

Indicators of Intellectual Capital Management for Cuban Commercial Banking

Indicadores de gestión del capital intelectual para la banca comercial cubana

M. Sc. Anisabel Regla Gálvez Fernández^{1*} <http://orcid.org/0000-0003-3131-5673>

Dr. Francisco Borrás Atienzar² <http://orcid.org/0000-0002-5475-5017>

José Ramón Abadía Lugo¹ <http://orcid.org/0000-0002-5126-9005>

¹International Relations Office, University of Camaguey, Cuba

²Center for Studies on Cuban Economy, University of Havana, Cuba

*Corresponding author: anisabel.galvez@reduc.edu.cu

ABSTRACT

Aim: To establish indicators of management of intellectual capital in the framework of Cuban commercial banking.

Methods: The methodology of logical approach, consisting in the definition of moments and steps that ensure the design of indicators to measure management of intellectual capital in this sector. Besides, mathematical and statistical methods were applied, along with experimental empirical methods, expert opinion, and content analysis.

Main results: To provide the Cuban banking sector with a system of indicators customized to the current development trends, in keeping with international practice.

Conclusions: From the total number of 58 indicators (30 quantitative and 28 qualitative), 55 were selected. Although the intellectual capital tends to mix (due to its basically intangible character) with human capital, the structural capital comprised most indicators. This study corroborates the banking trend toward quality and diversification of processes and products through excellence in innovation.

Key words: intellectual capital; indicators; commercial banking; trends.

RESUMEN

Objetivo: Elaborar indicadores para la medición de la gestión del capital intelectual, contextualizados en los bancos comerciales cubanos.

Métodos: Se aplicó la metodología del enfoque del marco lógico, consistente en la definición de momentos y pasos que, con una secuencia lógica, posibilitó el diseño de los indicadores de medición de la gestión del capital intelectual para este sector. Se aplicaron métodos estadísticos matemáticos, empíricos experimentales, criterio de expertos y análisis de contenido.

Principales resultados: Dotar al sector bancario cubano de un sistema de indicadores contextualizado en sus tendencias actuales de desarrollo y en correspondencia con las prácticas internacionales.

Conclusiones: Se propusieron 58 indicadores (30 cuantitativos y 28 cualitativos); de estos los expertos dejaron 55, donde -a pesar de que el capital intelectual tiende a confundirse (por su carácter netamente intangible) con el capital humano-, el componente capital estructural posee la mayor cantidad de indicadores. Se reafirma así la tendencia de la banca hacia la calidad y diversificación de los procesos y productos bancarios, potenciados a través de innovación de excelencia.

Palabras clave: capitales intelectuales; indicadores; banca comercial; tendencias.

Received: 21/01/2020

Accepted: 03/03/2020

INTRODUCCION

The Cuban banking system should play an increasing and more active role to attain prosperous and sustainable development of the nation (Communist Party of Cuba [PCC], 2017). Accordingly, the banking services and protocols must be oriented to achieving excellence, and meeting customers' expectations and demands, which means using minimal-time banking procedures, team work, feeling of belonging, new initiatives, and the creation of products and services in keeping with the interests of individuals and

legal entities. As a result, every banking office must provide quality public services, based on efficiency and efficacy.

To accomplish such goals, management of *intellectual capital* (IC) of a bank should be implemented in favor of organizational efficiency, adding value to it, and contributing with competitive advantages.

Intangible assets _based on knowledge, skills, values, and attitudes of the members of an organization_ commonly known today as intellectual capital, have become an important source of values and competitive advantages of organizations. In this context, proper management of intellectual capital is a pressing matter.

However, many of these intangible elements, as is the case of intellectual capital, are left outside financial states because they fail to meet the strict requisites set for recognition and measurement by the accounting standards. In face of that reality, companies spread information on their IC voluntarily, adopting different policies, without a guide of consensual indicators that can be used as reference of that information, both nationally or internationally (Ficco, García, and Valenzuela, 2017).

Then comes a question: How to conduct evaluation if the company or organization is performing an efficient management of that intangible?

Science has tried to respond this question by designing different models. However, the Cuban commercial banking system reflects a contradiction between the need to manage intellectual capital, and the absence of measuring and discussing management efficiency.

Hence, the main objective of this paper is to design a set of indicators to measure management of intellectual capital of Cuban commercial banks.

DEVELOPMENT

Current trends in Cuban banking

The financial scenario of banking in Cuba is characterized by a worsening of financial restrictions, insufficient fuel availability, a drought of over three years, a tightened economic blockade of the US against Cuba, and the icing of the diplomatic relations between the two countries, which had been re-established in 2014. Not only the bilateral

ties have been affected, but also the economic and financial relationships with other countries have. The financial scenario in Cuba has demanded, and will require, to move forward in the search for solutions to meet the country's external obligations, and the economic and social development of the country (Almenares, 2018).

In that context, the banking system plays a preponderant role, having a human capital that should play a key role in every scenario. Accordingly, 94% of the staff is made of skilled employees, including 72% women, and more than 35% university graduates; almost half of the human resources are less than 40 years of age, according to the Central Bank of Cuba (CBB, 2019).

One of the most important goals of the banking system is to provide quality service to meet customer demands, due to customer-service dissatisfactions; some of the challenges faced by banks are the need to provide stable teller operations offered to people in commercial banks, to avoid overcrowding, to create new customized banking services and products that contribute to faster processes, and to optimize the internal control system of financial institutions as a way to fight possible manifestations of theft, corruption, and fraud.

Studies done by Dominguez (2016), Almenares (2018), Fuentes (2018), Lage, and Acosta (2018), and Lage (2018), and previous studies conducted by the authors of this paper, concluded that the following trends are observed in Cuban commercial banks:

- **To increase banking actions**, with the creation of more banking offices, since the current infrastructure has been overwhelmed by the higher service demands; to promote development of payment channels; to raise the number of currency exchange offices in tourist resorts, and crowded public places; to raise the effectiveness of the ATM network in the country, and increase the number of POS terminals in the commercial branches. Along with the reduction of decision terms on funding requests, and the creation of business and procedures offices in all commercial banks.
- **Consolidation of remote banking and electronic banking**, not only for use by legal entities, but also individuals, which allows users to validate pay slips, make transferences, check balances, and deposit company checks by legal entities.

- **A boom to innovation**, seen in the development of electronic banking, which includes the utilization of ATMs, and extensive use of magnetic stripe transaction cards to assist as a payment method to access goods and services. In addition to that, new opportunities are open in terms of electronic payment channels, applications for readily access to information by clients, publication of new service offers, and improvement of branch management efficiency.
- **Optimization and extension of financial products and services to self-employed workers**, which may be very useful to improve their performance.
- **Increase in training efforts** of banking entities; since proper preparation of banking staffs is a key element to offer business counseling services to cooperatives, farmers, self-employed workers, and all the actors of the economy, who are part of the management role of the model being implemented, as well as the general public, who can access easier procedures and operations, which simplify their lives.
- **Implementing a better and easier banking system**, as part of the permanent effort of the national banking system.
- **Increasing capacities to perform currency exchange and re-exchange operations** to meet tourist demands, especially in airports and seaports, with more CADECA exchange facilities in large hotel resorts.
- **Improving and increasing information of Cuban banking web sites.**
- **Developing an inter-banking market**, which allows for optimization of liquidity management of the financial system, creating a space where funds can be redistributed among superavit and deficit agents of the system.
- **Generating policies that retain intellectual capital** of the banking system, since the permanence of workers is strategic for development and innovation of the banking system, where it is necessary to consider the length of training due to the specialized and intensive characters of this activity, in terms of knowledge. This formation requires resources, and the articulation of work grids, as well as technical complementation. “When a professional quits, the loss is higher than what can be physically quantified (Lage, 2018, p. 12).

Conceptual basis of the methodology used

In that direction, there is a need to measure management of intellectual capital to be able to operate on the chain links needing more attention. Hence, the following reflections have been made in order to take the first steps to adapt a model to measure, assess, and present IC management in Cuban commercial banks:

The methodological bases define the methodological objectives and criteria, characteristics, and structure that the models of measurement, assessment, and presentation of intellectual capital should be implemented by Cuban organizations. Each model will respond to the general methodological bases, and will also incorporate in their design the variables and indicators corresponding to the particularities of a given sector (Borras and Ruso, 2015).

These methodological bases may be established from different approaches. The authors of the current research consider that the logical-methodological approach enables the organization of the model from a conceptual background to its practical implementation. Accordingly, this methodological conception has been assumed.

In that sense, Rodríguez (2015) says that a logical-methodological scheme consists of a prevision of a series of logical steps that make up the basis of the design of a series of products or results, following a previous conceptual preparation. Hence, in this research, the logical-methodological scheme is defined as the prevision of constitutive moments and steps at a logical sequence, which make possible the design of indicators to measure the efficiency of CI management in the Cuban commercial banking system, assuming the above-mentioned conceptual basis. This implies that there is a need to determine or assume conceptual elements that back up the methodological proposal.

National and foreign studies of models to measure intellectual capital in intensive knowledge acquisition institutions were used as the groundwork, such as, comprehensive command cadre (Kaplan and Norton, 1992); Skandia browser (Edvinsson and Malone, 2003); *Technology Broker* (Brooking, 1996); monitor of intangible assets (Sveiby, 1997); Nova model (Camisón, Palacios, Devece, 2000); a model to measure intellectual capital (Nevado and López, 2002); *Intellectual Capital Statement-Made in Europe* (European Commission, 2006); Intellectus model (Bueno, 2011); and model for identification, measurement, and assessment of efficiency and intellectual capital information (Borras and Russo, 2015). The last one was considered

the most comprehensive, and therefore, was assumed for this study. It quantifies intellectual capital, and it relies on a sector-efficiency approach, which has an effect on the creation of values for the organization. It also ensures the comparison of a scenario seeking competitive advantages and flexibility, which allows for the definition variables and indicators pertaining to this particular sector, as well as recognition of the social capital, in keeping with current international trends associated to social and political responsibility and policies of the Cuban state, where the bank has an important role to play in social development. Below is the conceptual background of the indicators in the model of Borrás and Ruso (2015):

- Intellectual capital is recognized as the holistic set of intangible assets related to knowledge, with competitive advantages, which generates economic value.
- IC is considered to have four components: human, structural, relational, and social, which are also made of variables, indicators, measurement criteria, and measurement tools.
- Human capital is the combination of knowledge, skills, experience, inventive, and individual capacities of workers from an organization.
- Structural capital is the set of intangible assets associated to organizational culture, infrastructure, processes, and innovation, which contribute to sustainable development of competitive advantages.
- Relational capital is assumed as the set of intangible assets resulting from stable relations held with external agents, associated to the actions of the organization, to exchange products and services, and information, which generate competitive advantages.
- Social capital is the set of intangible assets associated to integration, commitment, and impact on the location and society in general.
- The identification of the variables of intellectual capital responds to intangible factors that stimulate the creation of values associated to the sector of Cuban commercial banking, not to particular perceptions and strategies of certain bank executives, with the ensuing eradication of barriers against homogeneity and comparability of information related to the intellectual capital of different

commercial banks. Accordingly, identification of intangibles is tied to the mean behavior of Cuban commercial banks, which acts as a support to acquire knowledge about contribution of variables to the creation of value.

- The starting point is to determine international and national paradigms about intangible factors that bring about success in commercial banking organizations.
- In selecting and evaluating the relevance of intangible assets from commercial banking, a significant number of people are associated to this activity in the country. Later, the results are triangulated with experts, to produce general assessment on the success factors of this sector, which helps reduce bias due to a particular vision of a bank.
- The components and variables of IC are not different in every institution belonging to commercial banking; they are homogeneous in the sector.
- The indicators may be varied; in other words, quantitative and qualitative indicators may coexist, seeking to lower the bias of subjective criteria.

Methodology

Based on these general theoretical considerations, a logical-methodological approach made of two moments and six steps, is implemented, as observed in Fig.1.

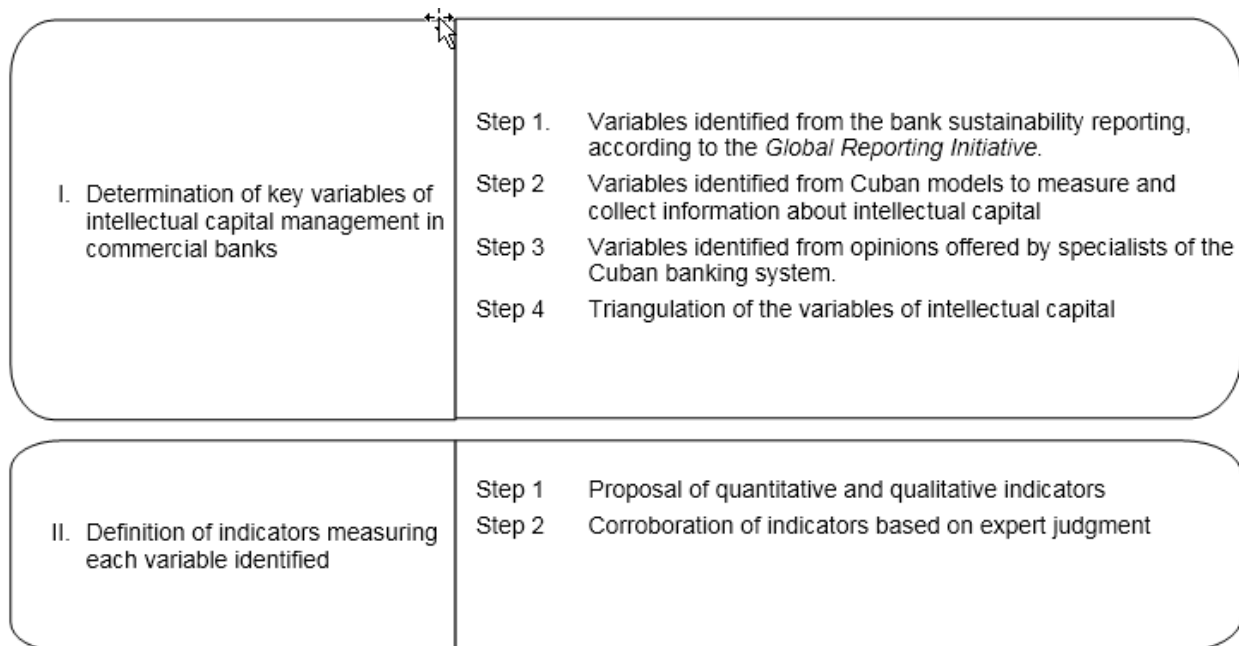


Fig.1. Logical methodological approach

Source: self-made, based on the literature reviewed

The first moment, related to determination of key variables, is made of four steps. It plays a preponderant role, since it partially conditions the indicators that will be measured later.

In the first two steps, the methodology of content analysis was used, which is centered on a systematic, objective, and replicable methodology (Andréu, n/a.). It relies on the identification of thematic axes, and regularities in the contents of the documents studied. This type of scientific methodology, and its application to analyze sustainability reporting to study management and information of intangible assets, has been utilized by different researchers worldwide (Pedrini, 2007; Oliveira, Rodrigues & Craig, 2010).

The third step is based on the selection of specialists with a master's degree or a PhD, and 10-year experience, minimum, in banking, within the two main commercial banks of the country. People's Savings Bank (Banco Popular de Ahorro, BPA), and Bank of Credit and Commerce (Banco de Crédito y Comercio, BANDEC) Using group brainstorming, a team of selected specialists were asked to mention the intangibles they considered were success factors of commercial banking. These intangibles should be regarded as ensuring sustainable development in time, and as generating competitive advantages. The intangibles identified were decanted in terms of their conceptualization, and classified under the premise that only the variables that coincide with the opinions from the staff of the two banks would be selected.

Finally, the variables of intellectual capital are triangulated by a review of banking sustainability reporting from different parts of the world, brainstorming of specialists from BPA and BANDEC, and the review of literature on the models designed by Cuban authors. The intellectual capital variables were determined on the premise that only the ones coinciding with the three sources of information, and/or researcher opinion about the characteristics of Cuban commercial banks, would be chosen.

The second moment for the definition of indicators was made of two steps; it helps determine the way each variable will be measured, depending largely, on the first moment.

In the first step of this moment, the quantitative and qualitative indicators that measure the variables proposed by the authors of this research, are used.

The corroboration of the response is done through expert judgment; that is, the opinions of specialists who have in-depth knowledge of certain topic, because it has been studied, researched, and discussed. The expert has direct practical experience in this area of knowledge, a person whose achievements in this area of knowledge has been recognized (Dontknow, 2019). The technique used is based on a survey, and comprises the components, variables within each component and conceptualization, the recommended indicators of each variable, the classification of quantitative and qualitative indicators, formula for calculation of quantitative indicators, and the proposal of an instrument for qualitative measurement. For expert evaluation of the proposal, a dichotomous scale is used, which is mutually excluding, with a two-choice response: yes or no. Survey processing is done by frequency, where, according to Huh, Delorme & Reid (2006), whose validity criterion is between 0.7 and 0.8 (70-80%). Based on 75% as the mean value, the indicator frequency assumed was $\geq 75\%$.

Results

The implementation of the above-mentioned technology produced 21 variables to study the reports of sustainability, 34 variables for the analysis of Cuban models of intellectual capital measurement, and 28 variables with the opinions of experts from the Cuban commercial banks, which were triangulated following expert judgment, in terms of the characteristics of Cuban commercial banking. This contributed to the determination of 19 variables of intellectual capital management of this important sector in Cuba, which are shown in Chart 1 with their corresponding conceptualization.

Chart1. Variables of intellectual capital management identified from Cuban commercial banking

Component	Variable name	Variable conceptualization
Human Capital	1. Feeling of belonging and commitment	Staff and executive willingness to align processes and activities with the goals and needs of the institution, becoming part of it.
	2. Training and personal experience	Technical training of staff and executive to increase work performance competence, and the years of experience in relation to their particular job, incorporating the value of practical experience to specialized training.
	3. Leadership	The capacity of executives of integrating harmoniously to their work teams, seeking better performance that contributes to new goal achievements, corresponding to the needs of the institution.
	4. Professional motivation and satisfaction	Professional motivation and satisfaction of staff and executives, for the work they perform within the organization, the results of their efforts, and the recognition they receive.
	5. Performance and learning capacity	Willingness of staff and executives to assimilate changes, new learning environments, new technologies, and new objectives and needs of the institution, which are materialized in their professional performance.
Structural capital	6. Quality of banking processes	The capacity of an organization to execute processes with the required quality to meet demands
	7. Quality and diversification of banking products and services	Customer perception in relation to the quality and diversity of products offered.
	8. Organizational culture	Set of values, standards, attitudes, and behaviors that distinguish an institution, and are shared among members
	9. Utilization of information technologies to implement processes and technological investments	Utilization of this technology for information and knowledge management, which improves the efficacy and efficiency of banking processes.
	10. Institutional image	Third-party perception of organizational behavior
	11. Reliability and banking secrecy	Skills, values, and conducts of banking personnel to handle users' and third-party information.
	12. Innovation	Capacity of introducing R+D+i in the organization
	13. Comprehensive risk management	Conception and organizational logistics of control, and the prevention of money laundry, and financial support to terrorism.
Relational capital	14. Relations with business and financial institutions	Organizational skills to foster strategic alliances
	15. Collaboration with public institutions	Organizational skills to foster alliances with public institutions
	16. Relationship with customers	Capacity of staff to attend to customers as a way to generate satisfaction and fidelity, through knowledge of customer characteristics, their needs, and expectations.
	17. Relationship with the media	Organizational capacity of publicizing the social contribution of the organization at the local, territorial, and national levels.
Social capital	18. Social corporate responsibility	Organizational capacity of ethical and responsible attitude toward interest groups
	19. Financial education and inclusion	Organizational skill to offer access and use of financial services, based on their knowledge

Source: Self-made, based on the results attained

In a second moment, used to define the indicators that measure each variable identified, the researchers determined 58 indicators, of which 30 were quantitative, and 28 qualitative, These indicators were reviewed by 7 experts with the following characteristics: 100% are executives from the commercial banks in Camaguey, with an average experience of 28 years. The results are shown in Tables 1 to 4.

Table1. Human capital indicators evaluated by the bank

No.	Classified	indicators (≥ 75%)
1	Level of commitment, identification, and feeling of belonging of banking staff	100%
2	Average experience of banking staff	100%
3	Percentage of workers with relevant experience	100%
4	Percentage of workers with university education	100%
5	Percentage of workers with scientific categories	71%
6	Percentage of workers with specialized training	100%
7	Number of average years in the profession in the same area of work	100%
8	Level of performance recognition of top executives of the institution, by the staff	85%
9	Level of staff integration to conduct team activities	100%
10	Level of effectiveness of institutional incentives for innovation of banking processes	100%
11	Level of staff satisfaction with professional goal accomplishment	85%
12	Level of staff satisfaction with the conditions of the organization to perform their functions	100%
13	Level of staff satisfaction with institutional recognitions received for their labor in the institution	100%
14	Level of staff satisfaction with the effectiveness of institutional communication between authorities and staff	100%
15	Level of staff participation in the implementation of institutional policies, strategies, and decisions of the bank	85%
16	Level of staff satisfaction with the work they perform	100%
17	Level of staff and executive willingness to assimilate changes in the new environment commercial bank is developed	100%
18	Capture index	100%
19	Collocation index	100%

Source: Self-made, based on the results attained

As observed in Table 1, indicator 5 does not qualify. Though training is a relevant activity, more significance is given to experience and training within the same sector.

Table 2 shows that though innovation is determining for intellectual capital management, the results introduced from innovation and R+D+i projects are not considered, because it is managed at the central level.

Table 2. Structural capital indicators evaluated by the banking system

No.	Indicator	Classified (≥ 75%)
20	Level of staff satisfaction with the procedures and technical platforms that back up banking processes	100%
21	Level of customer satisfaction with the quality of banking systems	100%
22	Number of banking services and products offered	100%
23	Weighted mean of products consumed and services offered	85%
24	Quality and variety of products and services offered	100%
25	Level of institutional definition and knowledge of values, standards, and types of behaviors inside the organization.	100%
26	Level of compliance with values, standards, and behaviors defined by the institution on the part of staff and executives.	100%
27	Level of effectiveness in the utilization of IT by staff and executives	100%
28	Utilization of electronic services by customers	100%
29	Number of electronic services acquired by customers	100%
30	Level of correspondence of technological capacities of the institution with the required needs for successful banking processes	100%
31	Level of institutional repute	100%
32	Level of customer and third-party reliability on the banking institution	100%
33	Level of compliance with banking secrecy	100%
34	R+D+i expenditure	100%
35	R+D+i personnel	100%
36	R+D+i projects	0%
37	Innovation results introduced	0%
38	Index of training in money laundry and financing terrorism [(Number of trained personnel/total personnel)*100]	100%
39	Staff rotation in key positions	100%
40	Level of compliance with control manuals and procedures, and risk prevention	85%
41	Violations related to lack of compliance with control manuals and risk prevention	100%

Source: Self-made, based on the results attained

According to Table 3, there is consensus on all the indicators proposed; the relationship with groups of interest is thought of as very important.

Table 3 Indicators of relational capital evaluated by the banking system

No.	Indicator	Classified (≥ 75%)
42	Number of collaboration agreements and accords with business and financial institutions	100%
43	Index of collaboration actions performed	100%
44	Level of collaboration with business and financial institutions	100%
45	Number of collaboration agreements and accords with public business and financial institutions	85%
46	Index of collaboration actions performed	100%
47	Level of collaboration with public institutions	100%
48	Average years of building up customer-bank relationship	100%
49	Level of client satisfaction with the services offered	100%
50	Number of complaints made by costumers	100%
51	Number of media-publicized actions taken in the period	100%
52	Level of publicizing actions taken by the banking system	100%

Source: Self-made, based on the results attained

Regarding indicator 58, the experts say that Camaguey is a territory with vast inhabited areas. Therefore, they suggest that being a key indicator of financial inclusion, it can be changed to index of representativeness in the municipalities, through the calculation of Quantity in municipalities with branches/Number of total municipalities*100 (see Table 4 and Chart 2).

Table4. Social capital indicators evaluated by the banking system

No.	Indicator	Classified ($\geq 75\%$)
53	Level of social responsibility of the banking institution	100%
54	Number of electronic banking customers	100%
55	Index of customers with magnetic stripe transaction cards	100%
56	Access index	100%
57	Credit granted to individuals	100%
58	Number of branches per km ²	57%

Source: Self-made, based on the results attained

Chart 2 shows 55 indicators finally defined by variable with measurement instruments, since they have a frequency $\geq 75\%$, according to SPSS (Version 25.0).

Chart 2. Proposal of indicators of intellectual capital management in Cuban commercial banking

Variable	No	Indicadores	Tipo de indicador	Instrumento de medición	
Componente: capital humano					
Sentido de pertenencia y compromiso	1	Nivel de compromiso, identificación y sentido de pertenencia del personal bancario	Cualitativo	Encuesta a personal bancario	
	2	Antigüedad promedio del personal bancario	Cuantitativo	Análisis documental	
	3	Porcentaje de trabajadores con antigüedad relevante	Cuantitativo	Análisis documental	
Formación y experiencia del personal	4	Porcentaje de trabajadores con educación universitaria	Cuantitativo	Análisis documental	
	5	Porcentaje de trabajadores con capacitación especializada	Cuantitativo	Análisis documental	
	6	Número de años promedio de ejercicio profesional en el área en que desempeña sus funciones	Cuantitativo	Análisis documental	
Liderazgo	7	Nivel de reconocimiento del desempeño de los máximos representantes de la institución por los trabajadores	Cualitativo	Encuesta a personal bancario	
	8	Nivel de integración de los trabajadores para la realización de actividades en equipos	Cualitativo	Encuesta a personal bancario	
	9	Nivel de efectividad de los incentivos institucionales para la innovación de los procesos bancarios	Cualitativo	Encuesta a personal bancario	
Motivación y satisfacción profesional	10	Nivel de satisfacción de los trabajadores con el cumplimiento de sus metas profesionales	Cualitativo	Encuesta a personal bancario	

	11	Nivel de satisfacción de los trabajadores con las condiciones de la organización para el desempeño de sus funciones	Cualitativo	Encuesta a personal bancario	
	12	Nivel de satisfacción de los trabajadores con los reconocimientos institucionales que reciben por su labor en la institución	Cualitativo	Encuesta a personal bancario	
	13	Nivel de satisfacción de los trabajadores con la efectividad de la comunicación institucional con las autoridades y entre los trabajadores	Cualitativo	Encuesta a personal bancario	
	14	Nivel de participación de los trabajadores en las políticas, estrategias y decisiones institucionales de la banca	Cualitativo	Encuesta a personal bancario	
	15	Grado de satisfacción del personal bancario con la labor que realiza	Cualitativo	Encuesta a personal bancario	
Desempeño y capacidad de aprendizaje	16	Grado de disposición de trabajadores y directivos de asimilar los cambios en los nuevos entornos en que se desarrolla la banca comercial	Cualitativo	Encuesta a personal bancario	
	17	Índice de la captación	Cuantitativo	Análisis documental	
	18	Índice de la colocación	Cuantitativo	Análisis documental	
Componente: capital estructural					
Calidad de los procesos bancarios	19	Nivel de satisfacción de los trabajadores con los procedimientos y plataformas tecnológicas que soportan los procesos bancarios	Cualitativo	Encuesta a personal bancario	
	20	Nivel de satisfacción de los usuarios por la calidad de los procesos bancarios	Cualitativo	Encuesta a usuarios	
Calidad y diversificación de los productos y servicios bancarios	21	Cantidad de servicios y productos bancarios que se ofertan	Cuantitativo	Análisis documental	
	22	Media ponderada de consumo de productos y servicios ofertados	Cuantitativo	Análisis documental	
	23	Calidad y variedad de los productos y servicios ofertados	Cualitativo	Encuesta a usuarios	
Cultura organizacional	24	Grado de definición institucional y conocimiento de los valores, normas y formas de actuación en la organización	Cualitativo	Encuesta a personal bancario	
	25	Grado de cumplimiento por parte de las autoridades y los trabajadores de los valores, normas y formas de actuación definidos por la institución	Cualitativo	Encuesta a personal bancario Encuesta a usuarios	
Informatización de los procesos e inversiones tecnológicas	26	Grado de efectividad en la utilización de las TIC por los trabajadores y directivos	Cualitativo	Encuesta a personal bancario Encuesta a usuarios	
	27	Utilización de los servicios electrónicos por los clientes	Cualitativo	Encuesta a usuarios	
	28	Número de servicios electrónicos adquiridos por los clientes	Cuantitativo	Revisión documental	
	29	Grado de correspondencia de las capacidades	Cualitativo	Encuesta a usuarios	

		tecnológicas de la Institución con las necesidades requeridas para el desarrollo exitoso de los procesos bancarios		Encuesta a personal bancario	
Imagen Institucional	30	Grado de reputación institucional	Cualitativo	Encuesta a personal bancario Encuesta a usuarios	
Confiabilidad y secreto bancario	31	Grado de confiabilidad de los usuarios y terceros en la institución bancaria	Cualitativo	Encuesta a autoridades Encuesta a usuarios	
	32	Grado de cumplimiento del secreto bancario	Cualitativo	Encuesta a personal bancario	
Innovación	33	Gasto en I + D + i	Cuantitativo	Análisis documental	
	34	Personal en I + D + i	Cuantitativo	Análisis documental	
Administración integral de riesgo	35	Índice de capacitación en prevención y lavado de dinero y financiamiento al terrorismo [(Cantidad de personal capacitado / total de personal) * 100]	Cuantitativo	Análisis documental	
	36	Rotaciones de los trabajadores en los puestos de trabajos claves.	Cuantitativo	Análisis Documental	
	37	Grado de cumplimiento de manuales y procedimientos de control y prevención de riesgos	Cualitativo	Encuesta a personal bancario	
	38	Violaciones detectadas en el cumplimiento de los manuales de control y prevención de riesgos	Cuantitativo	Análisis documental	
Componente: capital relacional					
Relaciones con instituciones empresariales y financieras	39	Cantidad de convenios y acuerdos de colaboración con instituciones empresariales y financieras	Cuantitativo	Análisis documental	
	40	Índice de acciones de colaboración ejecutadas	Cuantitativo	Análisis documental	
	41	Grado de colaboración con instituciones empresariales y financieras	Cualitativo	Encuesta a personal bancario Encuesta a colaboradores de instituciones empresariales y financieras	
Colaboración con instituciones públicas	42	Cantidad de convenios y acuerdos de colaboración con instituciones públicas	Cuantitativo	Análisis documental	
	43	Índice de acciones de colaboración ejecutadas	Cuantitativo	Análisis documental	
	44	Grado de colaboración con instituciones públicas	Cualitativo	Encuesta a colaboradores públicos y a personal bancario	
Relaciones con clientes	45	Años promedio de fidelización del cliente	Cuantitativo	Análisis documental	
	46	Grado de satisfacción del cliente con los servicios brindados	Cualitativo	Encuesta a usuarios	
	47	Cantidad de quejas recibidas de los usuarios	Cuantitativo	Análisis documental	
Relaciones con	48	Cantidad de acciones divulgación realizadas en	Cuantitativo	Análisis documental	

medios de comunicación		el período, a través de medios de comunicación			
	49	Grado de divulgación de la actividad bancaria	Cualitativo	Encuesta a personal bancario, usuarios y autoridades	
Componente: capital social					
Responsabilidad social corporativa	50	Grado de responsabilidad social de la institución bancaria	Cualitativo	Encuesta a autoridades, personal bancario, colaboradores, usuarios	
Inclusión y educación financiera	51	Cantidad de usuarios de la banca móvil	Cuantitativo	Análisis documental	
	52	Índice de usuarios con tarjetas magnéticas	Cuantitativo	Análisis documental	
	53	Índice de acceso	Cuantitativo	Análisis documental	
	54	Cantidad de créditos a personas naturales	Cuantitativo	Análisis documental	
	55	Índice de representatividad en los municipios (cantidad de municipios con sucursales / cantidad total de municipios * 100)	Cuantitativo	Análisis documental	

Source: Self-made, based on the results attained

CONCLUSIONS

The utilization of the logical-methodological approach facilitated the determination of indicators to calculate intellectual capital management in an ordered and systematic manner.

Of a total of 58 indicators identified by researchers, 55 were corroborated by expert judgment. The structural capital stood out as having the largest amount of indicators, in keeping with the current commercial banking trends, in terms of quality and diversification of processes and products, innovation, and inclusion of IT in all processes.

Although human capital is fundamental in intellectual capital management, this results indicate the present need to recognize the role of structural capital has in this sector, as a way to implement success factors in banking institutions.

REFERENCES

- Almenares, D. (2018). Analizan el trabajo del sistema bancario en 2017. *Revista Banco Central de Cuba*, 21(1), 2-5. Retrieved from <http://www.bc.gob.cu//storage/revistas-bcc/January2019/QXd9T8Krrueu3DrqslZj.pdf>
- Andréu, J. (s.f.). *Las técnicas de análisis de contenido: una revisión actualizada*. Retrieved from <http://public.centrodeestudiosandaluces.es/pdfs/S200103.pdf>
- BCC (2019). *Recursos humanos*. La Habana, Cuba: Banco Central de Cuba. Retrieved from <http://www.bc.gob.cu/recursos-humanos>
- Borras, F y Ruso, F. (2015). *Capital intelectual: Visión crítica y propuestas para organizaciones cubanas*. La Habana, Cuba: Ed. UH.
- Brooking, A. (1996). *Intellectual Capital*. London, England: International Thompson Business Press.
- Bueno, E. (2011). *Modelo Intellectus de medición, gestión e información del capital intelectual*. Retrieved from https://www.academia.edu/7807104/Modelo_Intellectus_Medici%C3%B3n_y_Gesti%C3%B3n_del_Capital_Intelectual
- Camisón, C., Palacios, D. y Devece, C. (2000). *Un modelo para la medición del capital intelectual en la empresa: el modelo NOVA*. Ponencia presentada en X Congreso Nacional ACEDE. Oviedo, España.
- Domínguez, A. M. (2016). *El sistema bancario cubano por dentro. Una banca en constante perfeccionamiento y con miras al futuro*. Retrieved from <https://www.bcc.com/trabajos12/banca/banca.shtml>
- Dontknow. (2019). *¿Qué es un experto?* Retrieved from <https://www.dontknow.net/informacion/que-es-experto>

- Edvinsson, L. y Malone, O. (2003). *El capital intelectual: cómo identificar y calcular el valor de los recursos intangibles de su empresa*. (2da Ed.). Madrid, España: Gestión 2000.
- European Commission. (2006). *Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs*. Retrieved from <https://op.europa.eu/en/publication-detail/-/publication/60cbf27c-5552-429f-a077-44135a97cc27/language-en>
- Ficco, C. R., García, G. A. y Valenzuela, J. L. (2017). Información sobre capital intelectual e informes de sostenibilidad. Un estudio empírico en el mercado de capitales argentino. *Revista Visión Contable*, 16(2), 50-72. Retrieved from <https://publicaciones.unaula.edu.co/index.php/VisionContable/article/download/473/529/>
- Fuentes, O. (2018). Banco Popular de Ahorro, a 35 años de su constitución. *Revista Banco Central de Cuba*, 21(2), 2-7.
- Huh, J., Delorme, D. E. & Reid, L. N. (2006). Perceived third-person effects and consumer attitudes on preventing and banning DTC advertising. *Journal of Consumer Affairs*, 40(1), 90-116. Retrieved from <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1745-6606.2006.00047.x>
- Kaplan, R. S. & Norton, D. (1992). The Balanced Scorecard-Measures that Drive Performance. *Harvard Business Review*, 70(1), 71-79. Retrieved from <https://hbr.org/1992/01/the-balanced-scorecard-measures-that-drive-performance-2>
- Lage, C. (2018). La ciencia al servicio de la política económica: un recuento desde el BCC. *Revista Banco Central de Cuba*, 21(2), 8-12.
- Lage, C. y Acosta, C. M. (2018). Mercado interbancario en Cuba. Primeros pasos. *Revista Banco Central de Cuba*, 21(1), 10-16.
- Nevado, D. y López, V. (2002). *El capital intelectual: valoración y medición*. Madrid, España: Prentice-Hall.
- Oliveira, L., Rodrigues, L. & Craig, R. (2010). Intellectual capital reporting in Sustainability Reports. *Journal of Intellectual Capital*, 11(4), 575-594. Retrieved from

https://www.researchgate.net/publication/235293491_Intellectual_capital_reportin_g_in_sustainability_reports

Partido Comunista de Cuba, PCC (2017). *Documentos del 7mo. Congreso del Partido aprobados por el III Pleno del Comité Central del PCC y respaldados por la Asamblea Nacional del Poder Popular*. Retrieved from <http://www.granma.cu/file/pdf/gaceta/%C3%BAltimo%20PDF%2032.pdf>

Pedrini, M. (2007). Human Capital Convergences in Intellectual Capital and Sustainability Reports. *Journal of Intellectual Capital*, 8(2), 346-366. Retrieved from https://www.researchgate.net/publication/240260221_Human_Capital_Converge_nces_in_Intellectual_Capital_and_Sustainability_Reports

Rodríguez, H. (2015). *Indicadores de gestión presupuestaria para universidades cubanas* (tesis doctoral). Universidad de Camagüey Ignacio Agramonte Loynaz, Camagüey, Cuba.

Sveiby, K. (1997). *The New Organizational Wealth. Managing and Measuring Knowledge-Based Assets*. San Francisco, Estados Unidos: Berrett-Koehler Publishers.

Conflicts of interest and conflict of ethics statement

We, the authors, declare that this manuscript is original, and it has not been submitted to another journal. The authors are responsible for the contents of this article, adding that it contains no plagiarism, conflicts of interest or conflicts of ethics.

Author contribution

Anisabel Regla Gálvez Fernández: Redaction of the manuscript, theoretical foundations, design of methodology to determine the indicators of intellectual capital management in Cuban commercial banking, measurements, analysis of results

Francisco Borrás Atienzar: Design of the article, theoretical and methodological design, content review.

José Ramón Abadía Lugo: Statistics and computerized work.