axis the job profiles by competencies designed in accordance with Decree 53/2021  
**Sources:** own elaboration

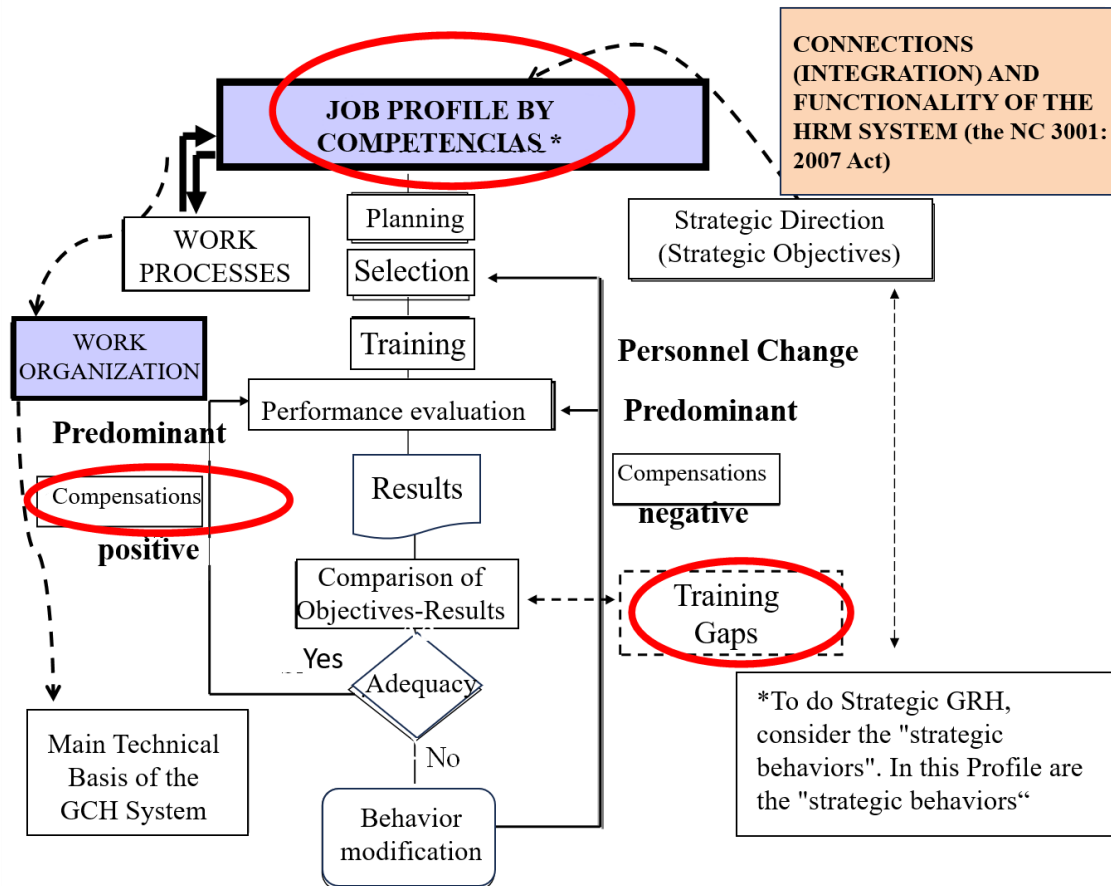
**Figure 2** expresses the functionality of the HRM system assumed with its reference model, showing its technical and organizational connections. It is stressed that its functionality should be appreciated, so that we do not lose sight of the system (which is more than the sum of its parts or elements or processes, it is a new quality arising from its connections or interactions): that *"the trees do not prevent us from seeing the forest"*. The key processes (elements) that are considered to have the greatest influence on job "retention" are shown in the following areas: training (highlighting the "gaps" that arise after the performance evaluation has been carried out, meaning what the worker lacks in skills, in order to proceed with his training plan (*reskilling and upskilling*, where the essence of the "continuous improvement" of the worker and his work process lies), working conditions (which will be considered in the designs of job profiles by competencies) and labor compensation (including salaries, general material compensation and psychosocial or spiritual compensation).

The job profile by competencies<sup>46</sup> is the basis of the strategic business performance by considering in it the *"strategic behaviors"*, as well as the basis of the set of key processes of HRM.<sup>47</sup> This profile expresses the "task-related work time" (TTR), which means the pillar of the added value that the employee must contribute, in its connection with the "regulated interruption time" (TIR) related to the "working day" (JL) allowing to determine the level of "use of the working day" (AJL):  $AJL = (TTR +$

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*TIR / JL*) \* 100, basis of work productivity, its dynamics, its correlation with the increase in the average salary and safety and health at work.

It should be noted from the logic of **Figure 2** that the existence of the job profile is the basis of the set of key HRM processes to be developed, where its interaction ( $\Leftrightarrow$ ) with the work processes implied by the Work Organization is reflected. The design of HRM begins methodologically with it, with the Work Organization, after the “input” of the “strategic objectives” given by the strategic management.



**Figure 2.** Technical-organizational connections of the key processes of the assumed HRM system: its functionality

**Sources:** own elaboration

Afterwards, planning cannot be done if job profiles are not available, because it is not about the number of employees, but about the number of employees to be determined for the different positions in the company. Personnel selection (“attraction”) cannot be done if the competencies and other requirements to develop a certain position are unknown. Once the people have been selected, if the competencies are unknown, training (“development”) cannot be based on the “gaps.” And performance evaluation cannot be done, because the competency parameters would not be available, which at the same time constitute the basis for compensation. Or the employee will not be known if he is declared incompetent (or

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unsuitable) and is removed from the position. And then labor compensation cannot be developed. All of this is reflected in this diagram with its *feed-back* loops.

Insisting on labor compensation, which as a key process of the HRM system, is technically the last thing that is conceived or designed and is thus located in **Figure 2** - but it is the first thing that the worker perceives after his performance. Labor stimulation, both material and spiritual, moral or psychosocial, requires the greatest technical attention, as well as a correct psychosociological approach, with mastery - by whoever conceives or designs it - of the different motivational theories, so that an effective design is achieved. Stimulation should be sought to promote the motivation of workers, fundamentally positive and intrinsic motivation, which encourages achievement motivation, and which strengthens the feeling of belonging of workers, the sense of commitment to the labor organization, which implies multiple dimensions in stimulation.<sup>13</sup>

## Conclusions

The proposed methodology is the praxiological construct that allows applying a new pedagogical treatment to the political and ideological improvement of cadres, expresses dialectical and diverse processes and reveals relationships of systematization and integration.

The theoretical and methodological foundations were exposed that, from the perspective of a Human Resources Management system, and appreciating the job retention of people who work in the "attraction-retention-development" dynamic, are those that contribute most to this retention in the current circumstances with exponential advance of digital technology and extreme climate change: training (reaching reskilling and upskilling and attention to senior talent), working conditions particularly expressed in occupational health and safety, job profile designs by competencies and labor compensation, both material and salary as well as spiritual or psychosocial.

References were made to various procedures or technologies developed in Cuban business practice, to highlight the methodological management of the key elements or processes of HRM mentioned above, also seeking to achieve employee commitment to their labor organizations.

The functionality of the HRM system adopted was highlighted, explaining its technical organizational connections, in order to achieve greater labor retention.

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