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Deductive model of managerial competencies in Cuban grassroots sports managers

[Modelo deductivo de competencias gerenciales en directivos del deporte de base cubano]

[Modelo dedutivo de competências gerenciais em dirigentes esportivos de base cubanos]

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ABSTRACT

Introduction: The evaluation of Cuban grassroots sports managers shows a focus more oriented towards individual and organizational performance than towards the specific managerial competencies required for the position. This is because there is no robust theoretical framework, with its corresponding practical instrument, developed specifically for the context of Cuban grassroots sports.

Objective: to build a deductive model of managerial competencies in Cuban grassroots sports managers, which takes into account the specific demands of the Cuban economic and social model and sports system, and serves as a useful background to support subsequent research.

Materials and methods: A search, location, recovery, selection and consultation of non-serial and serial publications was carried out in the *Scopus*, *Scielo* and *Redalyc* databases. For the analysis of the information, theoretical methods were applied such as, Inductive-deductive, Analytical-synthetic, Modeling and Systemic-structural-functional.

Results: A deductive model composed of 13 dimensions and 58 observable variables was constructed.

Conclusions: The structure of the proposed deductive model considers the specific context of the Cuban socio-economic model and sports system, as well as the new demands of the contemporary global landscape. Therefore, it becomes a useful antecedent to support further research that, based on empirical data, can move towards a valid and reliable inductive model.

Keywords: Competencies, model, sport, management

RESUMEN

Introducción: la evaluación del directivo del deporte de base cubano muestra un enfoque más orientado hacia el desempeño individual, y de la organización, que, hacia las competencias gerenciales específicamente necesarias para el cargo, al no existir un cuerpo teórico robusto, con su respectivo instrumento práctico, desarrollado específicamente para el contexto del deporte de base cubano.



Objetivo: construir un modelo deductivo de competencias gerenciales en directivos del deporte de base de Cuba, que contemple las demandas específicas del modelo económico social y el sistema deportivo cubanos, y sirva de antecedente útil para sustentar investigaciones posteriores.

Materiales y métodos: se realizó una búsqueda, localización, recuperación, selección y consulta de publicaciones no seriadas y seriadas, en las bases de datos *Scopus*, *Scielo* y *Redalyc*. Para el análisis de la información, se aplicaron los métodos teóricos Inductivo-deductivo, Analítico-sintético, Modelación y Sistémico-estructural-funcional.

Resultados: Se construyó un modelo deductivo compuesto por 13 dimensiones y 58 variables observables.

Conclusiones: La estructura del modelo deductivo propuesto tiene en cuenta el contexto específico del modelo económico social y el sistema deportivo cubanos, así como las nuevas demandas del escenario global contemporáneo, por lo que deviene en antecedente útil para sustentar investigaciones posteriores que, con base en datos empíricos, transiten hacia un modelo inductivo, válido y confiable.

Palabras clave: Competencias, modelo, deporte, directivo

RESUMO

Introdução: a avaliação do diretor de esportes de base cubano mostra uma abordagem mais orientada para o desempenho individual e organizacional do que para as competências gerenciais especificamente necessárias para o cargo, pois não existe um corpo teórico robusto, com seu respectivo instrumento prático, desenvolvido especificamente para o contexto do desporto popular cubano.

Objetivo: construir um modelo dedutivo de competências gerenciais em gestores esportivos de base em Cuba, que leve em conta as demandas específicas do modelo socioeconômico e do sistema esportivo cubano, e sirva como base útil para apoiar pesquisas posteriores.

Materiais e métodos: foi realizada busca, localização, recuperação, seleção e consulta de publicações não seriadas e seriadas nas bases de dados *Scopus*, *Scielo* e *Redalyc*. Para a



análise das informações foram aplicados os métodos teóricos Indutivo-dedutivo, Analítico-sintético, Modelagem e Sistêmico-estrutural-funcional.

Resultados: Foi construído um modelo dedutivo composto por 13 dimensões e 58 variáveis observáveis.

Conclusões: A estrutura do modelo dedutivo proposto leva em consideração o contexto específico do modelo socioeconômico cubano e do sistema esportivo cubano, bem como as novas demandas do cenário global contemporâneo, razão pela qual se torna um pano de fundo útil para apoiar subseqüentes pesquisas que, a partir de dados empíricos, caminhem em direção a um modelo indutivo, válido e confiável.

Palavras-chave: Competências, modelo, esporte, gestor.

INTRODUCTION

Today's globalized and turbulent world constantly tests the competitiveness of organizations, forcing them to operate in a complex environment that rapidly changes its conditions. This phenomenon, in turn, generates high levels of uncertainty regarding their evolution (Chiatchoua, 2021; Peifer and Terstegen, 2024). Therefore, such organizations need optimally qualified human resources, managed competently, based on a modern management style, not only to respond immediately to changes but also to build a desirable future from the present, adopting proactive strategies.

Thus, the famous *management guru* Peter F. Drucker, when referring to the characteristics of the environment in which organizations operate today, highlights the constant emergence of new technologies, new competitors and more demanding customers, while emphasizing the need for organizational processes to be managed by integrally competent managers (Drucker, 2020a, 2020b).

Numerous studies on competencies have emerged in recent decades, with the pioneering work of Professor McClelland (1973) as a precursor. He identified



competencies as a key indicator of good job performance in the execution of functions by employees. (Magaña *et al.*, 2023).

The competencies required to make a certain function are a dynamic and complex phenomenon, changing as the environment changes. For example, the emergence of a new management technology that represents a competitive advantage in a certain area puts pressure on managers, who become temporarily incompetent until they are able to assimilate this technological advance. Therefore, their evaluation must be a constant in sports organizations as a form of feedback.

The evaluation of grassroots sports managers in Cuba is based on the provisions for a general context in Decree-Law No. 13/2020, "System of work with State and Government cadres and their reserves." According to this decree, the training and development of cadres is considered a process independent of their evaluation; however, it states that these processes are interrelated (Consejo de Estado, 2021). Thus, the outputs or results of the evaluation process serve as input for the training and development process.

Likewise, such a Working System with the State and Government cadres (Consejo de Estado, 2021), and its Regulations (President of the Republic of Cuba, 2021), conceive the evaluation based fundamentally on performance, expressed through certain individual and organizational results (scientific, sports, etc.). A process that timidly contemplates the opinion of its subordinates, from which is inferred a focus more oriented towards the individual performance of the management, and of the organization, which made the managerial competencies specifically necessary for the position. This situation was magnified by the absence of any theoretical body, with its respective practical instrument, developed specifically to implement the process in the field of Cuban grassroots sport.

More specifically, from the aforementioned legal instruments, it is possible to infer certain competencies to be considered in the evaluation of managers, not tacitly declared as such. These include new aspects not reported in international studies aimed at



scientifically identifying the necessary competencies in managers; for example, training in "national, territorial, and civil defense..." (Consejo de Estado, 2021, p. 896). This fact, along with the specificity of working within the Cuban sports system, necessitates the development of a study that identifies and systematizes the competencies required of grassroots sports managers in Cuba.

Thus, in practice, there are municipalities that, given their limited institutional potential (technical strength, population size, technology, etc.) compared to others, achieve poor performance at the provincial level. However, they have very competent managers, whose evaluation could be affected by the lack of objectivity and exhaustiveness of the indicators and scales used for it.

Furthermore, a good organizational performance result might generally indicate that the management is competent. However, this indicator is not useful for identifying their weaknesses and training needs, so the training and development process begins with biased information (entropy).

Similarly, an organization could be managed by a despotic and authoritarian management and still have positive results, which are more due to the competence of their subordinates than their own. Managers with these characteristics are incompetent at fostering teamwork and lack assertive communication, therefore tending to make autocratic strategic decisions based more on intuition than on scientific reasoning and collective intelligence.

In a similar vein, an organization could be headed by a weak management and still have positive results thanks to the competence of subordinates. In both cases, the presence of a fully competent management could turn "positive" results into "very positive" results.

Then, it is necessary to develop tools that allow the identification of fully competent individuals or, potentially competent ones. In both cases, it is necessary to subject them to a process of continuous training and development of competencies, in accordance with the dynamic nature and pressures that the environment imposes on the different organizational functions.



It should be noted that, in order to ensure the participation of subordinates in identifying the weaknesses and development needs of grassroots sports managers, with a view to the continuous training and development of their managerial skills, a valid and reliable instrument will be necessary. This instrument must be adapted to the characteristics of the Cuban sports system and needs to be developed based on a well-formalized theoretical framework. Models can be useful for this purpose.

Based on all of the above, this research was undertaken with the objective of constructing a deductive model of managerial competencies for grassroots sports managers in Cuba. This model will consider the specific demands of the Cuban socio-economic model and sports system, and serve as a useful precedent to support future research.

MATERIALS AND METHODS

For the development of this work, a search, location, recovery, selection and consultation of non-serial and serial publications was carried out, which were accessed by querying the *Scopus*, *Scielo* and *Redalyc* databases, from which the sources were selected based on the inclusion criteria Relevance and Timeliness:

- Literature published between 2019-2023.
- Languages: Spanish, English, Russian, German, French or Portuguese.

Search terms:

- (management) AND (competence)

Similarly, following the recommendations of the San Francisco Declaration on Research Assessment (DORA), several primary literature sources were located, retrieved, and cited. These were identified through the reading of secondary sources, not only to confirm what was reported in them, but also to give credit to the person or persons who first recorded the finding.



In accordance with the investigative logic followed, theoretical methods such as Inductive-deductive, Analytical-synthetic, Modeling and Systemic-structural-functional were applied.

This research went through the four phases proposed by the PRISMA Declaration, the results of which are shown in Figure 1.

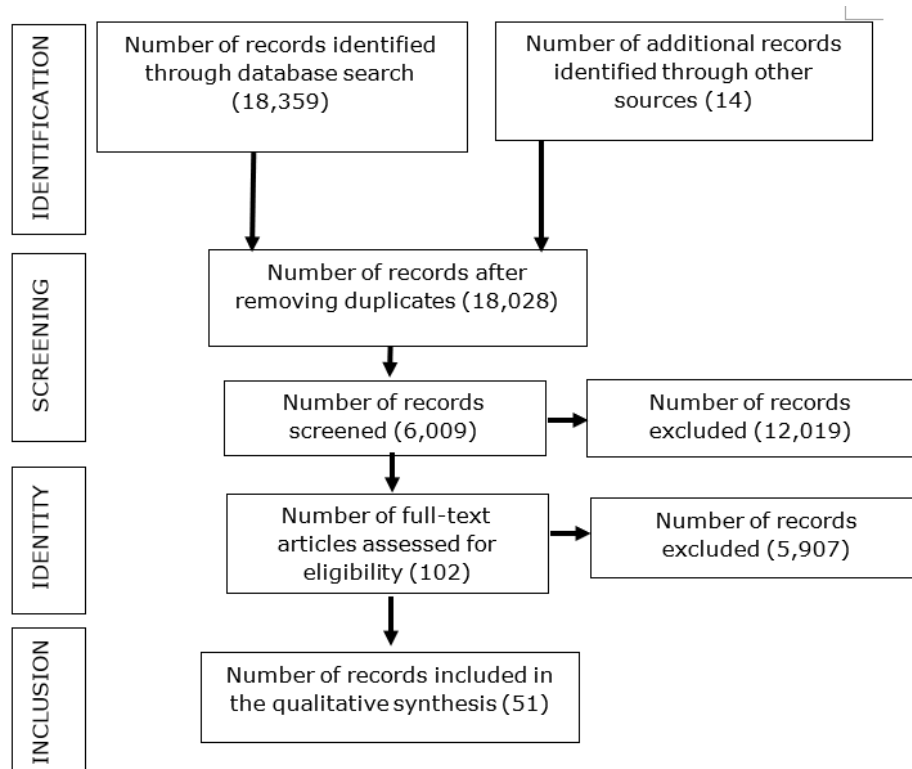


Fig. 1. - Flow chart

Source: Prepared by the authors, according to recommendations of the PRISMA Declaration

As can be seen, a total of 18,359 sources were preliminarily identified through the interrogation of the aforementioned databases; likewise, 14 sources were recovered from the so-called "grey literature", which allowed reducing information bias. Finally, after going through the entire process, a total of 51 sources were included in the qualitative synthesis, which are referenced throughout the text.



According, the models are classified according to their origin as follows:

- Deductive: is a logical structure based on a theory.
- Inductive: arises from empirical findings and their generalization.

Thus, since the present research is an initial approach to the phenomenon from a theoretical point of view, it was decided to construct a deductive model, which becomes an initial hypothetical model, useful for subsequent studies.

The graphical representation of the model was developed using the *IBM® SPSS® Amos* software, version 28.0.0.

RESULTS AND DISCUSSION

The development of the deductive model was based on the pre-existing recommendations in the literature consulted on the subject and its theoretical justification. To guide their research, the authors of this study adopted the competing values framework for management, derived from Quinn's metamodel, known as the Competing Values Framework (Quinn, 1988; Quinn *et al.*, 2020). This metamodel (a model of models), which emerged in the late 1980s and has undergone constant updating, is designed to understand the complex and dynamic nature of the organizational world through the exploration of four models. The authors of this article organized the different dimensions of the phenomenon and the observable variables associated with each around these four models.

Similarly, based on critical analysis and relevance to the Cuban context, various criteria from national and international authors were assumed. Which led to the identification of 85 possible observable variables (items), which were grouped into 13 latent variables (dimensions).



For each variable observed, an item was created. Subsequently, the 85 items were reduced to 58 based on the following criteria: items not observable in behaviors; polysemous items that compromise respondent understanding; repetitive items that can be merged; and items that cannot be extended to the Cuban socio-political, economic, and sporting contexts. The instrument, composed of 58 items, was then simultaneously evaluated by two philology professionals, who analyzed the content and grammatical structure of each item to improve comprehension.

Likewise, elements related to the Cuban economic, social and sports system are incorporated. Which are not observed in foreign studies, such as: preparation for national, territorial and civil defense.

In another order, based on the study of the characteristics and trends of the contemporary global scenario, a total of four observable variables are proposed, which constitute a contribution from the authors of this article; these are:

· Responsible use of social networks: The management is able to interact on the main digital social networks, critically and contrastingly analyzing the information contained in them, and being aware of the risks they entail (cyberbullying, *grooming*, *sexting*, extortion, sextortion, addiction, identity theft, child pornography, *fake news*).

- Unlearning and relearning: The management is able to give up old concepts and theories in favor of learning more relevant ones, based on scientific evidence.
- Technological monitoring: The management is able to monitor and evaluate the status of existing technologies worldwide, applicable to Sport, Physical Culture, recreation and Physical Education, and manage their transfer.
- Industrial property: The management supervises and controls the processes for obtaining, maintaining, defending and exercising industrial property rights related to inventions (granting of patents and utility models). As well as, scientific discoveries, industrial models, trademarks and designations of origin (granting of industrial property rights).



The proposed model is inserted, in a particular order, within the context of the Cuban sports system, which has an eminently social, rather than economic, vocation.

In a more general order, and as a logical consequence of the above, it is integrated into the Cuban economic-social model, with whose components it must interact and align both vertically and horizontally.

Table 1 shows the theoretical summary of the deductive model (Table 1).

Table 1. - Theoretical summary of the deductive model

Dimension	Variable	Categories	References
Intrapersonal qualities	CIP1	Commitment	(Gil Tovar y Lara Figueroa, 2020; Torabi <i>et al.</i> , 2021; Wu <i>et al.</i> , 2023)
	CIP2	Independence and sense of responsibility	(Consejo de Estado, 2021; Madrazo Suárez <i>et al.</i> , 2022; Torabi <i>et al.</i> , 2021; Wu <i>et al.</i> , 2023)
	CIP3	Self-motivation	(Gil Tovar and Lara Figueroa, 2020; Quinn, 1988; Quinn <i>et al.</i> , 2020)
	CIP4	Professional and personal ethics	(Albuquerque <i>et al.</i> , 2023; Consejo de Estado, 2021; Dutta <i>et al.</i> , 2022; Lorenzo Miranda <i>et al.</i> , 2023; Nikitina <i>et al.</i> , 2020)
Adaptability and sustainability	AS1	Adaptability to changes in the environment	(Consejo de Estado, 2021; Lorenzo Miranda <i>et al.</i> , 2023; Madrazo Suárez <i>et al.</i> , 2022; Torabi <i>et al.</i> , 2021; Wu <i>et al.</i> , 2023)
	AS2	Effective self-management of work and time	(Gil Tovar and Lara Figueroa, 2020; Pacher <i>et al.</i> , 2022, 2024; Wu <i>et al.</i> , 2023)
	AS3	Critical thinking	(Benvenuti <i>et al.</i> , 2023; European Commission, 2019; Malysheva <i>et al.</i> , 2022; Vuorikari <i>et al.</i> , 2022)
	AS4	Sustainability and social responsibility	(Chapa Sosa <i>et al.</i> , 2023; Consejo de Estado, 2021; Nikitina <i>et al.</i> , 2020; Pacher <i>et al.</i> , 2024; Vargas Fernández and García Páez, 2022; Vásquez Valenzuela, 2023)
	AS5	Entrepreneurial competencies	(Bodak <i>et al.</i> , 2023; Consejo de Estado, 2021; García-Cabrera <i>et al.</i> , 2023; Mendoza-Vargas <i>et al.</i> , 2023; Varona Albán and Ramos Benítez, 2024; Vásquez Valenzuela, 2023)



Specialty and applied sciences to it	ECA1	Knowledge of the specialty	(Jang <i>et al.</i> , 2024; Lorenzo Miranda <i>et al.</i> , 2023; Yahaya and Segbenya, 2023)
	ECA2	Knowledge of applied sciences to the specialty	(Jang <i>et al.</i> , 2024; Lorenzo Miranda <i>et al.</i> , 2023; Yahaya and Segbenya, 2023)
	ECA3	Practical skills for teaching	(Jang <i>et al.</i> , 2024; Malysheva <i>et al.</i> , 2022; Wu <i>et al.</i> , 2023)
Control of resources and quality	CRC1	Regulatory management	(Wu <i>et al.</i> , 2023)
	CRC2	Quality control	(Wu <i>et al.</i> , 2023)
	CRC3	Control of resources	(Chapa Sosa <i>et al.</i> , 2023; Consejo de Estado, 2021; Diaz Moreno, 2023; Jang <i>et al.</i> , 2024; Lorenzo Miranda <i>et al.</i> , 2023; Magaña <i>et al.</i> , 2023)
	CRC4	Organization of information flows	(Albuquerque <i>et al.</i> , 2023; Quinn, 1988; Quinn <i>et al.</i> , 2020; Vakurin and Bondarenko, 2021)
Digital environments, and information and knowledge management	EDGI C1	Analysis of specialized literature	(Anchundia Delgado and Calle García, 2019; Barbosa Mota and Cilento, 2020; Chiu <i>et al.</i> , 2024; Contreras Cázarez and Campa Álvarez, 2022; Geraldo-Campos <i>et al.</i> , 2024; Madrazo Suárez <i>et al.</i> , 2022; Pacher <i>et al.</i> , 2024)
	EDGI C2	Development of specialized literature	(Pacher <i>et al.</i> , 2024; Wu <i>et al.</i> , 2023)
	EDGI C3	Data information literacy	(Anchundia Delgado and Calle García, 2019; Chiu <i>et al.</i> , 2024; European Commission, 2019; Madrazo Suárez <i>et al.</i> , 2022; Pacher <i>et al.</i> , 2024; Pramila-Savukoski <i>et al.</i> , 2024; Vuorikari <i>et al.</i> , 2022)
	EDGI C4	Collaboration in digital environments	(European Commission, 2019; Pacher <i>et al.</i> , 2024; Vuorikari <i>et al.</i> , 2022)
	EDGI C5	Creation of digital content	(European Commission, 2019; Pacher <i>et al.</i> , 2024; Vuorikari <i>et al.</i> , 2022)
	EDGI C6	Digital tool-assisted problem solving	(European Commission, 2019; Lorenzo Miranda <i>et al.</i> , 2023; Pacher <i>et al.</i> , 2024; Vuorikari <i>et al.</i> , 2022)
	EDGI C7	Security of digital environments	(European Commission, 2019; Pacher <i>et al.</i> , 2024; Vuorikari <i>et al.</i> , 2022)
	EDGI C8	Responsible use of social media	(Proposal by the authors of this study)
	EDGI C9	Use of Artificial Intelligence	(Benvenuti <i>et al.</i> , 2023; Peifer and Terstegen, 2024)
	DSP1	Defense preparation	(Consejo de Estado, 2021)



Defense, security and protection	DSP2	Civil Defense Preparation	(Consejo de Estado, 2021)
	DSP3	Safety and protection training	(Consejo de Estado, 2021)
Social interaction	IS1	Conflict resolution	(Albuquerque <i>et al.</i> , 2023; Consejo de Estado, 2021; Jang <i>et al.</i> , 2024; Madrazo Suárez <i>et al.</i> , 2022; Pacher <i>et al.</i> , 2022; Pramila-Savukoski <i>et al.</i> , 2024)
	IS2	Conducting debates	(Consejo de Estado, 2021; Varona Albán and Ramos Benítez, 2024; Wu <i>et al.</i> , 2023)
	IS3	Communication and coordination of actions	(Albuquerque <i>et al.</i> , 2023; Bodak <i>et al.</i> , 2023; Chiatchoua, 2021; Consejo de Estado, 2021; Garnov <i>et al.</i> , 2023; Jang <i>et al.</i> , 2024; Lorenzo Miranda <i>et al.</i> , 2023; Orobía <i>et al.</i> , 2020; Pacher <i>et al.</i> , 2022; Pramila-Savukoski <i>et al.</i> , 2024; Varona Albán and Ramos Benítez, 2024;
	IS4	Teamwork	(Consejo de Estado, 2021; Díaz Moreno, 2023; Jang <i>et al.</i> , 2024; Lorenzo Miranda <i>et al.</i> , 2023; Magaña <i>et al.</i> , 2023; Pacher <i>et al.</i> , 2022; Pramila-Savukoski <i>et al.</i> , 2024; Varona Albán and Ramos Benítez, 2024; Wohlfart <i>et al.</i> , 2019; Wu <i>et al.</i> , 2023)
	IS5	Empathy and awareness of others	(Delors, 2021; Gil Tovar and Lara Figueroa, 2020; Pramila-Savukoski <i>et al.</i> , 2024; Wu <i>et al.</i> , 2023)
	IS6	Emotional and psychological support	(Jang <i>et al.</i> , 2024; Pramila-Savukoski <i>et al.</i> , 2024; Wu <i>et al.</i> , 2023)
Self-improvement	ASP1	Self-learning	(Consejo de Estado, 2021; Escalante Ferrer <i>et al.</i> , 2023; Vasli and Asadiparvar-Masouleh, 2024; Wu <i>et al.</i> , 2023)
	ASP2	Unlearning and relearning	(Proposal by the authors of this study)
	ASP3	Self-improvement planning	(Consejo de Estado 2021; Vasli and Asadiparvar-Masouleh, 2024; Wu <i>et al.</i> , 2023)
Leadership	L1	Reflective and transparent management:	(Consejo de Estado, 2021; Osipova, 2021; Yahaya and Segbenya, 2023)
	L2	Practice of self-criticism and criticism	(Consejo de Estado, 2021; Gil Tovar and Lara Figueroa, 2020)
	L3	Ongoing development of subordinates and reserves.	(Consejo de Estado, 2021; Lorenzo Miranda <i>et al.</i> , 2023; Magaña <i>et al.</i> , 2023; Varona Albán and Ramos Benítez, 2024; Wu <i>et al.</i> , 2023)



	L4	Planning and coordination of processes and projects	(Consejo de Estado, 2021; Delors, 2021; Diaz Moreno, 2023; Penagos Guzmán <i>et al.</i> , 2023; Wu <i>et al.</i> , 2023)
Emotional competencies	CE1	Self-control	(Lorenzo, 2022; Madrazo Suárez <i>et al.</i> , 2022; Wu <i>et al.</i> , 2023; Yahaya and Segbenya, 2023)
	CE2	Emotional stability	(Wu <i>et al.</i> , 2023; Yahaya and Segbenya, 2023)
	CE3	Motivational induction	(Garnov <i>et al.</i> , 2023; Lorenzo, 2022; Orobia <i>et al.</i> , 2020; Quinn, 1988; Quinn <i>et al.</i> , 2020)
Representation and expansion of organizational boundaries	RAFO 1	Protection of the entity's image	(Pessoa de Freitas and Odelius, 2022)
	RAFO 2	Public relations	(Diaz Moreno, 2023; Pessoa de Freitas and Odelius, 2022)
	RAFO 3	Negotiation of agreements and commitments	(Chiatchoua, 2021; Quinn, 1988; Quinn <i>et al.</i> , 2020)
Change and innovation management	GCI1	Technological surveillance	(Proposal by the authors of this study)
	GCI2	Industrial property	(Proposal by the authors of this study)
	GCI3	Innovation in technologies	(Torabi <i>et al.</i> , 2021; Vasli and Asadiparvar-Masouleh, 2024; Wu <i>et al.</i> , 2023)
	GCI4	Openness to new approaches and technologies	(Pacher <i>et al.</i> , 2024; Wu <i>et al.</i> , 2023)
	GCI5	Creativity/ Lateral thinking	(Albuquerque <i>et al.</i> , 2023; Consejo de Estado, 2021; Gil Tovar and Lara Figueroa, 2020; Malysheva <i>et al.</i> , 2022; Pacher <i>et al.</i> , 2024; Torabi <i>et al.</i> , 2021)
	GCI6	Systems thinking and foresight	(Bodak <i>et al.</i> , 2023; Malysheva <i>et al.</i> , 2022; Nikitina <i>et al.</i> , 2020; Pacher <i>et al.</i> , 2024; Wu <i>et al.</i> , 2023)
	GCI7	Statistical processing	(Wu <i>et al.</i> , 2023)
	GCI8	Scientific method	(Consejo de Estado, 2021; Vasli and Asadiparvar-Masouleh, 2024; Wu <i>et al.</i> , 2023)
Socio-political and economic environment	ESPE1	Understanding the socio-political environment	(Albuquerque <i>et al.</i> , 2023; Consejo de Estado, 2021; Diaz Moreno, 2023; Vakurin and Bondarenko, 2021)
	ESPE 2	Understanding the economic environment	(Consejo de Estado, 2021; Diaz Moreno, 2023; Nikitina <i>et al.</i> , 2020; Pramila-Savukoski <i>et al.</i> , 2024; Vakurin and Bondarenko, 2021)
	ESPE3	Alignment to context	(Consejo de Estado, 2021)



Figure 2 shows its graphic representation (Figure 2):

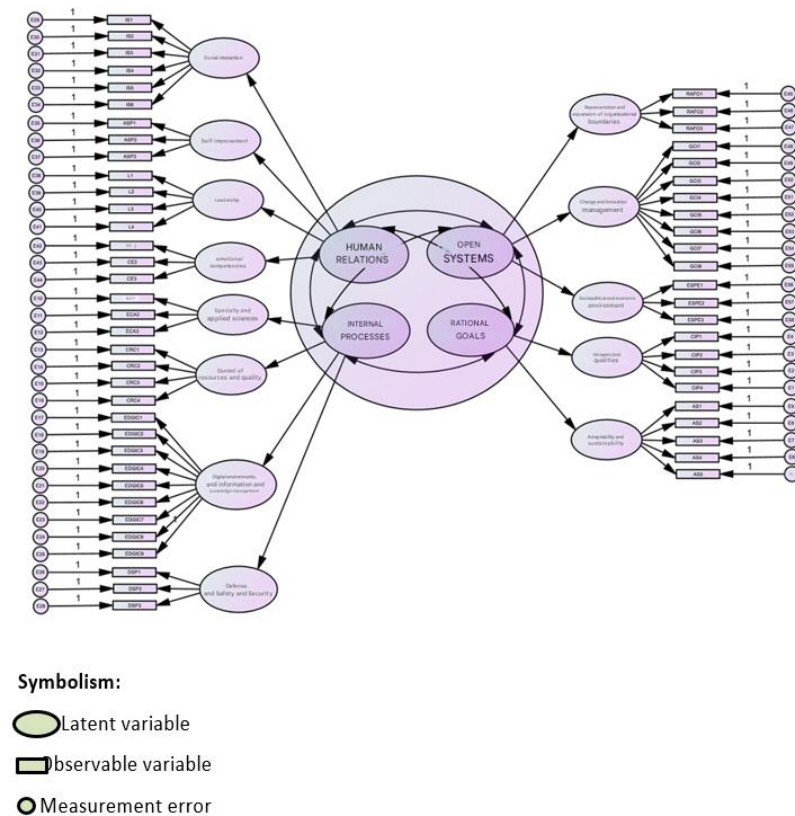


Fig. 2. - Graphic representation of the deductive model

As can be observed, the solution is structured by a total of 13 dimensions or latent variables, which, in turn, are associated with 58 observable variables. These observable variables serve as a reference for the future construction of the different items of an instrument to measure managerial competencies. In addition, the model takes into account that measurements always contain errors, that measurement errors are random, and that item errors are independent of each other.

The fact that the model is only deductive, given its construction based on a critical analysis of pre-existing literature, constitutes a limitation of the study. This prevents the attainment of precise inferences regarding its internal and external validity. Therefore, the authors recommend the development of a two-phase follow-up study. This new study should use the theoretical framework presented here as a foundation and, using



empirical data, apply an exploratory factor analysis followed by a confirmatory factor analysis.

CONCLUSIONS

The proposed model becomes a useful antecedent to support subsequent research that, based on empirical data, converts this deductive model into an inductive, valid and reliable one.

The structure of the deductive model takes into account the specific context of the Cuban social economic model and sports system, as well as the new demands of the contemporary global scenario.

BIBLIOGRAPHIC REFERENCES

- Albuquerque, I. M. N., Cunha, I. C. K. O., Ribeiro, M. A., Silveira, N. C., y Nascimento, A. B. O. do. (2023). Gerenciamento na Estratégia Saúde da Família: Processo de validação para avaliação de competências. *Acta Paulista de Enfermagem*, 36. SciELO Brasil. <https://doi.org/10.37689/acta-ape/2023ao00532>
- Anchundia Delgado, F. E., y Calle García, R. X. (2019). La gestión de las competencias informacionales en la formación del conocimiento: Fundamentos para un proceso de aprendizaje competente. *Revista de Ciencias Humanísticas y Sociales (ReHuSo)*, 4(2), 82-92. Redalyc. <https://www.redalyc.org/articulo.oa?id=673171022005>
- Barbosa Mota, F. P. B., y Cilento, I. (2020). Competence for internet use: Integrating knowledge, skills, and attitudes. *Computers and Education Open*, 1, 100015. <https://doi.org/10.1016/j.caeo.2020.100015>



- Benvenuti, M., Cangelosi, A., Weinberger, A., Mazzoni, E., Benassi, M., Barbaresi, M., y Orsoni, M. (2023). Artificial intelligence and human behavioral development: A perspective on new skills and competences acquisition for the educational context. *Computers in Human Behavior*, 148, 107-903. <https://doi.org/10.1016/j.chb.2023.107903>
- Bodak, V., Miliaieva, V., Pantiuk, M., Prystai, O., y Burkovska, Z. (2023). Development of managerial competence of heads of educational institutions in crisis conditions. *Proceedings of the International Scientific Conference*, 1, 103-114. <https://doi.org/10.17770/sie2023vol1.7085>
- Chapa Sosa, E., Martínez, R. D. J., Ipanaqué, R. A., Escalante Cano, E., y Lisset Chapa Mendez, M. del C. (2023). Habilidades Directivas en la Gestión Empresarial Estatal, Generando Bienestar Social. *Revista Internacional de Investigación en Ciencias Sociales*, 19(1), 115-130. SciELO Paraguai. <https://doi.org/10.18004/riics.2023.junio.115>
- Chiatchoua, C. (2021). Construcción de un modelo de competencias gerenciales para la competitividad de las MYPES. *Paradigma económico. Revista de economía regional y sectorial*, 13(1), 35-63. Redalyc. <https://www.redalyc.org/articulo.oa?id=431566320002>
- Chiu, T. K. F., Falloon, G., Song, Y., Wong, V. W. L., Zhao, L., y Ismailov, M. (2024). A self-determination theory approach to teacher digital competence development. *Computers & Education*, 214, 105017. <https://doi.org/10.1016/j.compedu.2024.105017>
- Consejo de Estado. (2021). Decreto-Ley 13/2020 "Sistema de Trabajo con los cuadros del Estado y del Gobierno y sus reservas". *Gaceta Oficial de la República de Cuba*, 30 Ordinaria. <https://www.gacetaoficial.gob.cu/sites/default/files/goc-2021-o30.pdf>



- Contreras Cázarez, C. R., y Campa Álvarez, R. de los Á. (2022). Estructura dimensional y validación de un cuestionario para valorar la competencia informacional autopercebida en educación superior. *RIDE. Revista Iberoamericana para la Investigación y el Desarrollo Educativo*, 13(25). SciELO México. <https://doi.org/10.23913/ride.v13i25.1337>
- Delors, J. (2021). Formar a los protagonistas del futuro. *El Correo de la UNESCO, Número especial sobre el nuevo informe de la UNESCO*, 22-25. https://unesdoc.unesco.org/ark:/48223/pf0000379770_spa?posInSet=18&queryId=1025f735-a73b-40b2-bcfe-fb8d42260b30
- Díaz Moreno, L. (2023). *Perfil del dirigente deportivo en Colombia* [Artículo científico presentado como opción de grado para optar por el título de especialización en administración deportiva, Universidad Santo Tomás]. <https://repository.usta.edu.co/bitstream/handle/11634/50601/2023DiazLorena.pdf?sequence=1&isAllowed=y>
- Drucker, P. F. (2020a). *Peter F. Drucker on Management Essentials*. Harvard Business Review Press.
- Drucker, P. F. (2020b). *Peter F. Drucker on Practical Leadership*. Harvard Business Review Press.
- Dutta, D., Mishra, S. K., y Budhwar, P. (2022). Ethics in competency models: A framework towards developing ethical behaviour in organisations. *IIMB Management Review*, 34(3), 208-227. <https://doi.org/10.1016/j.iimb.2022.10.002>
- Escalante Ferrer, A. E., Coronado Fernández, S. E., y Moctezuma Ramírez, E. E. (2023). La dimensión metacognitiva de la competencia aprender a aprender en titulaciones españolas. *Sinéctica*, 60. SciELO México. [https://doi.org/10.31391/s2007-7033\(2023\)0060-004](https://doi.org/10.31391/s2007-7033(2023)0060-004)



- European Comission. (2019). *Key Competences for Lifelong Learning*. Publications Office of the European Union. <https://op.europa.eu/en/publication-detail/-/publication/297a33c8-a1f3-11e9-9d01-01aa75ed71a1/language-en#>
- García-Cabrera, A. M., Martín-Santana, J. D., Déniz-Déniz, M. de la C., Suárez-Ortega, S. M., García-Soto, M. G., y Melián-Alzola, L. (2023). The relevance of entrepreneurial competences from a faculty and students' perspective: The role of consensus for the achievement of competences. *The International Journal of Management Education*, 21(2), 100774. <https://doi.org/10.1016/j.ijme.2023.100774>
- Garnov, A., Gromova, N., Tishkina, N., Rybina, G., y Tishkin, M. (2023). *The relationship between the managerial competence of the leader and the success of the organization*. 83-86. <https://doi.org/10.37539/231024.2023.88.23.013>
- Geraldo-Campos, L. A., Rosales-Gomero, R. A., Quijaite, J. J. S., y Saintila, J. (2024). Psychometric properties of the digital competences scale in regular basic education teachers. *International Journal of Educational Research Open*, 6, 100327. <https://doi.org/10.1016/j.ijedro.2024.100327>
- Gil Tovar, H., y Lara Figueroa, D. C. (2020). Identification of managerial competencies of the organizational leaders of the Passifloraceae production sector in the Huila Department. *Cuadernos de Administración*, 36(67), 61-78. Redalyc. <https://www.redalyc.org/articulo.oa?id=225068662006>
- Jang, J., So, W.-Y., Cho, N., y Shin, M. (2024). The Hierarchy of Sustainable Sports Coaching Competencies in Korea. *Sustainability*, 16, 718. <https://doi.org/10.3390/su16020718>
- Lorenzo Miranda, Y. O., Reyes, Y., Paris, E., Fernández, M., y Torres, C. (2023). Competencias directivas genéricas: Su identificación en la Dirección Provincial de Salud en Matanzas. *Universidad y Sociedad*, 15(S1). <https://rus.ucf.edu.cu/index.php/rus/article/view/3764>



- Lorenzo, Y. (2022). Problemas sociales de la ciencia en torno al desarrollo de competencias emocionales en directivos universitarios. *Revista Chakiñan de Ciencias Sociales y Humanidades*, 17, 172-187. SciELO Ecuador. <https://doi.org/10.37135/chk.002.17.11>
- Madrazo Suárez, T., Ávila Rodríguez, M., y Rioll Hernández, M. (2022). Modelo de competencia profesional infotecnológica de los bibliotecarios universitarios para la gestión de información. *EduSol*, 22(78), 16-31. SciELO Cuba. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1729-80912022000100016&lang=pt
- Magaña, J., Aguilar, D., y Rodríguez, N. (2023). Una mirada a la identificación de las competencias directivas. *Ingeniería Industrial*, 44, 159-174. <https://doi.org/10.26439/ing.ind2023.n44.6136>
- Maheshwary, P., Handa, C. C., Gyanchandani, N., y Belkhode, P. (2024). *Mathematical Modelling of Heat Transfer Performance of Heat Exchanger using Nanofluids*. CRC Press.
- Malysheva, O., Tokareva, E., Orchakova, L., y Smirnova, Y. (2022). The effect of online learning in modern history education. *Heliyon*, 8(7), e09965. <https://doi.org/10.1016/j.heliyon.2022.e09965>
- Mendoza-Vargas, J. M., Burbano-Pantoja, V. M., y Mendoza-Vargas, H. H. (2023). Desarrollo de competencias e ideas de emprendimiento: Un estudio focal en el laboratorio de práctica empresarial de la Universidad Pedagógica y Tecnológica de Colombia (UPTC). *Información tecnológica*, 34(1), 173-182. SciELO Chile. http://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0718-07642023000100173&lang=pt
- Õikitina, T., Lapiða, I., Ozoliðð, M., Irbe, M. M., Priem, M., Smits, M., y Nemilentsev, M. (2020). Competences for Strengthening Entrepreneurial Capabilities in Europe. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(3), 62. <https://doi.org/10.3390/joitmc6030062>



- Orobia, L. A., Nakibuuka, J., Bananuka, J., y Akisimire, R. (2020). Inventory management, managerial competence and financial performance of small businesses. *Journal of Accounting in Emerging Economies*, 10(3), 379-398. <https://doi.org/10.1108/JAEE-07-2019-0147>
- Osipova, I. S. (2021). *Ìàòíäèèà òíðìèðíààíèÿ òíðààèáí+âñéíé èñíàðáíöèè ó áóäóùèð ñüäöèäèèñòíà â ñòâðà òèçè+âñéíé èóëüðóðû è ñüððà / Methodology for the development of managerial competence among future specialists in the field of physical culture and sports. Âññòèê Þåñ-Óðäëüíèâî ãñóáððñòâáíüâí óéââðñèððà / Bulletin of the South Ural State University*, 13(3), 71-79. <https://doi.org/10.14529/ped210306>
- Pacher, C., Woschank, M., Rauch, E., y Zunk, B. M. (2022). Systematic Development of a Competence Profile for Industrial Logistics Engineering Education. *3rd International Conference on Industry 4.0 and Smart Manufacturing*, 200, 758-767. <https://doi.org/10.1016/j.procs.2022.01.274>
- Pacher, C., Woschank, M., y Zunk, B. M. (2024). The Impact of Competence on Performance in Industrial Engineering and Management: Conceptualization of a Preliminary Research Model. *5th International Conference on Industry 4.0 and Smart Manufacturing (ISM 2023)*, 232, 794-803. <https://doi.org/10.1016/j.procs.2024.01.079>
- Peifer, Y., y Terstegen, S. (2024). Artificial Intelligence Qualification and Competence Development Requirements for Executives. *5th International Conference on Industry 4.0 and Smart Manufacturing (ISM 2023)*, 232, 736-744. <https://doi.org/10.1016/j.procs.2024.01.073>
- Penagos Guzmán, F., Hernández Castorena, O., y García Solarte, M. (2023). Managerial Skills and Organizational Performance: Competitive Advantage. *Mercados y Negocios*, 48, 75-93. Redalyc. <https://www.redalyc.org/articulo.oa?id=571873899004>



- Pessoa de Freitas, P. F., y Odelius, C. C. (2022). Escala de competências gerenciais para o setor público. *Cadernos EBAPE.BR*, 20(2), 218-233. SciELO Brasil. <https://doi.org/10.1590/1679-395120210050>
- Pramila-Savukoski, S., Jarva, E., Kuivila, H.-M., Juntunen, J., Koskenranta, M., Kääriäinen, M., y Mikkonen, K. (2024). Generic competence among health sciences students in higher education A cross-sectional study. *Nurse Education Today*, 133, 106036. <https://doi.org/10.1016/j.nedt.2023.106036>
- Presidente de la República de Cuba. (2021). Decreto Presidencial 208/2021 "Reglamento del Sistema de Trabajo con los cuadros del Estado y del Gobierno y sus reservas". *Gaceta Oficial de la República de Cuba*, 30 Ordinaria. <https://www.gacetaoficial.gob.cu/sites/default/files/goc-2021-o30.pdf>
- Quinn, R. E. (1988). *Beyond rational management: Mastering the paradoxes and competing demands of high performance*. (pp. xxii, 199). Jossey-Bass.
- Quinn, R. E., Bright, D. S., y Sturm, R. E. (2020). *Becoming a Master Manager: A competing values approach* (7.^a ed.). John Wiley & Sons, Inc.. <https://www.wiley.com/en-ae/Becoming+a+Master+Manager%3A+A+Competing+Values+Approach%2C+7th+Edition-p-9781119710950>
- Torabi, Z., Ardekani, S. S., y Hataminasab, S. H. (2021). A New Model in Designing the Professional Competence System of the Petrochemical Industry with a Sustainable Development Approach. *South African Journal of Chemical Engineering*, 37, 110-117. <https://doi.org/10.1016/j.sajce.2021.05.006>
- Vakurin, A. N., y Bondarenko, E. V. (2021). Совершенствование профессиональной подготовки специалиста по физической культуре и спорту на основе повышения компетентности в вопросах государственного и муниципального управления / Improving the professional training of a specialist in physical education and sport on the basis of increasing competence in



state and municipal administration. *Научно-педагогическое обозрение / Pedagogical Review*, 5(39), 112-119. <https://doi.org/10.23951/2307-6127-2021-5-112-119>

Vargas Fernández, T., y García Páez, B. (2022). Sistema de indicadores para evaluar la gestión de la capacitación para el turismo sostenible. *Cooperativismo y Desarrollo*, 10(2), 261-286. SciELO Cuba. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2310-340X2022000200261&lang=pt

Varona Albán, J. C., y Ramos Benítez, M. C. (2024). Competencias laborales blandas de alto impacto en egresados universitarios. Un estudio descriptivo. *Revista Virtual Universidad Católica del Norte*, 71, 245-275. Redalyc. <https://www.redalyc.org/articulo.oa?id=194276552011>

Vasli, P., y Asadiparvar-Masouleh, H. (2024). Self-directed learning and clinical competence: The mediating role of the clinical learning environment. *Journal of Taibah University Medical Sciences*, 19(2), 221-232. <https://doi.org/10.1016/j.jtumed.2023.11.004>

Vásquez Valenzuela, L. (2023). Modelo educativo universitario y la percepción de titulados respecto a la competencia, emprendimiento y gestión con responsabilidad social de una universidad privada en Chile. *Autoctonía (Santiago)*, 7(1), 505. SciELO Chile. <https://doi.org/10.23854/autoc.v7i1.266>

Vuorikari, R., Kluzer, S., y Punie, Y. (2022). *DigComp 2.2: The Digital Competence Framework for Citizens With new examples of knowledge, skills and attitudes*. Publications Office of the European Union. <https://doi.org/10.2760/115376> (online), 10.2760/490274 (print)



Wohlfart, O., Adam, S., y Hovemann, G. (2019). Are sector specific competencies of sport managers needed? The perspectives of labour market experts in Germany. *EASM 2019*, 1-16. <https://doi.org/10.13140/RG.2.2.17588.40328>

Wu, J., Wang, F., Wang, J., Yuan, R., Lv, Y., Tao, D., y Hu, L. (2023). Construction of an index system of core competence assessment for otolaryngology nurse specialists in China: A Delphi study. *Nurse Education Today*, 131, 105956. <https://doi.org/10.1016/j.nedt.2023.105956>

Yahaya, R., y Segbenya, M. (2023). Modelling the influence of managerial competence on managerial performance in the Ghanaian banking sector. *Humanities and Social Sciences Communications*, 10(1), 855. <https://doi.org/10.1057/s41599-023-02384-5>

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