R E V I S T A | J O U R N A L | R E V I S T A
Globalización, Competitividad y Gobernabilidad | Globalization, Competitiveness & Governability | Globalização, Competitividade e Governabilidade

GCG

The Journal *of* Globalization, Competitiveness, and Governability

Revista cuatrimestral | Four-monthly Journal | Revista Cuatrimestral

Vol. 19 Num. 2
MAYO-AGOSTO 2025
ISSN: 1988-7116

https://gcgjournal.georgetown.edu

GCG
The Journal *of* Globalization, Competitiveness, and Governability

LETTER FROM THE EDITOR IN CHIEF

Editor in Chief

In the first article, Ligia Isabel Beltrán-Urvina, Luis Clemente Calderón-Ayala, Edwin Vinicio Guerra-Miño, Byron Fabricio Acosta-Andino, and Javier Alejandro Valenzuela Aguilar (Universidad Técnica del Norte, Ecuador) investigate the relationship between competitiveness and cost leadership, differentiation, and focus strategies in textile companies. The authors identify significant impacts of differentiation strategy and focus on competitiveness. Cluster analysis revealed that highly competitive companies are mostly microenterprises with 1 to 10 years in the market, emphasizing innovation, design, and value propositions. They conclude that adapting textile products to specific market segments improves customer preference, and they recommend that entrepreneurs strengthen these strategies.

Perception of innovation and corporate social responsibility (CSR) are important for the strategic management of companies. In this regard, Pedro Severino-González (Universidad Católica del Maule, Chile), Jessica Lalangui-Ramírez, Luis Cedillo-Chalaco, and María José Pérez-Espinoza (Universidad Metropolitana, Ecuador) analyze the influence of perceptions of innovation on CSR expectations among millennial consumers of financial services in Ecuador. According to the authors, the results demonstrate that perceptions of innovations in financial institutions have a slight influence on perceptions of CSR among millennial consumers in Ecuador's financial sector. They conclude that the findings can be used to design strategies that contribute to creating value for stakeholders.

The objective of the next article is to analyze the determinants of implementing innovation actions with environmental impact in Chilean companies. For this purpose, Francisco Gálvez-Gamboa, Andrés Valenzuela-Keller (Universidad Católica del Maule, Chile), and Erik Muñoz-Henríquez (Universidad de Talca, Chile) use a logistic regression model based on data from the National Innovation Survey with a sample of 1,143 companies. The results show that innovation in processes and products determines innovation practices with environmental impact. The authors conclude that social innovation, networks with universities, quality improvement, cost reduction, and corporate incorporation are determinants of innovation with environmental impact.

Larissa dos Santos Pontes, Vinícius Costa da Silva Zonatto, Anderson Betti Frare, and Camila da Silva Gonçalves Werner (Universidade Federal de Santa Maria - UFSM, Brazil) aim to evaluate the influence of work engagement on the relationship between psychological capital and managerial performance of 166 controllers working in the budgetary context of various industrial organizations in Brazil. The results show that psychological capital, through the psychological capacities of self-efficacy, hope, optimism, and resilience, acts as an enhancer of work engagement, positively reflected in the vigor, dedication, and absorption of controllers in their work. The authors conclude that organizations that promote psychological capital and work engagement among controllers are more likely to enhance managerial performance.

Paulo Vitor Souza de Souza (Universidade Federal do Paraná, Brazil), Gabriela Mel dos Santos Rêgo (Universidade Federal do Pará, Brazil), and Priscila Pontes Nunes (Universidade Federal de Pernambuco, Brazil) investigate conditional conservatism

in the regulatory and corporate accounting statements of Brazilian electrification cooperatives, using ANEEL data (2011–2022) from 36 cooperatives. The results showed some significant differences, with the regulatory standard presenting a more optimistic perspective, while the corporate standard was more conservative. The quality of accounting information varies according to the accounting standard, impacting perceptions of conservatism. According to the authors, the findings are useful for regulators and cooperativists, enhancing the understanding of the quality of accounting information in electrification cooperatives.

In the final article, Marco Amaral (Polytechnic Institute of Cávado and Ave, Portugal) seeks to analyze the effect of intangible resources, namely the efficiency of intellectual capital (IC), on the financial performance of the seven largest banking groups operating in Portugal, during the period from 2012 to 2023. The objective is to evaluate whether factors such as the Value Added Intellectual Coefficient (VAIC™), measured by the efficiency of human capital, structural capital, and employed capital, influence banking performance, measured by return on equity (RoE). The results show a significant positive relationship between the VAIC™ coefficient and RoE, as well as a significant positive association between performance and the variables of human capital efficiency and employed capital efficiency. According to the author, this suggests that RoE captures the intellectual value-added coefficient of both human capital and employed capital.

I would once again like to thank all those who have made this journal possible: members of the Advisory Board, the Editorial Board, Editors and Associate Editors, assessors, authors and, last but not least, the readers.

Editor in Chief

GCG
The Journal *of* Globalization, Competitiveness, and Governability

CARTA DEL EDITOR IN CHIEF

Editor in Chief

En el primer artículo Ligia Isabel Beltrán-Urvina, Luis Clemente Calderón-Ayala, Edwin Vinicio Guerra-Miño, Byron Fabricio Acosta-Andino y Javier Alejandro Valenzuela Aguilar (Universidad Técnica del Norte, Ecuador) investigan el vínculo entre la competitividad y el liderazgo en costos, la diferenciación y las estrategias de enfoque en las empresas textiles. Los autores identifican impactos significativos de la estrategia de diferenciación y el enfoque en la competitividad. El análisis de conglomerados mostró que las empresas altamente competitivas son en su mayoría microempresas con 1 a 10 años en el mercado, que enfatizan la innovación, el diseño y las propuestas de valor. Concluyen que la adaptación de los productos textiles a segmentos específicos del mercado mejora la preferencia del cliente, por lo que se recomienda a los empresarios reforzar estas estrategias.

La percepción sobre la innovación y responsabilidad social corporativa (RSC) son importantes para la dirección estratégica de las empresas. En este sentido, Pedro Severino-González (Universidad Católica del Maule, Chile), Jessica Lalangui-Ramírez, Luis Cedillo-Chalaco y María José Pérez-Espinoza (Universidad Metropolitana, Ecuador) analizan la influencia que tiene la percepción sobre la innovación en las expectativas de la RSC en consumidores *millennials* de los servicios financieros de Ecuador. Para los autores, los resultados demuestran que las percepciones sobre las innovaciones en las entidades financieras influyen levemente en la percepción sobre la RSC en consumidores millennials en el sector financiero de Ecuador. Y concluyen que los hallazgos se pueden usar para el diseño de estrategias que contribuyan a la creación de valor para los grupos de interés.

El objetivo del siguiente artículo es analizar los determinantes de la implementación de acciones de innovación con impacto medioambiental en empresas chilenas. Para ello, Francisco Gálvez-Gamboa, Andrés Valenzuela-Keller (Universidad Católica del Maule, Chile) y Erik Muñoz-Henríquez (Universidad de Talca, Chile) utilizan un modelo de regresión logística a partir de datos de la Encuesta Nacional de Innovación con una muestra de 1.143 empresas. Los resultados muestran que innovar en procesos y productos determina las prácticas de innovación con impacto ambiental. Los autores concluyen que, la innovación social, las redes con universidades, la mejora de calidad, la reducción de costos y la incorporación de las empresas son determinantes de la innovación con impacto ambiental.

Larissa dos Santos Pontes, Vinícius Costa da Silva Zonatto, Anderson Betti Frare y Camila da Silva Gonçalves Werner (Universidade Federal de Santa Maria - UFSM, Brasil) tratan de evaluar la influencia del compromiso laboral en la relación entre el capital psicológico y el desempeño gerencial de 166 *controllers* que trabajan en el contexto presupuestario de diferentes organizaciones industriales de Brasil. Los resultados muestran que el capital psicológico, a través de las capacidades psicológicas de autoeficacia, esperanza, optimismo y resiliencia, actúa como elemento potenciador del compromiso laboral, reflejándose positivamente en el vigor, dedicación y absorción de los *controllers* en su trabajo. Los autores concluyen que las organizaciones que promueven el capital psicológico de los *controllers* y su compromiso laboral tienen más probabilidades de aumentar el desempeño gerencial.

Paulo Vitor Souza de Souza (Universidade Federal do Paraná, Brasil), Gabriela Mel dos Santos Rêgo (Universidade Federal do Pará, Brasil) y Priscila Pontes Nunes

(Universidade Federal de Pernambuco, Brasil) investigan el conservadurismo condicional en los estados contables regulatorios y societarios de cooperativas de electrificación brasileñas, utilizando datos de ANEEL (2011-2022) de 36 cooperativas. Los resultados mostraron algunas diferencias significativas, presentando el estándar regulatorio una perspectiva más optimista, mientras que el estándar societario fue más conservador. La calidad de la información contable varía según el estándar contable, lo que impacta la percepción del conservadurismo. Según los autores las conclusiones son útiles para los reguladores y los cooperativistas, ampliando la comprensión de la calidad de la información contable en cooperativas de electrificación.

En el último artículo Marco Amaral (Polytechnic Institute of Cávado and Ave, Portugal) trata de analizar el efecto de los recursos intangibles, es decir, la eficiencia del capital intelectual (CI), en el rendimiento financiero de los siete mayores grupos bancarios que operan en Portugal, para el período 2012 a 2023. El objetivo es evaluar si factores como el Coeficiente de Valor Añadido Intelectual (VAIC™), medido por la eficiencia del capital humano, el capital estructural y el capital empleado, influyen en el rendimiento bancario, medido por la rentabilidad sobre recursos propios (RoE). Los resultados muestran una relación positiva significativa entre el coeficiente de VAIC™ y el RoE; una asociación positiva significativa entre el rendimiento y las variables de eficiencia del capital humano y eficiencia del capital empleado, lo que para el autor sugiere que RoE captura el coeficiente de valor añadido intelectual tanto del capital humano como del capital empleado.

De nuevo queremos agradecer a todos aquellos que hacen posible el buen funcionamiento de la revista: miembros del Consejo Consultivo, Consejo Editorial, Editores y Editores Asociados de área, evaluadores, autores, y sobre todo de los lectores.

Editor in Chief

GCG
The Journal *of* Globalization, Competitiveness, and Governability

CARTA EDITOR-CHEFE

Editor Chefe

No primeiro artigo, Ligia Isabel Beltrán-Urvina, Luis Clemente Calderón-Ayala, Edwin Vinicio Guerra-Miño, Byron Fabricio Acosta-Andino e Javier Alejandro Valenzuela Aguilar (Universidad Técnica del Norte, Equador) investigam a relação entre competitividade e liderança em custos, diferenciação e estratégias de foco nas empresas têxteis. Os autores identificam impactos significativos da estratégia de diferenciação e do foco na competitividade. A análise de clusters revelou que as empresas altamente competitivas são, em sua maioria, microempresas com 1 a 10 anos de mercado, que enfatizam a inovação, o design e as propostas de valor. Eles concluem que a adaptação dos produtos têxteis a segmentos específicos do mercado melhora a preferência do cliente e recomendam que os empresários reforcem essas estratégias.

A percepção sobre a inovação e a responsabilidade social corporativa (RSC) são importantes para a gestão estratégica das empresas. Nesse sentido, Pedro Severino-González (Universidad Católica del Maule, Chile), Jessica Lalangui-Ramírez, Luis Cedillo-Chalaco e María José Pérez-Espinoza (Universidad Metropolitana, Equador) analisam a influência da percepção sobre a inovação nas expectativas de RSC dos consumidores millennials dos serviços financeiros do Equador. Para os autores, os resultados demonstram que as percepções sobre inovações nas instituições financeiras influenciam levemente as percepções sobre a RSC dos consumidores millennials no setor financeiro equatoriano. Eles concluem que os achados podem ser usados no desenvolvimento de estratégias que contribuam para a criação de valor para os grupos de interesse.

O objetivo do próximo artigo é analisar os determinantes da implementação de ações de inovação com impacto ambiental em empresas chilenas. Para isso, Francisco Gálvez-Gamboa, Andrés Valenzuela-Keller (Universidad Católica del Maule, Chile) e Erik Muñoz-Henríquez (Universidad de Talca, Chile) utilizam um modelo de regressão logística com base em dados da Pesquisa Nacional de Inovação, com uma amostra de 1.143 empresas. Os resultados mostram que a inovação em processos e produtos determina as práticas de inovação com impacto ambiental. Os autores concluem que a inovação social, as redes com universidades, a melhoria da qualidade, a redução de custos e a incorporação das empresas são determinantes para a inovação com impacto ambiental.

Larissa dos Santos Pontes, Vinícius Costa da Silva Zonatto, Anderson Betti Frare e Camila da Silva Gonçalves Werner (Universidade Federal de Santa Maria - UFSM, Brasil) buscam avaliar a influência do engajamento no trabalho na relação entre o capital psicológico e o desempenho gerencial de 166 *controllers* que atuam no contexto orçamentário de diferentes organizações industriais no Brasil. Os resultados mostram que o capital psicológico, por meio das capacidades psicológicas de autoeficácia, esperança, otimismo e resiliência, atua como elemento potenciador do engajamento no trabalho, refletindo-se positivamente no vigor, dedicação e absorção dos *controllers* em suas atividades. Os autores concluem que as organizações que promovem o capital psicológico dos *controllers* e o engajamento no trabalho têm mais chances de melhorar o desempenho gerencial.

Paulo Vitor Souza de Souza (Universidade Federal do Paraná, Brasil), Gabriela Mel dos Santos Rêgo (Universidade Federal do Pará, Brasil) e Priscila Pontes Nunes

(Universidade Federal de Pernambuco, Brasil) investigam o conservadorismo condicional nos demonstrativos contábeis regulatórios e societários de cooperativas de eletrificação brasileiras, utilizando dados da ANEEL (2011–2022) de 36 cooperativas. Os resultados mostraram algumas diferenças significativas, com o padrão regulatório apresentando uma perspectiva mais otimista, enquanto o padrão societário foi mais conservador. A qualidade da informação contábil varia conforme o padrão contábil, impactando a percepção sobre o conservadorismo. Segundo os autores, as conclusões são úteis para reguladores e cooperados, ampliando a compreensão sobre a qualidade da informação contábil em cooperativas de eletrificação.

No último artigo, Marco Amaral (Instituto Politécnico do Cávado e do Ave, Portugal) busca analisar o efeito dos recursos intangíveis, ou seja, a eficiência do capital intelectual (CI), no desempenho financeiro dos sete maiores grupos bancários que operam em Portugal, no período de 2012 a 2023. O objetivo é avaliar se fatores como o Coeficiente de Valor Adicionado Intelectual (VAIC™), medido pela eficiência do capital humano, capital estrutural e capital empregado, influenciam o desempenho bancário, medido pelo retorno sobre o patrimônio líquido (RoE). Os resultados mostram uma relação positiva significativa entre o coeficiente VAIC™ e o RoE, bem como uma associação positiva significativa entre o desempenho e as variáveis de eficiência do capital humano e eficiência do capital empregado. Para os autor, isso sugere que o RoE captura o coeficiente de valor adicionado intelectual tanto do capital humano quanto do capital empregado.

Queremos, mais uma vez, agradecer a todos os que tornam possível o bom funcionamento da revista: aos membros do Conselho Consultivo, ao Conselho Editorial, Editores e Editores Associados da área, avaliadores, autores e, principalmente, aos leitores.

Editor
Chefe

GCG
The Journal *of* Globalization, Competitiveness, and Governability

SUMARIO | SUMMARY | SUMÁRIO

GCG

The Journal *of* Globalization, Competitiveness, and Governability

STAFF

CONSEJO CONSULTIVO / ADVISORY BOARD / CONSELHO CONSULTIVO

CONSEJO EDITORIAL / EDITORIAL BOARD / CONSELHO EDITORIAL

6. RESPONSABILIDAD SOCIAL CORPORATIVA: INNOVACIÓN SOCIAL Y CREACIÓN DE EMPRESAS / CORPORATE SOCIAL RESPONSIBILITY: RESPONSIBLE ENTREPRENEURSHIP AND SOCIAL INNOVATION / RESPONSABILIDADE SOCIAL CORPORATIVA: INOVAÇÃO SOCIAL E CRIAÇÃO DE EMPRESAS

GCG
The Journal *of* Globalization, Competitiveness, and Governability

SELECCIÓN | PROCEDURE | PROCEDIMENTO

INSTRUCCIONES PARA AUTORES Y PROCEDIMIENTO DE SELECCIÓN

La revista esta dirigida a quienes tienen la responsabilidad de gobernar empresas o dirigir organismos e instituciones públicas o privadas para proporcionarles ideas originales y propuestas innovadoras que contribuyan a la mejora de la competitividad y gobernabilidad de las empresas y los países iberoamericanos en un mundo globalizado. La revista también aspira a servir a la comunidad universitaria y científica de la región como publicación de referencia sobre nuevas ideas. Para ello facilitará la comunicación entre las distintas comunidades universitarias iberoamericanas, las acercará y las articulará alrededor del estudio de áreas concretas, debidamente analizadas mediante aportaciones teóricas, aplicaciones prácticas y estudio de casos reales.

Miembros del mundo universitario, empresarial e institucional podrán remitir sus trabajos originales, no postulados simultáneamente en otras publicaciones, para que sean evaluados y eventualmente publicados en la revista. Los autores que aspiren a la publicación de sus artículos deberán someterse a las siguientes normas:

- Los artículos deben ser inéditos.

- Los trabajos podrán escribirse en español, portugués o inglés. Su extensión será entre 4500 y 5000 palabras. Sin embargo, se admitirá cierta flexibilidad atendiendo a la naturaleza del tema abordado.

- Cada artículo deberá ir precedido de un resumen ejecutivo de no más de cien palabras en el idioma en que ha sido escrito originalmente. Adicionalmente se incluirá la categoría en las que se sitúa el artículo: una de las seis áreas (6) y perspectiva desde la cual se aborda el tema (Teoría, Aplicación y Casos). Además, se incorporará la clasificación del trabajo conforme a los descriptores utilizados por el Journal of Economic Literature.

- El nombre del autor/es no podrá aparecer en ninguna de las hojas del artículo. Ello facilita el proceso de evaluación, pues los datos se incorporarán en el formulario digital.

- Los originales deben incorporar el título del trabajo. Dichos originales estarán editados electrónicamente en formato "Word" o compatible, y se enviarán por vía electrónica (*gcgjournal.georgetown.edu*). Los autores rellenarán sus datos en la ficha electrónica, especificando el área de estudio. Tan pronto como los autores introduzcan la información completa en el formulario de gestión de artículos, se les enviará acuse de recibo de la recepción de su trabajo.

- Las referencias bibliográficas se incluirán en el texto indicando el nombre del autor, fecha de publicación, letra y página. La letra, a continuación del año, sólo se utilizará en caso de que se citen obras de un autor pertenecientes a un mismo año. Se incluirán, al final del trabajo, las obras citadas en el texto atendiendo a la información requerida en las normas ISO 690/1987 y su equivalente UNE 50-104-94 que establecen los criterios a seguir para la elaboración de referencias bibliográficas:

  Libros: Dornier, P.P.; Ernst, R.; Fendel, M.; Kouvelis, P; (1998), "Global Operations and Logistics: Text and Cases", John Wiley & Son, New Jersey.
  Artículos: Campa, J.M.; Guillen, M. (1999), "The Internalization of Exports: Ownership and

Location-Specific Factors in a Middle-Income Country", Management Science, Vol. 45, Num. 11, pp. 1463-1478
Artículos con DOI's: Cuervo-Cazurra, A.; Un, C. A. (2007).- "Regional economic integration and R&D investment", Research Policy, Vol. 36, Num. 2, pp. 227-246. doi:10.1016/j.respol.2006.11.003

- La revista se reserva la facultad de editar formalmente los artículos, y de separar y recuadrar determinadas porciones del texto particularmente relevantes, aunque respetando siempre el espíritu del original. Los autores tendrán oportunidad de autorizar el formato final de los artículos antes de su publicación.

- Los autores deberán estar en disposición de ceder los beneficios derivados de sus derechos de autor a la revista.

- Corresponde al Editor en Jefe determinar si el artículo es admisible para su publicación. En caso de que así sea, lo enviará al director de área correspondiente, quien iniciará a su vez el proceso de evaluación.

- Cada artículo será sometido a consideración anónima de al menos 2 evaluadores, expertos externos a la entidad editora de la revista y a su consejo de editorial.

- La revista se compromete a responder a los autores con una decisión editorial en un plazo aproximado de tres meses (primera evaluación).

- La lista de evaluadores se hará pública anualmente.

INSTRUCTIONS FOR AUTHORS AND PROCEDURE

The journal is aimed at the people with responsibility for governing companies or managing public or private sectors and institutions. Its goal is to provide such people with original ideas and innovative proposals to help improve the competitiveness and governability of companies and the Ibro-American countries in a globalized world. The journal also aims to serve the region's academic and scientific communities by becoming the publication of reference for new ideas. It will do this by facilitating communication among the various Ibero-American academic communities, bringing them closer together and structuring them around the study of specific areas, duly analyzed by means of theoretical contributions, practical applications, and real case studies.

Original papers may be submitted for evaluation and potential publication in the journal by members of the academic, business and institutional spheres. Authors hoping to publish their articles must adhere to the following rules:

- The articles must be previously unpublished.

- The papers may be written in Spanish, English or Portuguese and must be between 4,500 and

5,000 words long, although this may be subject to a certain degree of flexibility depending on the nature of the subject.

- Each article must be preceded by an abstract of no more than one hundred words in the original language of the article. The category in which the article is ncluded must also be specified: area of knowledge (6) and perspective from which the subject is being addressed (theory, application, case study). You must also state how the work is classified according to the Journal of Economic Literature's descriptors.

- The author's or authors' name(s) may not appear anywhere in the article. This facilitates the evaluation process since the data will be included in the digital form.

- The title of the work must be included in the original. Originals must be presented in digital format – either in Word or in a Word-compatible format – and be sent electronically (*gcgjournal.georgetown.edu*). Authors must fill out their details on the electronic record, specifying the area under study. Authors will receive an acknowledgement of receipt of their work as soon as they have entered all the information in the article management form.

- Bibliographic references must be included in the text, indicating the author's name, date of publication, letter and page. Years must be followed by a letter only when citing works by the same author and from the same year. Works mentioned in he text must be cited at the end of the article as stipulated in the ISO 690/1987 standard and its equivalent Spanish standard UNE 50-104-94, which lay down the criteria for presenting bibliographic references:

> Books: Dornier, P.P.; Ernst, R.; Fendel, M.; Kouvelis, P; (1998), "Global Operations and Logistics: Text and Cases", John Wiley & Son, New Jersey.
> Papers: Campa, J.M.; Guillen, M. (1999), "The Internalization of Exports: Ownership and Location-Specific Factors in a Middle-Income Country", Management Science, Vol. 45, Num. 11, pp. 1463-1478
> Papers with DOI's: Cuervo-Cazurra, A.; Un, C. A. (2007).- "Regional economic integration and R&D investment", Research Policy, Vol. 36, Num. 2, pp. 227-246. doi:10.1016/j.respol.2006.11.003

- The journal reserves the right to formally edit the articles and to separate particularly relevant parts thereof and put them in boxes, always in accordance with the spirit of the original. Authors will be given the chance to authorize the final format of their articles prior to publication.

- Authors must be willing to assign all the benefits of their copyright to the journal.

- Responsibility for deciding whether the article is fit for publication lies with the Editor-in-Chief. If this is the case, the Editor-in-Chief will send it to the relevant area director.

- Each article shall be subject to consideration on an anonymous basis by at least 2 expert assessors not belonging to the magazine's publisher or to its editorial board.

- The journal undertakes to notify authors of an editorial decision within approximately three months (first evaluation).

- The list of referees will be published on an annual basis.

INSTRUÇÕES PARA AUTORES E PROCEDIMENTO DE SELECÇÃO

A revista é dirigida a quem tem a responsabilidade de administrar empresas ou dirigir organismos e instituições públicas ou privadas para lhes proporcionar ideias originais e propostas inovadoras que contribuam para a melhoria da competitividade e governabilidade das empresas e dos países ibero-americanos num mundo globalizado. A revista aspira igualmente a servir a comunidade universitária e científica da região, como publicação de referência sobre novas ideias. Para isso irá facilitar a comunicação entre as diferentes comunidades universitárias ibero-americanas, irá aproximá-las e articulá-las à volta do estudo de áreas concretas, devidamente analisadas através de contribuições teóricas, aplicações práticas e estudo de casos reais.

Membros do mundo universitário, empresarial e institucional poderão enviar trabalhos originais para serem avaliados e eventualmente publicados na revista. Os autores que desejem publicar os seus artigos deverão submeter-se às seguintes normas:

- Os artigos devem ser inéditos.

- Os trabalhos podem ser escritos em espanhol, português ou inglês. A sua extensão deverá ser entre 4500 e 5000 palavras. No entanto, será admitida uma certa flexibilidade, atendendo à natureza do tema abordado.

- Cada artigo deverá ser precedido de um resumo com o máximo de cem palavras na língua em que tenha sido escrito originalmente. Adicionalmente será incluída a categoria na qual se situa o artigo: uma das seis (6) áreas e perspectiva a partir da qual o tema é abordado (Teoria, Aplicação e Casos). Será, além disso, incorporada a classificação do trabalho de acordo com as descrições utilizadas pelo Journal of Economic Literature.

- O nome do(s) autor(es) não poderá aparecer em nenhuma das páginas do artigo. Isso facilita o processo de avaliação, pois os dados serão introduzidos no formulário digital.

- Os originais devem conter o título do trabalho. Estes originais serão editados electronicamente em formato «Word» ou compatível, e serão enviados por via electrónica (*gcgjournal.georgetown.edu*). Os autores preencherão os seus dados na ficha electrónica, especificando a área do estudo. Logo que os autores introduzem a informação completa no formulário de gestão de artigos, é-lhes enviado um aviso de recepção do seu trabalho.

- As referências bibliográficas serão incluídas no texto, indicando o nome do autor, a data da publicação, título e página. A letra, a seguir ao ano, só será utilizada caso sejam citadas obras de um autor pertencentes a um mesmo ano. Serão incluídas, no final do trabalho, as obras citadas no texto, considerando a informação requerida nas normas ISO 690/1987 e equivalente UNE 50-104-94, que estabelecem os critérios a seguir para a elaboração de referências bibliográficas:

  Livros: Dornier, P.P.; Ernst, R.; Fendel, M.; Kouvelis, P; (1998), "Global Operations and Logistics: Text and Cases", John Wiley & Son, New Jersey.
  Artigos: Campa, J.M.; Guillen, M. (1999), "The Internalization of Exports: Ownership and Location-Specific Factors in a Middle-Income Country", Management Science, Vol. 45, Num. 11, pp. 1463-1478

Artigos com DOI (Identificador de Objecto Digital): Cuervo-Cazurra, A.; Un, C. A. (2007).- "Regional economic integration and R&D investment", Research Policy, Vol. 36, Num. 2, pp. 227-246. doi:10.1016/j.respol.2006.11.003

- A revista reserva-se a faculdade de editar formalmente os artigos, e de separar e reenquadrar determinadas porções do texto particularmente relevantes, embora respeitando sempre o espírito do original. Os autores terão oportunidade de autorizar o formato final dos artigos antes da respectiva publicação.

- Os autores deverão estar disponíveis para ceder os benefícios derivados dos seus direitos de autor à revista.

- Incumbe ao Editor Chefe determinar se o artigo é admissível para publicação. Caso assim seja, irá enviá-lo ao director da área correspondente que, por sua vez, iniciará o processo de avaliação.

- Cada artigo será submetido a consideração anónima de pelo menos 2 avaliadores, especialistas exteriores à entidade editora da revista e ao seu conselho editorial.

- A revista compromete-se a responder aos autores com uma decisão editorial num prazo aproximado de três meses (primeira avaliação).

- A lista de avaliadores será tornada pública anualmente.

Enviar los Artículos / Submit articles / Enviar os Artigos:
gcgjournal.georgetown.edu

Consultas / Suggestions / Consultas:
gcgjournal@gmail.com

GCG
The Journal *of* Globalization, Competitiveness, and Governability

INDEXACIÓN | INDEXING | INDEXAÇÃO

INDICIOS DE CALIDAD DE LA REVISTA DE GLOBALIZACIÓN, COMPETITIVIDAD Y GOBERNABILIDAD (GCG)

GCG: Revista de Globalización, Competitividad y Gobernabilidad está indexada y presente en los siguientes catálogos y bases de datos:

- EconLit (American Economic Association)

- *SCOPUS (Elsevier Bibliografhic Databases).* SJR Impact Factor (2015): 0,159 Q3 (posición 177 de 285, *Subject Category: Business, Management and Accounting (miscellaneous); Economics, Econometrics and Finance (miscellaneous) (posición 170 de 269)(julio 2016)*

- DICE (Difusión y Calidad Editorial de las Revistas Españolas de Humanidades, Ciencias Sociales y Jurídicas, CSIC-ANECA). Area Economía. Cumpliendo el 100% de los criterios de calidad auditados

- Directorio, CATÁLOGO e Indice LATINDEX (cumpliendo el 100% de los 33 criterios de calidad)

- RESH (Revistas Españolas de Ciencias Sociales y Humanidades)

- *Google Scholar Metric (2011-2015). Indice H de las Revistas Científicas Españolas (julio 2016). Indice H: 6; Posición 7 de 49 revistas en "Ciencia Política y de la Administración". Posición 24 de 87 revistas en "Economía y Empresa"*

- IN-RECS (Indice de impacto de revistas españolas de ciencias sociales)

- EBSCO Publishing's databases

- ABI/Inform ProQuest

- Ulrich's Periodicals Directory

- ISOC-Ciencias Sociales y Humanidades (CSIC)

- DIALNET

- DOAJ (Directory of Open Access Journals)

- REDIB

GEORGETOWN UNIVERSITY | Latin America Leadership Program

ISSN: 1988-7116

GCG
The Journal *of* Globalization, Competitiveness, and Governability

Competitiveness Analysis of the Textile Sector

AREA: 1
TYPE: Application

Análisis de la competitividad del sector textil
Análise de Competitividade do Setor Têxtil

AUTHORS

Ligia Isabel Beltrán-Urvina[1]
Universidad Técnica del Norte, Ibarra, Ecuador.
libeltran@utn.edu.ec

Luis Clemente Calderón-Ayala
Universidad Técnica del Norte, Ibarra, Ecuador.
lccalderon@utn.edu.ec

Edwin Vinicio Guerra-Miño
Universidad Técnica del Norte, Ibarra, Ecuador.
evguerra@utn.edu.ec

Byron Fabricio Acosta-Andino
Universidad Técnica del Norte, Ibarra, Ecuador.
fernandess.ap@
bfacosta@utn.edu.ec

Javier Alejandro Valenzuela Aguilar
Universidad Técnica del Norte, Ibarra, Ecuador.
javalenzuela@utn.
edu.ec

1. Corresponding author: Facultad de Ciencias Administrativas y Económicas; Universidad Técnica del Norte; Av. 17 de julio 5-21 y Gral. José María Córdova; Ibarra, Ecuador

This study examines the link between competitiveness and cost leadership, differentiation, and focus strategies in textile companies in Antonio Ante. Using a quantitative approach, statistical tests were conducted on 97 clothing establishments, revealing significant impacts of differentiation and focus on competitiveness. Cluster analysis showed that highly competitive companies are mostly micro-enterprises with 1-10 years in the market, emphasizing innovation, design, and value propositions. The findings suggest that adapting textile products to specific market segments enhances customer preference, advising entrepreneurs to reinforce these strategies. This research provides insights for making informed decisions and developing effective strategies.

Este estudio examina el vínculo entre la competitividad y el liderazgo en costos, la diferenciación y las estrategias de enfoque en las empresas textiles de Antonio Ante. Utilizando un enfoque cuantitativo, se realizaron pruebas estadísticas en 97 establecimientos de confección, revelando impactos significativos de la diferenciación y el enfoque en la competitividad. El análisis de conglomerados mostró que las empresas altamente competitivas son en su mayoría microempresas con 1 a 10 años en el mercado, que enfatizan la innovación, el diseño y las propuestas de valor. Los hallazgos sugieren que la adaptación de los productos textiles a segmentos específicos del mercado mejora la preferencia del cliente, por lo que se recomienda a los empresarios reforzar estas estrategias. Esta investigación proporciona información para tomar decisiones informadas y desarrollar estrategias efectivas.

Este estudo examina a ligação entre competitividade e liderança de custos, diferenciação e estratégias de foco em empresas têxteis em Antonio Ante. Usando uma abordagem quantitativa, testes estatísticos foram conduzidos em 97 estabelecimentos de vestuário, revelando impactos significativos de diferenciação e foco na competitividade. A análise de cluster mostrou que empresas altamente competitivas são, em sua maioria, microempresas com 1 a 10 anos no mercado, enfatizando inovação, design e propostas de valor. As descobertas sugerem que adaptar produtos têxteis a segmentos de mercado específicos aumenta a preferência do cliente, aconselhando os empreendedores a reforçar essas estratégias. Esta pesquisa fornece insights para tomar decisões informadas e desenvolver estratégias eficazes.

DOI
10.58416/GCG.2025.V19.N2.01

Received
26.04.2024

Accepted
21.09.2024

GCG
The Journal *of* Globalization, Competitiveness, and Governability

1. Introduction

Small and medium-sized enterprises (SMEs) represent 99% of businesses and nearly 60% of the value added to the business sector. They play a crucial role in the economy by generating employment and contributing to wealth distribution. Additionally, they drive ecological and digital transitions (OECD, 2019; OECD, 2024).

The textile and garment industry is vital for Ecuador's social, productive, and economic development, contributing 7% to the country's GDP in (Corporación Mucho Mejor Ecuador, 2021). This sector is the second-largest manufacturing industry in terms of job opportunities, with a significant portion of its workforce being women, many of whom are mothers and heads of households (AITE, 2019). By the fourth quarter of 2023, the sector contributed 16.4% to manufacturing employment, 1% higher than in 2022 (AITE, 2024).

Post-pandemic, the textile sector in Antonio Ante is in a recovery phase, aiming to improve the economy and living conditions of its stakeholders. As of January 2024, there was a 7.8% decrease in dollar value and an 18.3% drop in volume compared to 2019 (AITE, 2024), indicating that entrepreneurs are still implementing measures to enhance their economic standing. The significance of the sector lies not only in the value added by textile factories but also in its entire production chain across various primary, secondary, and tertiary sectors (Gestión, 2018).

The Ecuadorian textile industry anticipates potential growth through increased exports over the next five years. In 2021, textile exports were nearly $130 million, with expectations to reach $300 million by 2025 (Gonzalez, 2022).

Several studies analyze the impacts of the textile sector from both external and internal perspectives. Duana Avila et al., (2021) investigated the competitiveness of Mexico's textile sector during 2019-2020, revealing a loss of 70,000 jobs post-pandemic. Urco & Castillo, (2019) compared three major international markets: Spain, the United States, and Mexico, using the CAGE model for Ecuador's textile industry. Spain showed lower cultural and administrative distances, while the U.S. represented an attractive market due to its population and GDP per capita. Mexico had potential due to its population and proximity (Sablón-Cossío et al., 2021).

Guzmán Toasa & Curillo Paguay, (2022) emphasized that in a competitive global environment, companies must align with manufacturing strategies focused on quality, cost optimization, logistics, and flexibility. The textile sector in Latin America contributes significantly to employment but shows a low production contribution, with productivity gaps compared to the European Union. These gaps reflect disparities in capabilities, technological advancements, and access to networks. Without overcoming these challenges, SMEs will continue to face competitiveness issues and limited growth potential (Dini & Stumpo, 2018).

Competitiveness is crucial as it relates to how companies enhance efficiency, productivity, quality, and market participation domestically and internationally to achieve competitive advantages (Gallegos et al., 2020). This involves increased investments in physical, technological, and human capital to develop components that align with overall factor productivity competitiveness. Progress in Latin American countries is slow due to challenges in technological innovation and

Keywords
Competitiveness, strategies, differentiation, competitive advantage.

Palabras clave
Competitividad, estrategias, diferenciación, ventaja competitiva.

Palavras-chave
Competitividade, estratégias, diferenciação, vantagem competitiva.

JEL codes
M11

investments in infrastructure and intellectual capital, significantly impacting multifactor productivity (Benites et al., 2020).

2. Theoretical Framework

Competitiveness refers to a company's ability to achieve profitability within its competitive landscape, involving the strategic allocation of resources to develop competitive advantages that drive market positioning. Key strategies and customer satisfaction levels directly impact business competitiveness, which can be seen as an organization's productive capability to assert itself in the market and generate growth through efficient operations in various economic sectors (Ahumada Tello & Perusquia Velasco, 2016; Shaadi Rodríguez et al., 2018).

In a constantly evolving business environment, companies must adopt innovative strategies that promote growth and enhance corporate cultures to strengthen customer relationships and maintain competitiveness (Rahman et al., 2020; Vargas et al., 2020; Azeem & Hayat, 2022). The pursuit of competitiveness often involves optimizing resources, particularly through the development of intangible assets, knowledge, and high-quality business management practices. This includes innovation in products and processes and the ability to negotiate within a competitive market environment (Romero-Suárez et al., 2020).

Michael Porter's theory emphasizes that a company can maintain a superior position by creating value that exceeds the cost of resources employed, leading to the development of unique and sustainable characteristics that differentiate it from competitors. These traits allow for customer retention, better profit margins, and market growth. Porter outlines three generic strategies to strengthen competitive advantage: cost leadership, differentiation, and focus (Porter, 2015; Narvaéz & Fernández, 2008).

H1. Cost leadership has a direct relationship with competitiveness. The greater the cost leadership (+), the more competitiveness increases (+).

Cost leadership strategy is essential for companies aiming to reduce costs while maintaining profitability. It involves implementing measures that efficiently reduce production and distribution costs, allowing for lower prices compared to competitors. Accurate cost management is crucial, employing reliable methodologies to calculate process costs and support continuous improvement towards achieving business objectives (Bernal et al., 2012; Saldarriaga et al., 2019). As consumer demand for quality and affordability grows, companies must enhance productivity through standardized processes and cost reduction (Chirinos-Cuadros & Rosado-Samaniego, 2016). Effective cost management systems are powerful tools for strategic decision-making, increasing profitability and customer accessibility, thus becoming a significant competitive advantage (Carpio-Valencia, 2019; (YongFu & JiYe, 2024).

H2. Differentiation has a direct relationship with competitiveness. The greater the differentiation (+), the higher the competitiveness (+).

Differentiation strategies help companies create unique and valuable market positions through offerings that stand out in design, functionality, and service. Businesses must build a quality-driven value chain, focus on innovation, and meet customer expectations to enhance consumer experiences, leading to a sustainable competitive advantage (Cao et al., 2019; Cao et al., 2021; Kumar et al., 2013). In a highly dynamic market, companies must offer agile and operational responses, fostering growth and competitiveness. Differentiation also extends to the use of ICTs (Information and Communication Technologies), which optimize resources, boost productivity, and enhance business value (Rodríguez Lemus et al., 2020)

Customer relationship management (CRM), including innovative approaches like social CRM, is another vital aspect of differentiation. Social media platforms provide valuable tools for engaging customers, offering products, promotions, and user-generated content that enhance customer experiences and drive sales (Arora et al., 2021). Effective CRM systems help organizations understand consumer behavior, enabling better segmentation and catering to markets genuinely interested in their offerings, ultimately leading to increased loyalty, retention, and satisfaction (Suoniemi et al., 2022; Diffley & McCole, 2015; Frare et al., 2023).

H3. Focus has a direct relationship with competitiveness. The greater the focus (+), the higher the competitiveness (+).

The focus strategy targets specific market niches, meeting the unique needs of a particular customer group through flexible, differentiated offerings that competitors find hard to replicate. This approach requires dynamic marketing capabilities to develop and integrate market knowledge and resources, enhancing market effectiveness and sustaining a competitive edge (Apodaca Del Angel et al., 2016). The integration of intelligent, automated methods in business processes, such as algorithms and artificial intelligence, is critical in improving efficiency, reducing costs, and enhancing product quality (Liu & Wang, 2024). For SMEs, identifying and serving niche markets can be a cornerstone for discovering new consumer preferences and expanding operations (Zhu et al., 2022).

Intellectual capital is another key component of competitiveness, where human resource development, motivation, and training positively affect organizational performance. Satisfied employees contribute to an efficient value chain, leading to stakeholder satisfaction. Investments in performance evaluation and proactive leadership also support organizational performance and competitiveness (Blanco-Mazagatos et al., 2018; Bohórquez, et al., 2020; Nosratabadi et al., 2019).

3. Methodology

The competitive strategy involves choosing specific activities to deliver a unique value combination. Today, formulating strategies solely at the company level through value chains is insufficient. There is a growing need to create sectors that facilitate joint interactions and strengthen companies, promoting free competition and productive collaboration through business chains and partnerships. Effective liaison with governments further supports the long-term sustainability of involved companies.

This analysis focuses on 97 textile companies in Antonio Ante dedicated to clothing production and commercialization. A non-probability convenience sampling was used, selecting participants based on the researcher's convenience, leading to an arbitrary sample (Otzen & Manterola, 2017).

This research determined the relationship between competitiveness as the dependent variable and Michael Porter's strategies: cost leadership, differentiation, and focus as independent variables. Control variables such as the type of investment (internal or external financing) and the market situation (growth, decline, or stagnation) were added, as these variables were considered part of the research context. The scope is descriptive-relational, aiming to understand the relationship between the variables (Hernández-Sampieri & Mendoza Torres, 2018). In this regard, the proposal includes the formulation of three hypotheses.

The hypotheses were proposed, according to (Gómez Bastar, 2012), as an attempt to address a deficiency in the competitiveness of the textile sector in the Antonio Ante canton. A logistic estimate was used to analyze the relationship between competitiveness and Porter's generic strategies. Data was collected through a survey using a quantitative Likert scale questionnaire (1 to 5) applied to the 97 textile company owners in Antonio Ante.

The research employed Porter's theory of competitive advantage, which grows based on the value generated by a company (Porter, 2012). Using Porter's generic strategies, the data was used to correlate variables and assess their impact on competitiveness.

A questionnaire was developed based on related research to determine the relationships between the dimensions and indicators of the dependent and independent variables.

Table 1. - Study Variables and Indicators.

Dependent Variable	*Indicators*	*Reference Studies*
Competitiveness	Know How in managment and operations	Guzmán Toasa & Curilio Paguay, (2022), María et al., (2018).
	Strategic planning	
	Optimal production and delivery times	
	Technological sophistication	Benítes et al., (2020), Gallegos et al., (2020)
	Market satisfaction	
	Human talent management	Romero-Suárez et al., (2020)
	Training programs	
	Efficiency and performance	
	Supply chain management	Sablón-Cossío et al,. (2021)

Independent Variables	*Indicators*	*Reference Studies*
Cost Leadership	Production costs	Bernal et al., (2012), Chirinos-Cuadros & Rosado-Samaniego, (2016).
	Profit generation	
	Pricing policy	
	Quality resources	
	Profit margin	
	Cost reduction	Saldariaga et al., (2019)
	Quality-associated costs	
	Profitability	Carpio-Valencia, (2019), (YongFu & JiYe, 2024)
	Investments in technology and innovation	
Differentiation	Customer relationship management	Suoniemi et al (2022)
	Innovation and differentiation	Romero-Suárez et al., (2020)
	Marketing channels	Rahman et al., (2022), Vargas et al., (2020).
	Advertising strategies	
	Quality attributes	Cao et al., (2019), Cao et al (2021)
	Work tool administration control	
	Design optimization	
	Responsiveness	Cao et al (2021)
	Customer loyalty	Frare et al., (2023), Suoniemi et al (2022), Diffley & McCole, (2015)
	Information and communication technology	
	Business model	
	Building competitive advantage and positioning	Tello & Perusquia, (2016), Azeem & Hayat,
Focus	Market niche	Apodaca Del Angel et al., (2016)
	Design and model specialization	
	Customization capabilities	
	Dynamic marketing capabilities	Vargas et al., (2020).
	Intelligent and automated systems	Liu & Wang, (2024)
	Niche distribution	Zhu et al., 2022
	Participation in new markets	
	Quality and pricing	Saldariaga et al., (2019)

Note: Based on several research studies

The instrument design included 36 variables related to Competitiveness and Porter's three generic strategies—Cost Leadership, Differentiation, and Focus. It also incorporated variables to understand the general context of the sector, considering five categories for the study. Clusters were implemented based on company type (large, medium, small, and micro-enterprises as per Ecuador's (INEC, 2023) years of operation, and perceived market growth. Competitiveness scale parameters were also applied, which are detailed in the results.

4. Results

In the textile industry of Antonio Ante canton, the study examined the relationship between cost leadership, differentiation, focus, and competitiveness. It first assessed the current state of textile companies, noting a predominance of micro-enterprises, followed by small, medium, and large ones. This contrasts with national data indicating a prevalence of SMEs in Ecuador (Observatorio de la PyME de la Universidad Andina Simón Bolívar, 2019). A key finding is that 43.30% of these companies have been operating for several years, reflecting their extensive experience and adaptability in various competitive environments. Additionally, many of these firms are family-owned, benefiting from family cooperation and significant cost savings on payroll, a crucial factor for new businesses (Ortiz Chimbo et al., 2019).

Figure 1. - Size of Textile Sector Enterprises

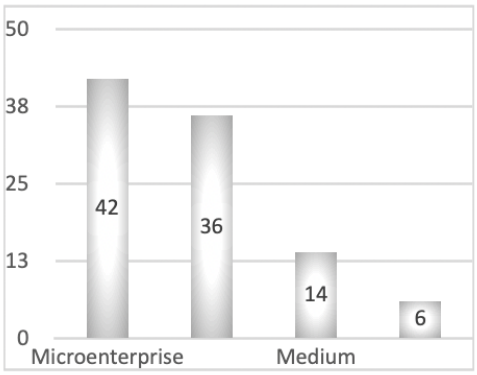


Figure 2. - Years of Operation in the Market

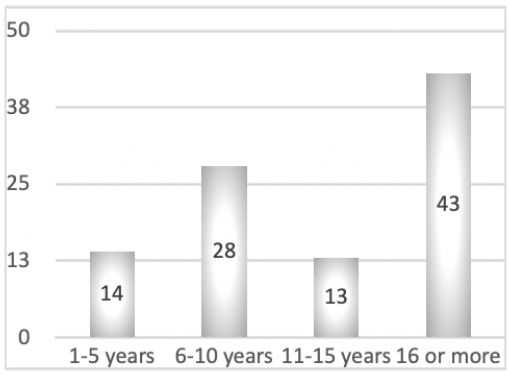
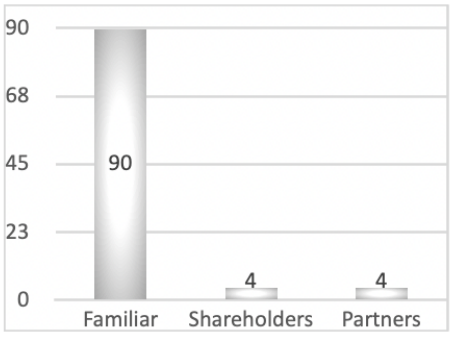


Figure 3. - Types of companies in the sector



The instrument was designed and validated prior to its application. For this purpose, a reliability test was conducted using Cronbach's alpha coefficient, which is a measure of reliability that assesses the validity of the instrument and whether it measures what it is intended to measure (Qi et al., 2020). This measure yielded a coefficient of 0.89, reflecting high reliability.

Table 2. - Results of Cronbach's Alpha Coefficient Application

Item total statistics				
	Scale measure if the element has been deleted	*Scale variance if item has been deleted*	*Total corrected correlation of items*	*Alpha if item deleted*
Know How in managment and operations	243,2632	1436,217	0,375	0,891
Strategic planning	241,9263	1445,069	0,651	0,890
Market satisfaction	242,0737	1443,197	0,646	0,890
Technological sophistication	241,9895	1442,011	0,586	0,890
Quality and pricing	242,4947	1433,040	0,599	0,889
Human talent management	242,4000	1440,264	0,504	0,890
Training programs	242,8105	1426,134	0,584	0,889
Customer relationship management	242,0316	1441,669	0,576	0,890
Customization capabilities	242,7053	1420,146	0,572	0,889
Efficiency and performance	242,8316	1417,461	0,556	0,889
Work tool administration control	242,6737	1424,052	0,551	0,889
Supply chain management	242,0526	1427,753	0,672	0,889
Design optimization	242,3368	1425,417	0,609	0,889
Production costs	242,9579	1426,807	0,548	0,889
Optimal production and delivery times	242,2947	1431,678	0,627	0,889
Profit generation	242,1368	1438,502	0,632	0,890
Pricing policy	242,8632	1450,375	0,299	0,892
Cost reduction	242,5895	1454,500	0,282	0,892
Quality-associated costs	242,1895	1443,006	0,462	0,890
Participation in new markets	242,3368	1434,673	0,627	0,889
Advertising strategies	241,9368	1435,464	0,649	0,889
Marketing channels	242,3474	1424,378	0,713	0,889
Customer loyalty	241,8842	1450,167	0,525	0,891
Quality attributes	242,6105	1422,964	0,576	0,889
Business model	242,3053	1452,853	0,381	0,891
Building competitive advantage and positioning	242,3895	1434,942	0,506	0,890
Investments in technology and innovation	242,2947	1417,657	0,683	0,888
Innovation and differentiation	241,9579	1436,424	0,683	0,889
Intelligent and automated systems	242,9368	1465,145	0,255	0,892
Media	242,7684	1475,499	0,082	0,894
Competitiveness	193,2737	883,435	0,853	0,915
Cost leadership	218,2105	1192,274	0,667	0,887
Approach	229,7053	1269,274	0,835	0,880
Differentiation	221,7895	1250,998	0,821	0,880
TOTAL				89%

Note: Results are self-produced based on Cronbach's alpha.

Table 3. - Assumption of normality.

Ho: Data follows a normal distribution	If p-value<0,05 the Ho is rejected	Non-parametric test
H1: The data does not follow a normal distribution	If p-value>0,05 Ho is accepted and H1 is rejected	Parametric Test
Level of significance Nc: 95% α: 5%	**Normality Test** If n>50 applies Kolmogorov_Smirnov If n≤50 applies Shapiro_Wilk	

Note: Assumption of normality elaborated by the authors.

Decision criteria:

If p-value<0,05 the Ho is rejected

If p-value≥ 0,05 Ho is accepted and H1 is rejected

Table 4 - Tests of Normality, Competitiveness and Generic Strategies

Normality Tests						
	Kolmogorov-Smirnov[a]			*Shapiro-Wilk*		
	Statistical	*gl*	*Sig.*	*Statistical*	*gl*	*Sig.*
Competitiveness	0,138	95	0,000	0,881	95	0,000
Sum_Generic_Estrategies	0,178	95	0,000	0,842	95	0,000

Note: Result of the own elaboration of the normality tests

The correlation analysis between generic strategies—cost leadership, differentiation, and focus—and competitiveness used the non-parametric Pearson Correlation test due to non-normally distributed data. The Kolmogorov-Smirnov test was also applied, as recommended by (Romero-Saldaña, 2016) for samples over 50 observations. This analysis included 36 variables across five key categories: company context, competitiveness, cost leadership, differentiation, and focus.

To ensure accurate results, the analysis prioritized variables showing high levels of association. This led to the selection of 14 critical variables representing each category, facilitating a focused and manageable analysis. Notably, the cost leadership dimension, due to its low significance, was considered with only one variable, while focus and differentiation dimensions included additional variables. This approach allowed for robust conclusions based on the most significant elements of the data.

Table 5. - Non-parametric correlations

		Production and Marketing Objectives	*Strategic planning*	*Style Direction*	*Supply Chain Management*	*Market Satisfaction*	*Efficient work*	*Human Talent Management*	*Production costs*	*Niche Market*	*Direct marketing*	*Design Specialization*	*Customer Loyalty*	*Business Model*	*Product Portfolio*
Competitiveness	Production and Marketing Objectives	1													
	Strategic planning	0,9999	1												
	Style Direction	0,9998	0,9997	1											
	Supply Chain Management	0,9996	0,9995	0,9997	1										
	Market Satisfaction	0,9998	0,9998	0,9996	0,9995	1									
	Efficient work	0,9997	0,9997	0,9996	0,9995	0,9997	1								
	Human Talent Management	0,9995	0,9995	0,9996	0,9996	0,9997	0,9995	1							
Cost leadership	Production costs	0,9998	0,9998	0,9997	0,9994	0,9996	0,9999	0,9994	1						
Differentiation	Customer Loyalty	0,9999	0,9999	0,9998	0,9995	0,9998	0,9998	0,9995	0,9997	0,9999	0,9997	0,9997	1		
	Business Model	0,9996	0,9996	0,9995	0,9995	0,9996	0,9996	0,9996	0,9995	0,9995	0,9996	0,9995	0,9995	1	
	Product Portfolio	0,9998	0,9998	0,9998	0,9995	0,9998	0,9997	0,9996	0,9997	0,9997	0,9998	0,9996	0,9998	0,9997	1
Focus	Niche Market	0,9998	0,9998	0,9997	0,9995	0,9997	0,9998	0,9995	0,9997	1					
	Direct marketing	0,9998	0,9998	0,9996	0,9993	0,9997	0,9998	0,9994	0,9997	0,9997	1				
	Design Specialization	0,9996	0,9996	0,9994	0,9993	0,9997	0,9996	0,9995	0,9994	0,9996	0,9995	1			

Note: Own elaboration: *. The correlation is significant at the 0.01 level (bilateral)

A direct positive relationship is evident among the 14 most influential variables within each dimension. For the dependent variable, competitiveness, production and marketing objectives show a near-perfect correlation with strategic planning (0.9999), indicating strong alignment. Management style correlates highly with strategic planning (0.9997) and supply chain management (0.9997), suggesting that management practices are closely linked to these areas. Market satisfaction and efficient work also correlate strongly with other competitiveness factors, suggesting improvements here could enhance overall competitiveness.

Among the independent variables, Cost Leadership reveals that production costs are highly correlated with market niche (0.9997) and direct marketing (0.9997), linking cost reduction to market approach and communication. For the focus strategy, market niche has a perfect correlation with direct marketing (1.0000), showing alignment between niche focus and marketing strategies. Design specialization has a high but slightly lower correlation with direct marketing (0.9995), indicating compatibility between design and marketing.

In the differentiation strategy, customer loyalty and product portfolio have a high correlation (0.9998), suggesting that strategies focusing on customer loyalty consider the product portfolio. The business model shows slightly lower but still high correlations with other differentiation factors, indicating that various business models relate to how differentiation and loyalty are managed.

Overall, high correlation values indicate that different management areas within a company are closely interrelated. Strategic planning, management style, and supply chain management significantly influence competitiveness. Similarly, cost management, market niche focus, and direct marketing strategies are interconnected in cost leadership and market focus. Differentiation through customer loyalty, business model, and product portfolio also demonstrates strong interdependence.

5. Regression

In order to complement the correlation analysis of the companies, a logistic regression was performed using the statistical package Stata 16, where I considered as a binary dependent variable those companies that are competitive and those that are not.

The binary dependent variable was obtained by averaging the results of the sum of each of the variables from the competitiveness dimensions (Production and Marketing Objectives, Strategic Planning, Management Style, Supply Chain Management, Market Satisfaction, Efficient Work, Human Talent Management) and the independent variables through the sum of their significant variables: Cost Leadership (Production Costs), Focus (Market Niche, Direct Marketing, Design Specialization), and Differentiation (Customer Loyalty, Business Model, Product Portfolio) obtained for each company. The overall average competitiveness score was 4.10; all observations above the average were considered competitive companies (assigned a value of 1), and those below the average were considered non-competitive companies (assigned a value of 0).

A confidence level of 95% was used, and therefore a significance level of p<0.05 was applied.

Additionally, two control variables, type of investment and market situation, were included to control for variables that influence the results and affect the precision of the findings.

The logistic regression model was formulated as follows:

$$Y = \beta_0 + \beta_1 * X_1 + \beta_2 * X_2, + \beta_3 * X_3 + \beta_4 * X_4 + \beta_5 * X_5 + u$$

Where:

Y: Dichotomous variable (Competitive companies = 1); (Non-competitive companies = 0).
X_1 = Cost leadership
X_2 = Differentiation
X_3 = Focus
X_4 = Investment type
X_5 = Market Situation

$H_0=\beta_{1=0}$	If p-value > 0.05, the null hypothesis (Ho) is rejected. Cost leadership has a direct relationship with competitiveness. The greater the cost leadership (+), the more competitiveness increases (+).

$H_0=\beta_{2=0}$	If p-value > 0.05, the null hypothesis (Ho) is rejected. Differentiation has a direct relationship with competitiveness. The greater the differentiation (+), the higher the competitiveness (+)

$H_0=\beta_{3=0}$	If p-value > 0.05, the null hypothesis (Ho) is rejected. The focus has a direct relationship with competitiveness. The greater the focus (+), the higher the competitiveness (+)

The results of the marginal effects of the logistic regression are as follows:

Table 6 - Logistic Regression-Marginal Effects

COMPETITIVENESS	*dy/dx*	*Std. Err.*	*z*	*P>|z|*	*[95% Conf. Interval]*
COST LEADERSHIP	0,1743632	0,0808012	2,16	0,03	0.0159958 0.3327306
DIFFRENTIATION	0,2897109	0,0895099	3,24	0	0.1142747 0.4651472
FOCUS	0,0157502	0,0849327	0,19	0,85	-0.1507149 0.1822153
INVESTMENT TYPE	-0,1680983	0,0861255	-1,95	0,05	-0.3369012 0.0007046
MARKET SITUATION	-0,1546384	0,059641	-2,59	0,01	-0.2715326 -0.0377442

Note: 1 failure and 0 successes completely determined

The model is found to be significant for the variables of cost leadership and differentiation, but not for the variable of focus, meaning that this variable does not significantly influence the competitiveness of the companies in the sample. Regarding the control variables, the type of investment and market situation are significant.

To measure the goodness of fit of the model, and because it is a probabilistic model, the R count is used instead of the R-squared coefficient. This is to establish the percentage of correct and incorrect predictions of the model, resulting in a percentage of 77.32%, indicating a high prediction accuracy of the model.

Table 7 - Truth-classification and goodness-of-fit of logistic regression

	True		
Classified	*D*	*~D*	*Total*
+	44	8	52
-	14	31	45
Total	58	39	97
Classified + if predicted Pr(D) >= 0.645			
True D defined as TOTALCOMPETITIVIDAD != 0			
Sensitivity	Pr(+| D)		75,86%
Specificity	Pr(-|~D)		79,49%
Positive predictive value	Pr(D| +)		84,62%
Negative predictive value	Pr(~D| -)		68,89%
False + rate for true ~D	Pr(+|~D)		20,51%
False - rate for true D	Pr(-| D)		24,14%
False + rate for classified +	Pr(~D| +)		15,38%

False - rate for classified -	Pr(D| -)	31,11%
Correctly classified		77,32%

Note: 1 failure and 0 successes completely determined

Since it is an econometric model, it is necessary to subject it to validation tests that allow the identification of its predictive capacity (goodness of fit).

The econometric model has been validated through the R count, Pearson's goodness-of-fit test, and the ROC curve. The R count of 77.32% indicates a high percentage of correct predictions. Pearson's goodness-of-fit test, with a Chi2 probability of 0.54, confirms that the model fits a normal probability distribution. Additionally, the ROC curve area of 0.86 validates the model's ability to distinguish between competitive and non-competitive firms

Pearson's goodness of fit is shown below:

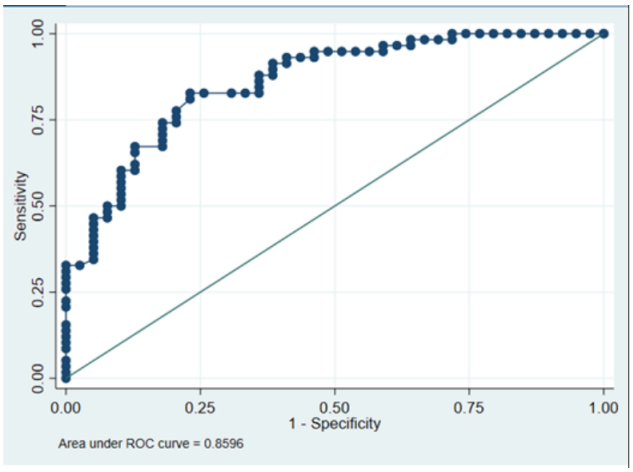
Table 8 - Pearson goodness of fit

Logistic model for CompetitividadBinaria, goodness-of-fit test

Number of observations	=	97
Number of covariate patterns	=	87
Pearson chi2(81)	=	79,13
Prob > chi2	=	0.5382

The ROC curve is shown below:

Figure 4 - ROC Curve



Source: Logistics Estimate - competitiveness analysis survey

The marginal effects of the regression yield the following results:

- For each additional unit in the cost leadership dimension, the probability of companies being competitive increases by 17.4%.
- For each additional unit in the differentiation dimension, the probability of companies being competitive increases by 29%.
- For each additional unit in the focus dimension, the probability of companies being competitive increases by 1.6%.
- For each change in the type of investment, the probability of the company being competitive decreases by 16.8%.
- For each variation in market situation, the probability of the company being competitive decreases by 15.5%.

5.1. Competitiveness and Cost Leadership

As shown in the analyses conducted and according to the marginal effects, cost leadership proves to be significant and therefore directly influences competitiveness. In other words, employing standardized costs and competitive prices are factors that affect the purchasing decision. Therefore, producers should implement attractive pricing strategies to capture the attention of their customers and potential clients.

Competitiveness is linked to the use of various business strategies and tactics that can achieve business consolidation and growth through diverse offerings and services that meet consumer needs (Mora-Riapira et al., 2015). Therefore, working with cost standardization is necessary, but it's not the only factor influencing companies in competing in highly demanding markets.

5.2. Competitiveness and Differentiation

Differentiation is the variable with the greatest impact, increasing the probability of competitiveness by 29%. This suggests that companies that manage to offer unique products tailored to local preferences can stand out significantly in the market. This strategy helps establish a strong brand identity and attract consumers seeking exclusivity and added value in their purchases. Therefore, understanding the present and future needs of customers, and meeting and exceeding their expectations becomes a vital requirement for companies in this sector (Ruiz-Cabezas et al., 2019).

The differentiation strategy aims precisely to enhance added value and improvements in current offerings. Managers are tasked with integrating various factors related to value chain activities and strategic alliances to pursue continuous improvement in their organization and enhance quality, factors highly valued by customers (Benites et al., 2020).

The study demonstrates that consumers visiting the textile sector consistently seek garments with distinguishing elements, exclusivity, quality, and conditions suitable to their needs.

5.3. Competitiveness and Focus

In the case of the focus, after adding the control variables, it turns out to be non-significant, therefore, it would not have a significant impact on the competitiveness of the investigated companies. The consideration of investment type and market situation as control variables indicates that companies

in the sector are not investing in new market niches due to the current restrictive economic situation, characterized by a lack of liquidity in the Ecuadorian economy.

The focus strategy is very important in today's textile and fashion markets; however, in the case study, it is observed that textile companies in the canton currently lack the economic conditions to strengthen this strategy. Nevertheless, they are aware of its importance in the competitive landscape.

To implement this strategy, it is necessary for companies to constantly improve their products and services online through innovation (Tsou & Yang, 2019) and consider rethinking strategies that allow the development of solid competitive advantages based on knowledge to thrive in highly dynamic markets (Olea-Miranda et al., 2016). The implementation of these new production and commercial tactics needs to be oriented towards current demands, clearly identifying market segments and creating proposals that meet these needs.

5.4. Cluster Competitiveness Analysis

For this analysis, competitiveness scales were used, which are detailed below:

High: 80% - 100%

Medium-High: 60% - 79%

Medium: 40% - 59%

Medium-Low: 20% - 39%

Low: 0% - 19%

To obtain the competitiveness scales in the sample of 97 companies, the following context variables were used: type of company, years of operation and situation of the textile market. The results obtained in the 3 variables were added and a percentage of compliance with the 3 was obtained based on the maximum result that a company can obtain.

Below is the percentage of classification of companies according to the competitiveness scale:

Table 9 - Companies by level of competitiveness

Competitiveness scales	
Low	0%
Medium Low	18%
Medium	43%
Medium High	18%
High	22%

Most companies in the textile sector are concentrated in a medium level of competitiveness, followed by high competitiveness and companies with medium-low and medium-high competitiveness.

Table 10 - Results of the variable categories

Scales	Size of the company				Years of operation				Textile market situation		
	Microenterprise	*Small*	*Medium*	*Big company*	*1 to 5 years*	*6 to 10 years*	*11 to 15 years*	*16 or more*	*Growth*	*Arrested*	*Decrease*
Low	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Medium Low	41%	53%	6%	0%	0%	6%	18%	76%	6%	53%	41%
Medium	45%	52%	2%	0%	14%	43%	24%	19%	10%	33%	57%
Medium High	0%	14%	57%	29%	0%	0%	0%	100%	10%	48%	43%
High	88%	12%	0%	0%	47%	53%	0%	0%	12%	53%	35%

Source: Variable categories -competitiveness analysis survey

Predominance and Competitiveness of Microenterprises: In the Antonio Ante canton's textile sector, microenterprises are predominant, comprising 42% of the total, followed by small enterprises at 37%, with medium and large enterprises representing 14% and 6%, respectively. This structure indicates a market dominated by smaller players. Despite their size, microenterprises show significant competitiveness, particularly those operating for 1 to 10 years. This suggests that new microenterprises have rapidly adapted to the local market, leveraging their ability to focus on niche markets that avoid direct competition with large fashion brands. Their success is attributed to personalized offerings that cater to local preferences, enabling sustained growth despite their limitations.

Challenges of Older Companies and Their Competitiveness: Small enterprises with over 16 years of operation often display medium-low competitiveness. This may be due to difficulties in innovating and adapting to a market that has evolved significantly, particularly with the entry of international brands and the lingering impacts of the COVID-19 pandemic. Older companies face liquidity issues and cost pressures in a globalized economy, further compounded by limited investment in innovation and sustainability. Such constraints restrict their ability to enhance competitiveness in an increasingly demanding market.

Influence of Market Context on Competitiveness: The market context greatly affects perceived competitiveness. While some companies in the textile sector are experiencing growth (12%), a notable portion remains stagnant or in decline, potentially due to economic instability and shifting consumer preferences. Nevertheless, growing microenterprises are notable for their resilience and adaptability, likely due to their flexibility and lower dependence on economies of scale. In contrast, medium and large enterprises, though a smaller percentage of the total, are perceived as more competitive, suggesting that their size enables them to establish a stronger market presence. However, these larger companies must continually strive to maintain their competitiveness in a dynamic environment.

Comparative Studies: Comparative studies in other textile sectors reveal that larger companies generally exhibit higher competitiveness compared to small and medium enterprises. This is often due to their ability to exploit economies of scale, access robust financial resources, and invest in advanced technology and innovative processes. In Ecuador, large textile companies in other regions typically have a stronger international market presence, allowing them to diversify risks and reach a broader customer base. These advantages enable them to stay ahead in the market and adapt more effectively to sector

dynamics and challenges (Corporación Mucho Mejor Ecuador, 2021; Chirinos-Cuadros & Rosado-Samaniego, (2016).

Sector-Specific Reality: In the Antonio Ante canton, the competitiveness landscape is distinct. Local entrepreneurs are focused on improving competitiveness and enhancing the sector's national profile. They are working on strengthening management and business strategies in response to current market changes.

Product Variety and Strategies: Companies with medium-high and high competitiveness offer a diverse range of products, such as sportswear and home textiles. Differentiation is a key strategy, with the logistic model indicating a 29% increase in competitiveness probability due to differentiation. Additionally, companies with medium-high and high competitiveness have adopted cost-reduction strategies in response to the pandemic, combining economies of scale with pricing strategies to introduce new clothing models. These strategies, as reflected in the logistic model, show a 17.4% increase in competitiveness probability.

Impact of Investment and Market Situation: Investment and market conditions significantly affect competitiveness. Limited financing and liquidity issues impact all companies, particularly those with medium-low and low competitiveness. In these cases, the probability of improved competitiveness decreases by 16.8% for investment and 15.5% for market situation.

6. Conclusions

Competitiveness is crucial for the survival and growth of textile companies. To stay ahead, these companies need effective strategies that align with market trends. Research shows that differentiation strategies significantly enhance competitiveness in the textile sector. Companies focusing on innovation, design, and value propositions for specific market segments tend to improve their competitive position. This differentiation not only attracts new customers but also strengthens existing customer loyalty, which is essential for long-term success.

Cost leadership is another key strategy. Companies that manage to reduce production and distribution costs can offer more competitive prices, which is especially relevant in a market recovering from post-pandemic losses. Maintaining quality while reducing costs is crucial for enhancing profitability in a price-sensitive environment.

For textile companies in the canton, overcoming current economic limitations through continuous improvement and innovation in products and services is crucial. Effective implementation of focus strategies requires adapting offerings to market needs and strategic planning to address consumer preferences.

Michael Porter's three generic strategies—differentiation, cost leadership, and focus—are necessary for building a solid competitive advantage. Future research should explore additional factors such as technology, innovation, and operational efficiency to develop a more comprehensive competitiveness model. Longitudinal studies could reveal trends over time, and expanding research to other sectors could identify universal and industry-specific strategies. Investigating the impact of sustainability on competitiveness would also be valuable for understanding how sustainable practices influence consumer perception and business performance.

References

Ahumada Tello, E., & Perusquia Velasco, J. M. A. (2016). Inteligencia de negocios: Estrategia para el desarrollo de competitividad en empresas de base tecnológica. Contaduria y Administracion, 61(1), 127–158. https://doi.org/10.1016/j.cya.2015.09.006

AITE (Asociación de industrias textiles del Ecuador). (2019). AITE I Industria. https://www.aite.com.ec/industria.html

Apodaca Del Angel, L., Maldonado-Radillo, S., & Máynez-Guaderrama, A. (2016). La Ventaja Competitiva, Desde La Teoría De Recursos Y Capacidades Competitive Advantage From Resource Theory and Capabilities. Revista Internacional Administración & Finanzas, 9(1), 69–80. http://ssrn.com/abstract=2663642

Arora, L., Singh, P., & Bhatt, V. (2021). Comprensión y gestión del compromiso del cliente a través de la gestión de relaciones sociales con el cliente. https://doi.org/10.1080/12460125.2021

Asociación de Industriales Textiles del Ecuador. (2024). Boletín estadístico Febrero 2024 Dirección técnica. https://www.aite.com.ec/boletines.html

Azeem, M; Hayat, A. (2022). The impact of customer-centric business strategies on customer relationship management: pharmaceutical field-force perspective. International Journal of Pharmaceutical and Healthcare Marketing, 16(1), 138-154. https://doi.org/10.1108/IJPHM-09-2020-0083

Benites, L., Ruff, C., Ruiz, M., Matheu, A., Inca, M., & Juica, P. (2020). Análisis de los factores de competitividad para la productividad sostenible de las PYMES en Trujillo (Perú). Revista de Metodos Cuantitativos Para La Economia y La Empresa, 29(29), 208–236. https://doi.org/10.46661/revmetodoscuanteconempresa.3513

Bernal, C., Naranjo, G., & González. J. (2012). Análisis de la relación entre la innovación y la gestión del conocimiento con la competitividad empresarial en una muestra de empresas en la ciudad de Bogotá. Estudios Gerenciales, 28(Especial), 303–315.

Blanco-Mazagatos, V., de Quevedo-Puente, E., & Delgado-García, J. B. (2018). Human resource practices and organizational human capital in the family firm: The effect of generational stage. Journal of Business Research, 84(July 2016), 337–348. https://doi.org/10.1016/j.jbusres.2017.09.017

Bohórquez, E; Pérez, M; Caiche, W; & Benavides, A. (2020). La motivación y el desempeño laboral: El capital humano como fator clave en una organización. Universidad y Sociedad, 12(3), 385-390. https://talenta.usu.ac.id/politeia/article/view/3955

Cao, G., Duan, Y., & El Banna, A. (2019). A dynamic capability view of marketing analytics: Evidence from UK firms. Industrial Marketing Management, 76, 72–83. https://doi.org/10.1016/j.indmarman.2018.08.002

Cao, G., Tian, N., & Blankson, C. (2021). Big Data, Marketing Analytics, and Firm Marketing Capabilities. Journal of Computer Information Systems, 62(3), 442–451. https://doi.org/10.1080/08874417.2020.1842270

Carpio-Valencia, F. E. (2019). Standard costs to optimize the profitability of handmade producers of cheese: PROLAC AYMARA case. DYNA (Colombia), 86(210), 262–269. https://doi.org/10.15446/dyna.v86n210.77995

Chirinos-Cuadros, C. R., & Rosado-Samaniego, J. F. (2016). Estrategia de diferenciación: el caso de las empresas industriales. Ingeniería Industrial, 0(034), 165. https://doi.org/10.26439/ing.ind2016.n034.1342

Corporación, M. M. E. (2021). El sector textil y de confecciones y su importancia para Ecuador | Mucho Mejor Ecuador. https://muchomejorecuador.org.ec/el-sector-textil-y-de-confecciones-y-su-importancia-para-ecuador/

Diffley, S., & McCole, P. (2015). Extending customer relationship management into a social context. Service Industries Journal, 35(11–12), 591–610. https://doi.org/10.1080/02642069.2015.1062882

Dini, M; Stumpo, G. (2018). MIPYMES en América Latina Un frágil desempeño y nuevos desafíos para las políticas de fomento. https://repositorio.cepal.org/bitstream/handle/11362/44148/1/S1800707_es.pdf

Duana Avila, D., Hernández Gracia, T. J., & Torres-Flórez, D. (2021). Competitiveness of the textile industry in the face of the COVID-19 pandemic. Revista Venezolana de Gerencia, 26(Special Issue 6), 318–332. https://doi.org/10.52080/rvgluz.26.e6.19

Frare, A. B., Beuren, I. M., & Cipriano, J. W. N. (2023). Organizational mindfulness towards digital transformation and market agility: intervention of the use of managerial information. Journal Globalization, Competitiveness and Governability, 17(1), 34–48. https://doi.org/10.58416/GCG.2023.V17.N1.01

Gallegos, M., Beltrán, L., Calderón, L., & Guerra, V. (2020). La diferenciación como estrategia de competitividad en el sector florícola del Cantón Cayambe (Ecuador). Revista Espacios, 41(0798 1015), 1–10. https://www.revistaespacios.com/a20v41n10/20411002.html

Gestión. (2018). El sector textil, una mina de oro a la que le urge potenciarse | Gestión. https://revistagestion.ec/economia-y-finanzas-analisis/el-sector-textil-una-mina-de-oro-la-que-le-urge-potenciarse

Gómez Bastar, S. (2012). Metodologia de la investigacion. In Red Tercer Milenio S.C.

Gonzalez, T. (2022). Ecuador apuesta por el crecimiento de su industria textil y pone la mira en las exportaciones. https://pe.fashionnetwork.com/news/Ecuador-apuesta-por-el-crecimiento-de-su-industria-textil-y-pone-la-mira-en-las-exportaciones,1398360.html

Guzmán Toasa, F., & Curillo Paguay, W. (2022). Determinación de prioridades competitivas del sector de la confección en la región sierra del Ecuador. Boletín de Coyuntura, 33, 27–26. https://doi.org/10.31243/bcoyu.33.2022.1674

Halife, H. (2020). Analysis Of Competitiveness of Turkish Textile Sector Based on The Porter's Diamond Model. Journal of Strategic Management Research, 3(1), 27-49

Halife, H., & Alshukur, M. (2022). Impact of revenue-sharing contracts on improving profits for manufacturers and suppliers in the supply chain of organic textile products. International Journal of Business Performance and Supply Chain Modelling, 13(1), 69–88. https://doi.org/10.1504/IJBPSCM.2022.122436

Hernández-Sampieri, R., & Mendoza, C. (2018). Metodología de la Investigación Las rutas cuantitativas cualitativas y mixta. In Metodología de la investigación: las rutas cuantitativa, cualitativa y mixta (McGraw Hil).

Instituto Nacional de Estadísticas y Censos. (2023). Registro Estadístico de Empresas 2022, Principales Resultados. In Registro Estadístico de Empresas 2022. https://www.ecuadorencifras.gob.ec/documentos/web-inec/Estadisticas_Economicas/Registro_Empresas_Establecimientos/2022/Principales_Resultados_REEM *2022.pdf*

Kachouie, R., Mavondo, F., & Sands, S. (2018). Dynamic marketing capabilities view on creating market change. European Journal of Marketing, 52(5–6), 1007–1036. https://doi.org/10.1108/EJM-10-2016-0588

Kumar, V., Sharma, A., Shah, R., & Rajan, B. (2013). Establishing Profitable Customer Loyalty for Multinational Companies in the Emerging Economies: A conceptual Framework. Journal of International Marketing, 21(1), 57–80. https://doi.org/10.1509/jim.12.0107

Liu, R., & Wang, Y. (2024). Enhancing Enterprise Value Creation Through Intelligent Digital Transformation of the Value Chain: A Deep Learning and Edge Computing Approach. Journal of the Knowledge Economy. https://doi.org/10.1007/s13132-024-02087-5

Mora-Riapira, E. H., Vera-Colina, M. A., & Melgarejo-Molina, Z. A. (2015). Planificación estratégica y niveles de competitividad de las Mipymes del sector comercio en Bogotá Estudios Gerenciales, 31(134), 79–87. https://doi.org/10.1016/j.estger.2014.08.001

Narvaéz, M; Fernández, G. (2008). Estrategias competitivas para fortalecer sectores de actividad empresarial en el mercado global. Revista Venezolana de Gerencia, 13(42), 233-243.

Nosratabadi, S., Mosavi, A., Shamshirband, S., Zavadskas, E. K., Rakotonirainy, A., & Chau, K. W. (2019). Sustainable business models: A review. Sustainability (Switzerland), 11(6), 1–30. https://doi.org/10.3390/su11061663

Observatorio de la PyME de la Universidad Andina Simón Bolívar, S. E. (2019). Observatorio de la PyME Preguntas PyME N ° 53. 759–761. https://www.uasb.edu.ec/observatorio-pyme/wp-content/uploads/sites/6/2021/04/faq_53.pdf

OECD. (2019). Pymes y Emprendimiento Perspectivas.

OECD. (2024). OECD SME and Entrepreneurship Outlook. OECD Publishing.

Olea-Miranda, J., Contreras, O. F., & Barcelo-Valenzuela, M. (2016). Las capacidades de absorción del conocimiento como ventajas competitivas para la inserción de pymes en cadenas globales de valor. Estudios Gerenciales, 32(139), 127–136. https://doi.org/10.1016/j.estger.2016.04.002

Ortiz Chimbo, K., Campos Cabrera, E., Alvarado Márquez, M., & Alcívar Trejo, C. (2019). Análisis de las empresas familiares en Ecuador desde una óptica multivariante. Revista de Ciencias Sociales, 25(4), 161–174. https://doi.org/10.31876/rcs.v25i4.30524

Otzen, T., & Manterola, C. (2017). Técnicas de Muestreo sobre una Población a Estudio. International Journal of Morphology, 35(1), 227–232. https://doi.org/10.4067/S0717-95022017000100037

Porter, M. (2012). La ventaja competitiva. Administracion, Ingenieria, Gestion y Mucho Mas, 1985, 6.

Porter, M. E. (2015). Estrategia competitiva: técnicas para el análisis de los sectores industriales y de la competencia (Grupo Editorial Patria (ed.)). Grupo Editorial Patria. https://ebookcentral.puce.elogim.com/lib/pucesp/reader.action?docID=4824578&query=michael+porter

Qi, S., Chen, X., Simms, P., Zhou, J., & Yang, X. (2020). New method for determining the permeability function parameters of soft soils considering synchronous sedimentation and consolidation. Computers and Geotechnics, 127(June), 103781. https://doi.org/10.1016/j.compgeo.2020.103781

Rahman, M., Rodríguez-Serrano, M. Á., Lambkin, M. (2020). Advertising efficiency and profitability : Evidence from the pharmaceutical industry.Industrial marketing Management, (89), 619-629. https://doi.org/10.1016/j.indmarman.2019.02.001

Rodríguez Lemus, C., Escamilla Santana, C., Ríos Castro, M. del S., López Bedolla, M. G., & López Ramírez, B. C. (2020). Competitividad y asimilación de tecnologías de la información y la comunicación (TIC) en pequeños productores de agricultura protegida en Guanajuato, México. Ciencia & Tecnología Agropecuaria, 21(3), 1–21. https://doi.org/10.21930/rcta.vol21_num3_art:1499

Romero-Saldaña, M. (2016). Pruebas de bondad de ajuste a una distribución normal. Enfermería Del Trabajo, 6(3), 105–114.

Romero-Suárez, D., Pertuz, V., & Orozco-Acosta, E. (2020). Factores determinantes de competitividad e integración organizacional: revisión sistemática exploratoria. Informacion Tecnológica, 31(5), 21–32. https://doi.org/10.4067/S0718-07642020000500021

Ruiz-Cabezas, M. R., Severiche-Sierra, C. A., Briceño-Ariza, L., & Duran-Charris, L. J. (2019). Elementos de la Competitividad en la pequeña y mediana empresa (PyMEs) Agrícolas del Distrito de Santa Marta (Caribe Colombiano). Revista Espacios, 40(32), 10–19.

Shaadi Rodríguez, R.M.; Pulido Fernández, J.I. y Rodríguez Herrera, I.M. (2018). La consolidación turística en los territorios que conforman el Programa Pueblos Mágicos (México). Un análisis de sus estrategias competitivas. Investigaciones Turísticas (15), pp. 1-33. http://dx.doi.org/10.14198/INTURI2018.15.01

Sablón-Cossío, N., Crespo, E. O., Pulido-Rojano, A., Acevedo-Urquiaga, A. J., & Ruiz Cedeño, S. D. M. (2021). Análisis de integración de la cadena de suministros en la industria textil en Ecuador. Un caso de estudio. Ingeniare. Revista chilena de ingeniería 29(1), 94–108. https://doi.org/10.4067/S0718-33052021000100094

Saldarriaga, S., Eugenia, M., González, G., Fernanda, M., Cerón, C., & Andrés, E. (2019). Innovación Empresarial: Factor de competitividad y calidad de vida en Popayán, Colombia. Revista Venezolana de Gerencia, (2), 151-166 https://doi.org/10.37960/revista.v24i2.31486

Suoniemi, S., Zablah, A., Terho, H., Olkkonen, R., Straub, D., & Makkonen, H. (2022). CRM system implementation and firm performance: the role of consultant facilitation and user involvement. Journal of Business and Industrial Marketing, 37(13), 19–32. https://doi.org/10.1108/JBIM-08-2021-0380

Tsou, M. W., & Yang, C. H. (2019). Does gender structure affect firm productivity? Evidence from China. China Economic Review, (55), 19–36. https://doi.org/10.1016/j.chieco.2019.03.005

Urco, C. C., & Castillo, D. (2019). Aproximación del modelo CAGE para la internacionalización de los productos textiles del Ecuador. Estudios de La Gestión. Revista Internacional de Administración, 5(5), 9–37. https://doi.org/10.32719/25506641.2019.5.1

Vargas Vega, T. de J., Saavedra García, M. L., Villegas González, E., & Hidalgo Gallardo, R. L. (2020). Determinantes de la competitividad en Pymes Comerciales del municipio de Acaxochitlan , México. Revista Venezolana de Gerencia, 25(4), 82–96.

YongFu, W., & JiYe, H. (2024). Research on Logistics Cost Management Strategy for Wood Processing Industry Based on Environmentally Conscious Supply Chain. Revista de Gestao Social e Ambiental, 18(1), 1–14. https://doi.org/10.24857/rgsa.v18n1-114

Zhu, T., Liu, Y., Tang, Q., & He, J. (2022). Identifying and modeling the dynamic evolution of niche preferences. Electronic Commerce Research and Applications, (52), 101117. https://doi.org/10.1016/j.elerap.2022.101117

GCG
The Journal *of* Globalization, Competitiveness, and Governability

Responsabilidad Social Corporativa e Innovación. Análisis de los Consumidores *Millennials* de los Servicios Financieros de Ecuador[1]

ÁREA: 6
TIPO: Aplicación

AUTORES

Jessica Lalangui-Ramírez
Universidad Metropolitana, Ecuador
jlalangui@umet.edu.ec

Pedro Severino-González[2]
Universidad Católica del Maule, Chile
pseverino@ucm.cl

Luis Cedillo-Chalaco
Universidad Metropolitana, Ecuador
lcedillo@umet.edu.ec

María José Pérez-Espinoza
Universidad Metropolitana, Ecuador
mjperez@umet.edu.ec

2. Autor de contacto: Departamento de Economía y Administración, Facultad de Ciencias Sociales y Económicas, Universidad Católica del Maule. Avenida San Miguel 3605, Talca, Chile.

Corporate social responsibility and innovation. Analysis of millennial consumers of financial services in Ecuador
Responsabilidade social corporativa e inovação. Análise dos consumidores millennials de serviços financeiros no Equador

La percepción sobre la innovación y responsabilidad social corporativa (RSC) son fundamentales para la gestión estratégica de las empresas modernas. En tal sentido, el objetivo de esta investigación es analizar la influencia que tiene la percepción sobre la innovación en las expectativas de la RSC en consumidores millennials *de los servicios financieros de Ecuador. Esta investigación considera el desarrollo de un modelo de ecuaciones estructurales que permite explicar la relación entre las hipótesis teóricas planteadas. Los resultados demuestran que las percepciones sobre las innovaciones en las entidades financieras influyen levemente en la percepción sobre la RSC en consumidores* millennials *en el sector financiero de Ecuador. Finalmente, los hallazgos se pueden usar para el diseño de estrategias que contribuyan a la creación de valor para los grupos de interés.*

The perception of innovation and corporate social responsibility (CSR) is essential for the strategic management of modern companies. In this sense, the objective of this research is to analyze the influence that the perception of innovation has on CSR expectations among millennial consumers of financial services in Ecuador. This research considers the development of a structural equation model that allows explaining the relationship between the proposed theoretical hypotheses. The results demonstrate that the perception of innovation in financial entities slightly influences the perception of CSR among millennial consumers in the financial sector of Ecuador. Finally, these resources can be used to develop strategies that contribute to creating value for stakeholder groups.

A percepção de inovação e responsabilidade social corporativa (RSE) é essencial para a gestão estratégica das empresas modernas. Neste sentido, o objetivo desta pesquisa é analisar a influência que a percepção da inovação tem nas expectativas de RSE entre os consumidores millennials *de serviços financeiros no Equador. Esta pesquisa considera o desenvolvimento de um modelo de equações estruturais que permita explicar a relação entre as hipóteses teóricas propostas. Os resultados demonstram que a percepção de inovação nas entidades financeiras influencia ligeiramente a percepção de RSE entre os consumidores* millennials *no setor financeiro do Equador. Finalmente, estes recursos podem ser utilizados para desenvolver estratégias que contribuam para a criação de valor para os grupos de partes interessadas.*

DOI	Recibido	Aceptado
10.58416/GCG.2025.V19.N2.02	28.04.2024	21.08.2024

GCG
The Journal *of* Globalization, Competitiveness, and Governability

1. Introducción

La responsabilidad social corporativa (RSC) es un campo de estudio analizado desde diferentes expectativas y perspectivas, incluyendo contextos universitarios, empresariales, hospitalarios, entre otros (Severino-González et al., 2021a). Dichas indagaciones, han constituido orientaciones estratégicas, modelos de gestión, filosofías empresariales, e incluso, paradigmas que incluyen políticas instituciones y decisiones estratégicas en todo tipo de organización (Forcadell y Aracil, 2017; Lillo-Viedma et al., 2022). Lo antes mencionado y, en relación con esta investigación, demuestra la influencia que tiene la RSC en las evaluaciones de los clientes con respecto a determinadas marcas y/o empresas en particular (Bhardwaj et al., 2018; Orazalin et al., 2020).

Es importante señalar que la RSC busca satisfacer las diversas necesidades de los diferentes grupos de interés (Severino-González et al., 2021c). En tal sentido, las opiniones, expectativas y perspectivas de los clientes son trascendental en la gestión estratégica de las empresas y en las decisiones de compra para el cumplimiento de los objetivos financieros (Lerro et al., 2018). Lo cual es consistente con las acciones vinculadas con las responsabilidades éticas y sociales que las compañías desarrollan con el propósito de beneficiar a sus consumidores -y la comunidad en general- (Nofsinger et al., 2019; Chen et al., 2023).

Ahora bien, los consumidores *millennials* constituyen un grupo de interés que exige a las compañías la implementación de estrategias de RSC debido a su mayor conciencia sobre el compromiso social de las empresas. En tal sentido, las expectativas sobre la RSC de los consumidores *millennials*, se constituye de opiniones de un grupo de la población que se encuentra caracterizado por la preocupación de los retos que enfrenta la sociedad, exigiendo innovaciones empresariales que respondan a las demandas de la población (Chatzopoulou y Kiewiet, 2021). En este contexto, la percepción que los *millennials* tienen sobre la innovación y las expectativas que tienen sobre RSC, pueden ser un factor determinante en un entorno cada vez más incierto, volátil y competitivo (Luger et al., 2022; Lillo-Viedma et al., 2023). Sin embargo, en ocasiones existen relaciones negativas entre algunas estrategias de innovación empresarial de acuerdo a determinados contextos con respecto a las expectativas en RSC (Pillai et al., 2022; Anjum et at., 2023)

Las empresas en Ecuador están implementando estrategias de RSC vinculadas con el respeto de los derechos laborales, preservación del medio ambiente y bienestar de las comunidades (Loor et al., 2020). Siendo clave la innovación estratégica para el progreso de todas –y en particular de– las ciudades con mayor desarrollo del mencionado país, como es el caso de Machala. Lo antes mencionado, ha propiciado el posicionamiento de Machala en el quinto lugar con mayor importancia económica a nivel nacional (Capa et al., 2018; Zambrano y Ruano, 2019).

A la luz de lo anteriormente expuesto, este estudio plantea la siguiente pregunta de investigación: ¿Cómo influye la innovación en la RSC en consumidores *millennials* de los servicios financieros de Ecuador? En tal sentido, el objetivo del presente trabajo es analizar la influencia que tiene la percepción sobre la innovación en las expectativas de la RSC en consumidores *millennials* de los servicios financieros de Ecuador.

Palabras clave
Responsabilidad social corporativa, innovación, millennials, sector financiero, gestión estratégica

Keywords
Corporate social responsibility, innovation, millennials, financial sector, strategic management.

Palavras-chave
Responsabilidade social corporativa, inovação, millennials, setor financeiro, gestão estratégica.

Códigos JEL
M14; D2; G14

2. Marco Teórico

En sus inicios la RSC fue considerada una expresión de filantropía empresarial y una manifestación de altruismo corporativo (Latapí et al., 2019). En cambio, hoy día, es apreciada como un elemento central en la gestión estratégica de las organizaciones modernas, debido al impacto que posee en las percepciones y actitudes de los grupos de interés y, a vez, en las decisiones empresariales (Benlemlih y Bitar, 2018). Todo lo cual, aporta a la fidelización de clientes, como consecuencia de la adecuada atención de las necesidades sustentadas en las opiniones y expectativas de los *stakeholders*; aspectos que influyen en la reputación e imagen corporativa en diversos sectores industriales (Yuan et al., 2018; Severino-González et al., 2022).

La RSC puede conducir a la generación de modelos, orientaciones, planes y programas estratégicos que contribuyen a la definición de ventajas competitivas (González et al., 2020). En relación con esta investigación, desde la perspectiva financiera, la importancia que tienen las expectativas sobre la RSC se vincula con los retos que propicia la búsqueda de beneficios económicos y el comportamiento ético para las compañías (Jamali y Karam, 2016). Dichos estudios, incluyen percepciones y expectativas de los *millennials*, los cuales se concentran particularmente en las investigaciones sobre *marketing*, instalando nuevos retos sociales por medio de la gestión socialmente responsable (Trespalacios, 2020).

2.1. RSC e Innovación en Servicios Financieros

La RSC se caracteriza por las diversas prácticas empresariales destinadas a satisfacer las expectativas e intereses económicos y sociales de los diferentes grupos de interés (Rank y Contreras, 2021; Severino-González et al., 2021b). Lo antes planteado, ha motivado al desarrollo de innovaciones empresariales que crean valor para los diferentes grupos de interés (Mbu-Ogar, 2021; Zhao et al., 2023). En tal sentido, su exploración ha incluido el sector de servicios financieros, evidenciando prácticas que buscan responder a mandatos, exigencias y normativas de organismos reguladores (Maqbool y Zameer, 2018).

Las estrategias de RSC implementadas por las empresas en el sector financiero mejoran la lealtad y satisfacción del cliente, y, de manera simultánea, crean ventajas competitivas que pueden incrementar la rentabilidad de la empresa, debido a la atracción de nuevos clientes e inversores interesados en la ética empresarial (Anser et al., 2018). Dichas instituciones financieras se distinguen por sus prácticas y políticas organizacionales que están en coherencia con las expectativas, percepciones y opiniones de los *stakeholders*, debido a la adhesión a estándares éticos que fomentan la confianza entre los consumidores (Luger et al., 2022). Sin embargo, estudios demuestran que algunas estrategias de RSC en determinados contextos podrían afectar negativamente en el desempeño de la empresa (Padilla et al., 2017; Jemal et al., 2022).

El valor de la transparencia adquiere una particular relevancia frente a la actitud crítica de los *millennials*, los cuales muestran escepticismo con respecto a las estrategias de RSC, debido a sucesos negativas experimentados durante períodos de crisis financiera (Chatzopoulou y Kiewiet, 2021). Sin embargo, a pesar de dichas opiniones basadas en la desconfianza, se han desarrollado innovaciones en el sector financiero en respuesta al elevado grado de sensibilización y concientización de los denominados *millennials* (Rank y Contreras, 2021). Esta tendencia busca generar un impacto y rentabilidad económica, social y medioambiental que tribute al bienestar social de la población en general (Chu et al., 2022).

Finalmente, la RSC ha sido un estímulo para la colaboración y la formación de alianzas estratégicas en el sector financiero (Bice, 2017). Debido a la constante cooperación de las instituciones financieras con organizaciones no gubernamentales, entidades gubernamentales locales y otros actores sociales, con el propósito de enfrentar los diferentes desafíos presentes en la sociedad. Estas colaboraciones son a menudo las impulsoras de grandes innovaciones financieras que contribuyen al bienestar comunitario en respuesta de nuevos ideales, percepciones, expectativas y opiniones de los diferentes *stakeholders*.

2.2. Los consumidores *Millennials*

Los *millennials* son un grupo de la población que han nacido entre 1982 y 2000. Según Reavis et al. (2021), el mencionado grupo se distingue por su destreza en el manejo de tecnologías, un elevado nivel educativo y, fundamentalmente, una evidente preocupación por aspectos sociales y ambientales. Las características antes mencionadas, configuran percepciones, opiniones, actitudes y comportamientos particulares con respecto al resto de la población. De acuerdo con Stewart et al. (2017), los *millennials* poseen valores éticos que influyen en sus preferencias, siendo determinante en la elección de productos y la apreciación de servicios en diferentes sectores de la economía.

En tal sentido, algunas de las demandas de los *millennials* es la integración de tecnologías financieras lo que ha impulsado significativamente la innovación en los servicios financieros (Formánková et al., 2019), lo que podría crear valor para todos los intervinientes (Gomber et al., 2018; Chueca y Ferruz, 2021). Este avance se manifiesta en la agilización y simplificación de las transacciones financieras a través de aplicaciones de banca móvil y sistemas de pago digital, lo que, a su vez, mejora la estabilidad financiera y promueve una mayor inclusión financiera (Li et al, 2024).

La influencia de las percepciones de los *millennials* ha generado diversas innovaciones en el sector de servicios financieros, caracterizadas por la sostenibilidad y ética empresarial (Liu et al., 2019), motivando a la reevaluación de los modelos de negocio en búsqueda de una mayor transparencia, equidad y compromiso con el bienestar social (Mosharrof et al., 2023). Esta transición demuestra un cambio de paradigma, como consecuencia de una mayor valoración y la configuración de nuevas expectativas sobre las estrategias de RSC, ética empresarial y sostenibilidad en la gestión estratégica en respuesta a las diversas opiniones de un grupo de la población especificada como *millennials*.

Ahora bien, la asociación entre la percepción de innovación y las expectativas sobre RSC entrega posibilidades para la adecuada definición de estrategia que podrían satisfacer necesidades de los consumidores *millennials* en el sector financiero (Anser et al., 2018; Zahid et al., 2021). Lo antes señalado, debe incluir un adecuado diagnóstico de percepciones y expectativas de los stakeholders, ya que algunos estudios evidencian una relación negativa entre la innovación empresarial y algunas iniciativas vinculadas con RSC (Padilla et al., 2017; Pillai et al., 2022). En relación a todo lo antes señalado, se formulan las siguientes hipótesis:

Hipótesis nula (H0): La percepción sobre la Innovación influye positivamente en las expectativas sobre la RSC en consumidores millennials de servicios financieros en Ecuador.

Hipótesis alternativa (H1): La percepción sobre la Innovación influye negativamente en las expectativas sobre la RSC en consumidores millennials de servicios financieros en Ecuador.

3. Materiales y Método

Para alcanzar los objetivos propuestos en este estudio, se adoptó un enfoque metodológico cuantitativo (Berger, 2018; Phakiti et al., 2018). El alcance de la investigación es descriptivo y correlacional (Hernández et al., 2018). Esta metodología permitió examinar en detalle las variables contenidas en el instrumento administrado a una muestra no probabilística (Hernández y Carpi, 2019).

Esta investigación considera como sujeto de investigación a consumidores *millennials* de servicios financieros de Machala (Ecuador). En cuanto a la población *millennials* se encuentra compuesta por 50033 (INEC, 2010); 65% tiene educación de nivel bachiller y educación superior y, con respecto al sexo, el 50.01% se encuentra representado por sexo masculino. En cuanto a la estimación de la muestra, se considera una población finita se mantiene un nivel de confianza del 95%, un margen de error del 5%, y una probabilidad de éxito y fracaso del 50% para cada caso resultando un total de 384 individuos. La ventana de aplicación del instrumento fue entre 3 al 15 de enero 2024.

El instrumento de recolección de datos se estructuró en tres secciones: primera sección, dedicada a levantar datos sociodemográficos de los *millennials*; la segunda sección, considera la escala de RSC (ver **Tabla 1**), diseñada por Maignan (2001) y aplicada en español por Wendlandt et al. (2016), constituida en cuatro dimensiones: responsabilidad económica (variables del 1 al 4), legal (variables de 5 al 8), ética (variables de 9 al 12), y filantrópica (variables de 13 al 16). En el caso de las respuestas, se dispuso de una escala de tipo Likert de seis puntos: 1. Muy en desacuerdo, 2. En desacuerdo, 3. Ligeramente en desacuerdo, 4. Ligeramente de acuerdo, 5. De acuerdo, y 6. Muy de acuerdo. Es preciso señalar que en **Tabla 1**, se indica la relación de la escala y, luego, se citan algunos estudios que han usado la misma escala de medición en diferentes contextos.

Tabla 1 - Escala de Responsabilidad Social Corporativa

Dimensión	*Ítem/pregunta/variables/expectativas*	*Relación*	*Autor*
1. Económica	1. Maximizar las ganancias	+	Maignan (2001). Wendlandt et al. (2016). Severino-González et al. (2022).
	2. Controlar estrictamente sus costos de producción	+	
	3. Planear el éxito a largo plazo	+	
	4. Mejorar siempre los resultados económicos	+	
2. Legal	5. Asegurarse de que sus empleados actúan dentro de los estándares definidos por la ley	+	
	6. Cumplir con sus obligaciones contractuales	+	
	7. Evitar infringir la ley, incluso si esto ayuda a mejorar el rendimiento	+	
	8. Respetar siempre los principios definidos por el sistema regulatorio	+	
3. Ética	9. Cumplir con los aspectos éticos, aunque afecten negativamente el desempeño económico	+	
	10. Asegurar el respeto a los principios éticos tiene prioridad sobre el desempeño económico	+	
	11. Estar comprometidas con principios éticos bien definidos	+	
	12. Evitar comprometer los estándares éticos a fin de lograr objetivos corporativos	+	

4. Filantrópica	13. Ayudar a resolver problemas sociales	+	Maignan (2001). Wendlandt et al. (2016). Severino-González et al. (2022).
	14. Participar en la gestión de los asuntos públicos	+	
	15. Destinar parte de sus recursos a las actividades filantrópicas	+	
	16. Desempeñar un papel importante en nuestra sociedad más allá de la pura generación de beneficios	+	

Fuente: elaboración propia, basada en Wendlandt Amezaga et al. (2016)

En relación con la tercera sección, se aplicó una escala unidimensional de percepción sobre Innovación (ver **Tabla 2**), adaptando ítems específicos del cuestionario desarrollado por Nahuat et al. (2021), compuesta por 5 ítems. En lo que respecta a la forma de respuesta, se considera una escala tipo Likert de tres puntos: 1. Sí, 2. No, y 3. Tal vez. Es preciso señalar que en **Tabla 2**, se indica la relación de la escala por cada variable y, luego, se detallan algunos estudios que han usado la escala de medición en diferentes contextos.

Tabla 2 - Escala de Innovación

Dimensión	*Variables/percepción*	*Relación*	*Autor*
1. Innovación	1. Importancia innovación	+	Martinez-Conesa et al (2017). Nahuat et al. (2021).
	2. Nuevos servicios financieros	+	
	3. Ideas clientes	+	
	4. Participación trabajadores	+	
	5. Importancia innovación	+	

Fuente: elaboración propia, basada en Nahuat et al. (2021)

En este estudio se realizaron análisis estadísticos para explorar las características subyacentes de los datos recopilados mediante las dos escalas mencionadas anteriormente. Inicialmente, se calcularon estadísticos descriptivos como media, mediana y desviación estándar (DE). Lo anterior, para obtener un análisis preliminar de la distribución de los datos, facilitando una comprensión inicial de las respuestas (Ceresoli y Nespoli, 2022).

En cuanto a la confiabilidad de las escalas usadas en este estudio, se estimó el coeficiente Alfa de Cronbach para las cuatro dimensiones de la escala de RSC y de la escala unidimensional compuesta por cuatro ítems de la escala Innovación. Este coeficiente es ampliamente reconocido por su capacidad para evaluar la coherencia interna de un conjunto de ítems dentro de un constructo psicométrico (Hoekstra et al., 2019).

El análisis incluyó la construcción de un modelo de ecuaciones estructurales -SEM- (Mueller y Hancock, 2018), considerando dos variables latentes: RSC e Innovación. Este modelo, permite entender la relación entre las variables latentes estudiadas (Tarka, 2017). Luego, con el propósito de optimizar el ajuste del modelo, se realizó una re-especificación de covarianzas entre determinadas dimensiones, lo cual fue sugerido por índices de modificación.

Finalmente, para evaluar la idoneidad del modelo re-especificado, se utilizaron índices estándar de ajuste en SEM (Whittaker y Schumacker, 2022), como CFI (en inglés es Comparative Fit Index),

χ^2 (Chi cuadrado), RMSEA (en inglés Root Mean Square Error of Approximation) y SRMR (en inglés Standardized Root Mean Square Residual). Estos indicadores permitieron validar el ajuste del modelo estructural propuesto en correspondencia con los datos empíricos, ofreciendo una evaluación crítica de la integridad y aplicabilidad de las teorías que sustentan la investigación.

4. Resultados

4.1. Características de los participantes

En Machala (Ecuador) la población *millennials* se encuentra compuesta por 50033, en cuanto a la muestra de este estudio se compone de 384 consumidores *millennials* de servicios financieros de Machala (Ecuador). La mencionada muestra es representativa de la población debido a sus similitudes en relación con el nivel de estudio y el sexo. En **Tabla 3**, se presentan las características de los participantes.

Tabla 3 - Frecuencias de variables sociodemográficas

Variable	*Categorías*	*Valores*
Sexo	Femenino	54.95%
	Masculino	45.05%
Edad	De 30 a 33 años	90,89
	De 34 a 36 años	4.69%
	De 37 a 39 años	1.56%
	De 40 a 42 años	2.86%
Nivel de estudios	Primaria	1.82%
	Secundaria	37.76%
	Nivel técnico	18.75%
	Tercer nivel	36.46%
	Cuarto nivel	5.21%

Fuente: elaboración propia

4.2. Indicadores estadísticos y consistencia interna

En la **Tabla 4** y **Tabla 5** se observan los indicadores estadísticos y los valores de consistencia interna de acuerdo con las dimensiones de la RSC e Innovación. Todos los valores asociados a cada una de las variables y dimensiones, en especial, los resultados del análisis de consistencia interna proporcionan una base sólida para el desarrollo de un modelo SEM.

Tabla 4 - Indicadores estadísticos de la escala sobre RSC

Escalas	*Dimensión*	*Ítem/pregunta/variables/expectativas*	*Media*	*Desviación estándar (DE)*	*Alfa de Cronbach*
1. RSC	*1. Económica*	1. Maximizar las ganancias	3.86	1.64	0.9686
		2. Controlar estrictamente sus costos de producción	3.81	1.55	
		3. Planear el éxito a largo plazo	3.97	1.56	
		4. Mejorar siempre los resultados económicos	4.02	1.64	
	2. Legal	5. Asegurarse de que sus empleados actúan dentro de los estándares definidos por la ley	4.0	1.62	0.9789
		6. Cumplir con sus obligaciones contractuales	3.98	1.62	
		7. Evitar infringir la ley, incluso si esto ayuda a mejorar el rendimiento	3.92	1.64	
		8. Respetar siempre los principios definidos por el sistema regulatorio	4.05	1.64	
	3. Ética	9. Cumplir con los aspectos éticos, aunque afecten negativamente el desempeño económico	3.86	1.6	0.9679
		10. Asegurar el respeto a los principios éticos tiene prioridad sobre el desempeño económico	4.01	1.6	
		11. Estar comprometidas con principios éticos bien definidos	4.05	1.62	
		12. Evitar comprometer los estándares éticos a fin de lograr objetivos corporativos	3.9	1.62	
	4. Filantrópica	13. Ayudar a resolver problemas sociales	4.01	1.6	0.9685
		14. Participar en la gestión de los asuntos públicos	3.95	1.57	
		15. Destinar parte de sus recursos a las actividades filantrópicas	3.75	1.57	
		16. Desempeñar un papel importante en nuestra sociedad más allá de la pura generación de beneficios	3.75	1.61	

Tabla 5 - Indicadores estadísticos de la escala Innovación

Dimensión	*Ítem/pregunta/variables/expectativas*	*Media*	*Desviación estándar (DE)*	*Alfa de Cronbach*
1. Innovación	1. Importancia innovación	2.11	0.34	0.7303
	2. Nuevos servicios financieros	2.21	0.49	
	3. Ideas clientes	2.2	0.46	
	4. Participación trabajadores	2.21	0.43	
	5. Importancia innovación	2.11	0.34	

Fuente: elaboración propia

4.3. Propuesta de Modelo Teórico

Dado el objetivo de este estudio se desarrolló un modelo SEM. Este modelo incorpora dos variables latentes: por un lado, la RSC, integrada por las cuatro dimensiones mencionadas como variables observadas, y la segunda, la Innovación, constituida por los cuatro ítems constituyendo una variable unidimensional. Para garantizar la confiabilidad del modelo, se calculó el Alfa de Cronbach, obteniendo valores robusta (ver **Tabla 6**).

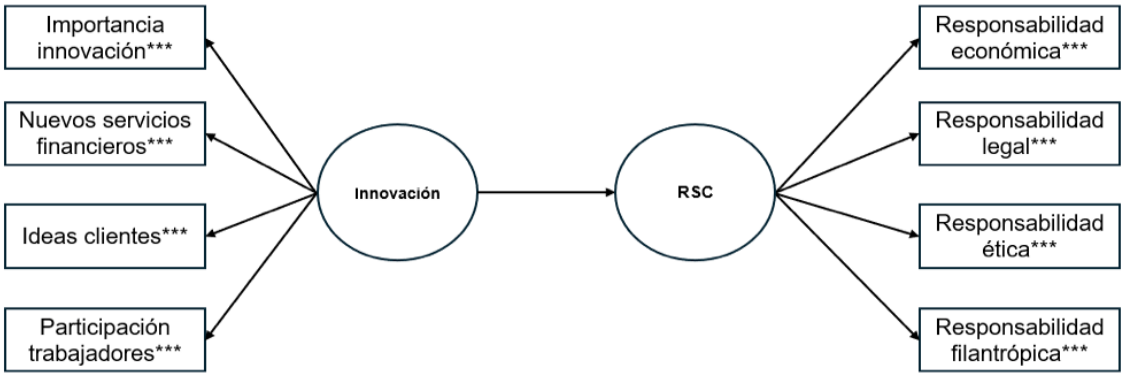
Tabla 6 - Indicadores estadísticos de la escala Innovación

1. RSC	*Alfa de Cronbach*	*2. Innovación*	*Alfa de Cronbach*
1. Económica	0.9784	It1: Importancia innovación	0.7303
2. Legal		It2: Nuevos servicios financieros	
3. Ética		It3: Ideas clientes	
4. Filantrópica		It4: Participación trabajadores	

Fuente: elaboración propia

Para profundizar en la comprensión de la relación entre RSC e Innovación, se procedió en la implementación de un modelo SEM utilizando el paquete lavaan del software R versión 2024.04.2+764, considerando que las percepciones sobre la innovación ejercen influencia en las expectativas sobre RSC (Anser et al., 2018; Zahid et al., 2021). Dicho modelo se diseñó para representar las relaciones dinámicas entre estas variables cruciales (ver **Figura 1**). En este esquema, los círculos simbolizan las variables latentes, reflejando los constructos teóricos de Innovación y RSC, mientras que los rectángulos delinean las variables observadas.

Figura 1 - Modelo hipotético de ecuaciones estructurales



Nota: *** representa significancia al p<0.01.

Fuente: elaboración propia.

Luego, se procede a la evaluación del modelo estructural (**Tabla 7**). En tal sentido, se considera el estimador de máxima verosimilitud en una muestra de 384 datos, revelaron los siguientes indicadores: $\chi^2(19) = 0.000$, $p < .05$; CFI = 0.986, RMSEA = 0.073 (con un intervalo de confianza de 0.052 a 0.095), y

SRMR = 0.038. Los valores antes señalados, permiten asegurar que existe una significancia estadística en la relación entre las variables observadas y las variables latentes (**Tabla 8**), incluso teniendo presente que las varianzas explicadas se sitúan por debajo del umbral del 5%. Sin embargo, el modelo no logra cumplir con todos los criterios preestablecidos para los índices de ajuste (ver **Tabla 9**). Específicamente, aunque el CFI sugiere un excelente ajuste y el SRMR confirma una discrepancia mínima entre los patrones de comportamiento observados y los estimados por el modelo, el RMSEA supera ligeramente el umbral óptimo.

Tabla 7 - Estadísticos de ajuste de modelo SEM

Estadísticos	*Valores*
Test estadístico	58.273
Grados de libertad	19
P-valor (Chi2)	0.000
CFI	0.986
RMSEA	0.073
- Intervalo bajo	0.052
- Intervalo alto	0.095
SRMR	0.038

Fuente: elaboración propia

Tabla 8 - Estadísticos de las variables latentes

Modelos de ecuaciones lineales	*Estimador*	*Desviación estándar*	*Valor-Z*	*P(>|z|)*	*Variables latentes estandarizadas*	*Todo estandarizado*	*Significatividad*
Innovación =~							
It1: Importancia innovación	1				0.235	0.694	***
It2: Nuevos servicios financieros	1.293	0.141	9.164	0.000	0.304	0.622	***
It3: Ideas clientes	1.189	0.133	8.973	0.000	0.28	0.602	***
It4: Participación trabajadores	1.229	0.129	9.515	0.000	0.289	0.668	***
RSC =~							
Responsabilidad económica	1				1.474	0.954	***
Responsabilidad legal	1.046	0.021	49.635	0.000	1.542	0.976	***
Responsabilidad ética	1.006	0.022	46.204	0.000	1.483	0.965	***
Responsabilidad filantrópica	0.971	0.024	40.004	0.000	1.432	0.939	***

Nota: *** representa significancia al p<0.01.

Fuente: elaboración propia.

Tabla 9 - Estadísticos de las varianzas de las variables del modelo de ecuaciones estructurales

Variables observadas y latentes	*Estimador*	*Error estándar*	*Valor-Z*	*P(>|z|)*	*Significatividad*
It1: Importancia innovación	0.06	0.006	9.236	0.000	***
It2: Nuevos servicios financieros	0.147	0.014	10.742	0.000	***
It3: Ideas clientes	0.138	0.012	11.064	0.000	***
It4: Participación trabajadores	0.104	0.011	9.833	0.000	***
Responsabilidad económica	0.217	0.02	10.999	0.000	***
Responsabilidad legal	0.117	0.015	8.021	0.000	***
Responsabilidad ética	0.162	0.016	9.901	0.000	***
Responsabilidad filantrópica	0.273	0.023	11.748	0.000	***
Innovación	0.055	0.009	6.455	0.000	***
RSC	2.169	0.172	12.611	0.000	***

Nota: *** representa significancia al p<0.01.

Fuente: elaboración propia.

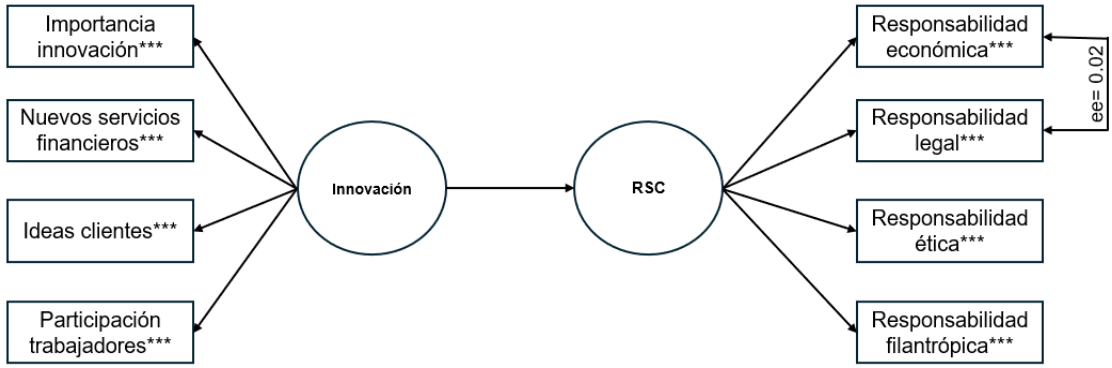
4.4. Modificación Post Hoc de la Propuesta del Modelo Estructural

Debido a los resultados obtenidos previamente, se procedió a una modificación post hoc con el objetivo de refinar y optimizar la estructura del modelo propuesto. En tal sentido, se tomó como base los índices de modificación, que sirvieron como guía para esta revisión, se procedió a incorporar de manera secuencial ajustes específicos al modelo. El cambio más significativo consistió en la adición de una covarianza entre las dimensiones de responsabilidad económica y responsabilidad legal. Esta decisión se fundamentó en el hecho de que el índice de modificación para esta interacción particular alcanzó el valor más elevado de 34.91, superando a otras posibles combinaciones de variaciones y covarianzas sugeridas por el modelo inicial.

La incorporación de esta covarianza se justifica por la estrecha relación conceptual entre la responsabilidad económica y la responsabilidad legal dentro del marco de la RSC (ver **Figura 2**). Se postula que estas dimensiones interactúan de manera significativa, reflejando la interdependencia entre el cumplimiento legal y el desempeño económico en las prácticas socialmente responsables.

El mencionado ajuste metodológico no solo se alinea con las expectativas teóricas y las realidades prácticas de la gestión empresarial, sino que, también mejora la capacidad del modelo para capturar la complejidad y la multidimensionalidad de la RSC, aumentando así su congruencia con los datos observados en correspondencia con su validez teórica.

Figura 2 - Modelo hipotético de ecuaciones estructurales re-especificado



Nota: *** representa significancia al p<0.01, ee= error estándar.

Fuente: elaboración propia.

En la **Tabla 10** se presentan los resultados del modelo de ecuaciones estructurales re-especificado, dirigidos a explorar la interacción entre la RSC y la innovación. Se observa que los indicadores estadísticos reveladores: $\chi^2(18) = 0.109$, con un valor de p superior a 0.05. Este resultado sugiere una adecuada adaptación del modelo con respecto a los datos empíricos disponibles, al no presentar diferencias significativas entre las matrices de covarianza observadas y estimadas. Además, se registraron valores de CFI de 0.997, un RMSEA de 0.033, con intervalo de confianza entre 0.000 a 0.060, y un SRMR de 0.038.

Por lo tanto, las métricas indicadas previamente demuestran un excelente ajuste del modelo re-especificado de RSC en función de la innovación, evidenciando una alta correspondencia con las estructuras teóricas subyacentes; que, además, expone baja magnitud del error estándar indica que la estimación es precisa.

Tabla 10 - Estadísticos de ajuste del modelo de ecuaciones estructurales

Estadísticos	*Valores*
Test estadístico Chi2	25.606
Grados de libertad	18
P-valor (Chi2)	0.109
CFI	0.997
RMSEA	0.033
- Intervalo bajo	0.00
- Intervalo alto	0.06
SRMR	0.038

Fuente: elaboración propia

En este contexto, las variables observadas seleccionadas para representar las dimensiones latentes de RSC e Innovación demostraron significancia en sus coeficientes y varianzas, confirmando la pertinencia

y la contribución relevante de cada variable al constructo general del modelo (ver **Tabla 11**). En tal sentido, es notable que la introducción de una covarianza entre las dimensiones de responsabilidad económica y legal, como parte de la re-especificación ha permitido esclarecer de manera más precisa la relación existente entre la RSC y la innovación.

Tabla 11 - Covarianza entre responsabilidad económica y legal

Covarianzas	*Estimador*	*Error estándar*	*Valor-Z*	*P(>|z|)*	*Variables latentes estandarizadas*	*Todo estandarizado*	*Significatividad*
Responsabilidad económica ~~ Responsabilidad legal	0.102	0.02	-0.78	0.000	-0.047	-0.047	***

Nota: *** representa significancia al p<0.01.

Fuente: elaboración propia.

De acuerdo a lo observado en la **Tabla 12**, se puede señalar que la evaluación mediante el modelo de ecuaciones estructurales ha permitido establecer una relación teóricamente fundamentada entre la RSC y la Innovación, la cual presenta una asociación leve de -0.047 (-4.7%). Este hallazgo indica que el aumento en la percepción sobre la innovación dentro de las entidades financieras estudiadas conlleva una disminución marginal en las expectativas sobre RSC. Esta relación negativa, aunque no pronunciada ni estadísticamente significativa, sugiere que las prácticas innovadoras, en ciertos contextos, pueden influir sutilmente en la intensidad y el enfoque de las actividades de RSC.

Tabla 12 - Correlación entre Innovación y RSC

Variables latentes	*Innovación*	*RSC*
Innovación	1	
RSC	-0.047	1

Fuente: elaboración propia

Este fenómeno puede explicarse considerando varios factores. La literatura especializada sugiere que la implementación de innovaciones, especialmente las de carácter disruptivo, puede requerir una realineación de recursos y prioridades dentro de la organización (Chu et al., 2022; Zubizarreta et al., 2021). En este proceso, es plausible que ciertas iniciativas de RSC reciban temporalmente menos atención o recursos, particularmente en etapas iniciales de adaptación e integración de nuevas tecnologías o procesos. Además, la orientación hacia la innovación podría introducir nuevas dinámicas en la relación de la empresa con sus *stakeholders*, modificando las potenciales expectativas sobre las exigencias que podrían constituir estrategias de RSC (Cegarra et al., 2016; Martínez et al, 2017).

Sin embargo, es importante destacar que esta evaluación no implica necesariamente una causalidad directa ni una relación inversa sustancial entre la percepción sobre la Innovación y las expectativas sobre la RSC en el largo plazo. De hecho, diversas investigaciones han evidenciado que la integración de la innovación con estrategias de RSC puede generar sinergias positivas, impulsando tanto el desarrollo sostenible como la competitividad empresarial (Szutowski y Ratajczak, 2016; Saavedra-García et al., 2024). Por tanto, el ligero decremento observado podría reflejar ajustes temporales más que tendencias

consolidadas, enfatizando la necesidad en integrar estrategias que articulen la innovación con los objetivos de RSC en las compañías prestadores de servicios financieros de Ecuador.

En relación con lo antes señalado, es preciso que el diseño de estrategias de RSC y las innovaciones en el sector financiero puedan incluir un diagnóstico que permita el análisis de las percepciones y actitudes de los grupos de interés. En relación con esta investigación, los *millennials* son un grupo de la población que valora las estrategias de RSC, lo cual no incluye necesariamente en esa valoración la misma opinión con respecto a las acciones que evidencian una innovación en los servicios financieros en Ecuador. Todo lo antes señalado, podría influir en las decisiones de compra de productos financieros *millennials* como consecuencia de sus percepciones sobre la innovación y sus expectativas en cuanto a las estrategias de RSC, generando mayor o menor satisfacción

Finalmente, este análisis subraya la complejidad de gestionar simultáneamente la innovación y la RSC en el sector financiero, invitando a una reflexión más profunda sobre métodos, procedimientos y estrategia que las empresas podrían usar para equilibrar estos dos imperativos estratégicos. Lo antes señalado, en relación a la construcción de valor que incluya impactos sociales positivo y sostenible, sin comprometer la capacidad de innovación de las empresas que prestan servicios financieros de Ecuador.

5. Conclusiones

El estudio la RSC y la innovación en diversos contextos ha tomado mayor fuerza en los últimos tiempos debido a las dinámicas, incertidumbres y cambios que ha caracterizado a la sociedad en las últimas décadas. En tal sentido, las investigaciones que consideran las implicancias de las estrategias socialmente responsables en diferentes sectores industriales instala retos y desafíos sin precedentes. Es por ello que, este trabajo busca aportar al análisis de la influencia que tiene la innovación en la RSC en consumidores *millennials* de los servicios financieros de Ecuador, lo que entrega insumos para el diseño de estrategias que buscan satisfacer las necesidades y requerimientos de los *stakeholders*.

Por otro lado, es preciso promover el desarrollo de estrategias focalizadas de acuerdo a las dinámicas que caracterizan la innovación y la conservación del valor de la RSC en clientes *millennials* en sectores financieros. En relación con este aspecto, la leve asociación negativa entre la RSC y la innovación en este estudio, proporciona una oportunidad única para investigar el vínculo entre estas dos variables importantes. Todo lo cual, debería ser valorado por las empresas debido a la delicada interacción para navegar la integración de nuevas prácticas sin menoscabar su compromiso con la responsabilidad social.

La re-especificación de covarianzas realizada para optimizar el modelo estructural ha revelado una interrelación significativa entre las dimensiones económica y legal de la RSC. Este hallazgo apunta hacia una interacción sinérgica entre el cumplimiento de las obligaciones legales y el rendimiento económico, lo cual es de gran relevancia en la formulación de políticas y estrategias corporativas. Las empresas financieras deben, por lo tanto, considerar cómo interactúan las prácticas legales y económicas.

Es necesario señalar que este trabajo centra su análisis en las expectativas y percepciones de los *millennials*, los cuales son consumidores de servicios financieros en Ecuador. En tal sentido, este estudio no incluye la exploración del comportamiento del sujeto de investigación en su rol de consumidor, sino más bien, en su condición de *millennials*. Sin embargo, tras la revisión de la literatura y en relación con los resultados de este trabajo, se puede inferir que los consumidores *millennials* de servicios financieros valoran positivamente las estrategias de innovación y RSC. Todo lo cual, en ocasiones podría llegar a influir en las preferencias y decisiones de compra.

Ahora bien, en relación a las limitaciones de la investigación es el plan muestral, el tamaño de la muestra y la consideración de un exclusivo grupo de interés. Es por ello que futuros análisis podrían incluir a diversos grupos de interés que integran el sector industrial de servicios financieros de Ecuador. Además, se hace necesario la comparación de los sujetos de investigación en diversas económicas para la determinación de diferencias significativas de acuerdo a las realidades de América Latina y El Caribe. Finalmente, es perentorio utilización de diversas técnicas y estrategias para una mayor comprensión del fenómeno *millennials* en la industria prestadora de servicios financieros.

Referencias

Anjum, S., Nadarajan, G., Mutai, N., Kamali, A., Silwizya, K., Ibeh, L., Bertero, L, & Cuong, N. M. (2023). "Understanding the impact of sustainable marketing influences towards Malaysia's gen z's green consumption intentions", Journal of Namibian Studies: History Politics Culture, Vol. 36, pp. 864-893. doi: https://doi.org/10.59670/jns.v36i.4560

Anser, M., Zhang, Z., & Kanwal, L. (2018). "Moderating effect of innovation on corporate social responsibility and firm performance in realm of sustainable development", Corporate Social Responsibility and Environmental Management, Vol. 25, Num. 2, pp. 1-8. doi: https://doi.org/10.1002/csr.1495

Benlemlih, M., & Bitar, M. (2018). "Corporate Social Responsibility and Investment Efficiency", Journal of Business Ethics, Vol. 148, pp. 647-671. doi: https://doi.org/10.1007/s10551-016-3020-2

Berger, A. (2018). "Media and communication research methods: An introduction to qualitative and quantitative approaches", London UK: SAGE Publication.

Bhardwaj, P., Chatterjee, P., Dogerlioglu, K., & Turut, O. (2018). "When and how is corporate social responsibility profitable? Journal of Business Research, Vol. 84, pp. 206-219. doi: https://doi.org/10.1016/j.jbusres.2017.11.026

Bice, S. (2017). "Corporate social responsibility as institution: A social mechanisms framework", Journal of Business Ethics, Vol. 143, pp. 17-34. doi: https://doi.org/10.1007/s10551-015-2791-1

Capa, L., Flores, C., & Sarango, Y. (2018). "Evaluación de factores de riesgos que ocasionan accidentes laborales en las empresas de Machala-Ecuador", Universidad y Sociedad, Vol. 10, Núm. 2, pp. 335-340.

Cegarra, J., Reverte, C., Gómez, E., & Wensley, a. (2016). "Linking social and economic responsibilities with financial performance: The role of innovation", European Management Journal, Vol. 34, Num. 5, pp. 530-539. doi:https://doi.org/10.1016/j.emj.2016.02.006

Ceresoli, M., & Nespoli, L. (2022). "Analyzing continuous variables: descriptive statistics, dispersion and comparison". In M. Ceresoli, F. Abu-Zidan, K. Staudenmayer, F. Catena, & F. Coccolini, Statistics and research methods for acute care and general surgeons (pp. 55-66). Springer. doi: https://doi.org/10.1007/978-3-031-13818-8_5

Chatzopoulou, E., & de Kiewiet, A. (2021). "Millennials' evaluation of corporate social responsibility: The wants and needs of the largest and most ethical generation", Journal of Consumer Behaviour, Vol. 20, Num. 3, pp. 521-534. doi: https://doi.org/10.1002/cb.1882

Chen, L., Matloob, S., Sunlei, Y., Qalati, S. A., Raza, A., & Sánchez-Limón, M. (2023). "A moderated–mediated model for eco-conscious consumer behavior", Sustainability, Vol. 15, Num. 2, p. 897. doi: https://doi.org/10.3390/su15020897

Chu, M., Muhamad, H., Mustapha, M., San, O., Zan, F., & Jia, X. (2022). "Research trends in corporate social responsibility and innovation: a bibliometric analysis", Sustainability, Vol. 14, pp. 14185. doi: https://doi.org/10.3390/su142114185

Chueca, C., & Ferruz, L. (2021). "Fintech and sustainability: Do they affect each other?", Sustainability, Vol. 13, Num. 13, pp. 1-19. doi: https://doi.org/10.3390/su13137012

Forcadell, F., & Aracil, E. (2017). "European banks' reputation for corporate social responsibility", Corporate Social Responsibility and Environmental Management, Vol. 24, pp. 1-14. doi: https://doi.org/10.1002/csr.1402

Formánková, S., Trenz, O., Faldík, O., Kolomazník, J., & Sládková, J. (2019). "Millennials' awareness and approach to social responsibility and investment. Case study of the Czech Republic", Sustainability, Vol. 11, Num. 2, pp. 504. doi: https://doi.org/10.3390/su11020504

Gomber, P., Kauffman, R., Parker, C., & Weber, B. (2018). "On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services", Journal of Management Information Systems, Vol. 35, Num. 1, pp. 220-265. doi: https://doi.org/10.1080/07421222.2018.1440766
Hernández, C., & Carpi, N. (2019). "Introducción a los tipos de muestreo", Alerta, Vol. 2, Núm. 1, pp. 75-79. doi: https://doi.org/10.5377/alerta.v2i1.7535

Hernández, R., Fernández, C., & Baptista, P. (2018). "Metodología de la investigación", México D.F.: McGraw Hill.

Hoekstra, R., Vugteveen, J., Warrens, M., & Kruyen, P. (2019). "An empirical analysis of alleged misunderstandings of coefficient alpha", International Journal of Social Research Methodology, Vol. 22, Num. 4, pp. 351-364. doi: https://doi.org/10.1080/13645579.2018.1547523

Instituto Nacional de Estadísticas y Censos [INEC] (2010). Resultados del Censo 2010 de Ecuador. Disponible en: https://www.ecuadorencifras.gob.ec/resultados/. Acceso: 12 de julio de 2024.

Jamali, D., & Karam, C. (2016). "Corporate Social Responsibility in Developing Countries as an Emerging Field of Study", International Journal of Management Reviews, Vol. 20, Num. 1, pp. 32-61. doi: https://doi.org/10.1111/ijmr.12112

Jemal, S., Ayenew, Z. & Lemmi, K. (2022). "Systematic Literature Review on Corporate Social Responsibility Practice of Organization", Horn of African Journal of Business and Economics (HAJBE), Vol. 5, Num. 2, pp. 180-197

Latapí, M., Jóhannsdóttir, L., & Davídsdóttir, B. (2019). "A literature review of the history and evolution of corporate social responsibility", International Journal of Corporate Social Responsibility, Vol. 4, Num. 1, pp. 1-23. doi: https://doi.org/10.1186/s40991-018-0039-y

Lerro, M., Caracciolo, F., Vecchio, R., & Cembalo, L. (2018). "Consumer's Side of Corporate Social Responsibility: A Nonhypothetical Study", Journal of Consumer Affairs, Vol. 52, Num. 3, pp. 689-710. doi: https://doi.org/10.1111/joca.12182

Li, B., Guo, F., Xu, L., & Meng, S. (2024). "Fintech business and corporate social responsibility practice", Emerging Markets Review, Num. 59. doi: https://doi.org/10.1016/j.ememar.2023.101105

Lillo, F., Severino-González, P., Rodríguez-Quezada, E., Arenas-Torres, F., Sarmiento-Peralta, G. (2023). "Machine learning approach for predicting corporate social responsibility perception in university students", Interciencia, Vol. 48, Num. 10, pp. 503-512.

Lillo, F., Severino-González, P., Santander, V., García, L., Guiñez, N., & Astorga, N. (2022). "Corporate Social Responsibility and Social Network Analysis: Unionized Workers' Perceptions", Sustainability, Vol. 14, Num. 7, pp. 1-15. doi: https://doi.org/10.3390/su14074320

Liu, J., Zhu, Y., Serapio, M., & Cavusgil, T. (2019). "The new generation of millennial entrepreneurs: A review and call for research", International Business Review, Vol. 28, Num. 5, pp. 1-10. doi: https://doi.org/10.1016/j.ibusrev.2019.05.001

Loor, M., González, F., Moreira, N., & Hidalgo, A. (2020). "Analysis of the relationships between corporate social responsibility and corporate sustainability: empirical study of co-operativism in Ecuador", International Journal of Sustainable Development & World Ecology, Vol. 27, Num. 4, pp. 1-12. doi: https://doi.org/10.1080/13504509.2019.1706661

Luger, M., Hofer, K., & Floh, A. (2022). "Support for corporate social responsibility among generation y consumers in advanced versus emerging markets", International Business Review, Vol. 31, Num. 2, pp. 1-12. doi: https://doi.org/10.1016/j.ibusrev.2021.101903

Maignan, I. (2001). "Consumers' Perceptions of Corporate Social Responsibilities: A Cross-Cultural Comparison", Journal of Business Ethics, Vol. 30, pp. 57-72. doi: http://dx.doi.org/10.1023/A:1006433928640

Maqbool, S., & Zameer, N. (2018). "Corporate social responsibility and financial performance: An empirical analysis of Indian banks", Future Business Journal, Vol. 4, Num. 1, pp. 84-93. doi: https://doi.org/10.1016/j.fbj.2017.12.002

Martínez, I., Soto, P., & Palacios, M. (2017). "Corporate social responsibility and its effect on innovation and firm performance: An empirical research in SMEs", Journal of Cleaner Production, Vol. 142, Num. 4, pp.2374-2383. doi: https://doi.org/10.1016/j.jclepro.2016.11.038

Martinez-Conesa, I., Soto-Acosta, P., & Palacios-Manzano, M. (2017). "Corporate social responsibility and its effect on innovation and firm performance: An empirical research in SMEs", Journal of Cleaner Production, Vo. 142, pp. 2374-2383. doi: https://doi.org/10.1016/j.jclepro.2016.11.038

Mbu-Ogar, G. (2021). "Business Ethics and Corporate Social Responsibility: A Conceptual Approach", Journal of Accounting and Financial Management, Vol. 7, Num. 5, pp. 80-92.

Mosharrof, H., Ai-Fen, L., Taslima, J., & Naveed, K. C.-K. (2023). "Millennials fintech services adoption: What matters most?" In M. Al-Sharafi, M. Al-Emran, G. Tan, & K. Ooi, Current and Future Trends on Intelligent Technology Adoption (pp. 229-243). Cham: Springer. doi: https://doi.org/10.1007/978-3-031-48397-4_12

Mueller, R., & Hancock, G. (2018). "Structural Equation Modeling. In The reviewer's guide to quantitative methods in the social" (pp. 12). Routledge.

Nahuat, B., Rodríguez, M., & Gómez, M. d. (2021). "Innovación, Responsabilidad Social Empresarial en grandes empresas", Innovación, Vol. 50, Núm. 12, pp. 1-17. doi: https://doi.org/10.35426/iav50n128.01

Nofsinger, J., Sulaeman, J., & Varma, A. (2019). "Institutional investors and corporate social responsibility", Journal of Corporate Finance, Vo. 58, pp. 700-725. doi: https://doi.org/10.1016/j.jcorpfin.2019.07.012

Orazalin, N., & Baydauletov, M. (2020). "Corporate social responsibility strategy and corporate environmental and social performance: The moderating role of board gender diversity", Corporate Social Responsibility Environmental Management, pp. 1-13. doi: https://doi.org/10.1002/csr.1915

Padilla, C. P., Arévalo, D. X., Bustamante, M. A., & Vidal, C. L. (2017). "Responsabilidad Social Empresarial y desempeño financiero en la industria del plástico en ecuador", Información tecnológica, Vol. 28, Núm. 4, pp. 93-102. doi: http://dx.doi.org/10.4067/S0718-07642017000400012

Phakiti, A., De Costa, P., Plonsky, L., & Starfield, S. (2018). Quantitative Methodology. Londres: Palgrave Macmillan.

Pillai, R. D., Wang, P., & Kuah, A. T. (2022). "Unlocking corporate social responsibility in smaller firms: Compliance, conviction, burden, or opportunity?", Thunderbird International Business Review, Vol. 64, Num. 6, pp. 627-646. doi: https://doi.org/10.1002/tie.22315

Rank, S., & Contreras, F. (2021). "Do millennials pay attention to corporate social responsibility in comparison to previous generations? Are they motivated to lead in times of transformation? A qualitative review of generations, CSR and work motivation", International Journal of Corporate Social Responsibility, Vol. 6, Num. 4, pp. 1-13. doi: https://doi.org/10.1186/s40991-020-00058-y

Reavis, M., Singh, K., & Tucci, J. (2021). "Millennials' strategic decision making through the lens of corporate social responsibility and financial management", Journal of Business Strategies, Vol. 38, Num. 2, pp. 123-146. doi: https://doi.org/10.54155/jbs.38.2.125-146

Saavedra-García, M. L., Vargas-Vega, T. J. & Sánchez-Limón, M. L. (2024). "La sustentabilidad empresarial, los informes de sustentabilidad, los índices sustentables y el desempeño financiero", Lúmina, Vol. 25, Num. 1, p. E0057. doi: https://doi.org/10.30554/lumina.v25.n2.4932.2024

Severino-González, P., Acuña-Moraga, O., González-Gutiérrez, P., & Araya-González, I. (2022). "Responsabilidad social corporativa y supermercados. Explorando la percepción de los consumidores en Chile", Interciencia, Vol. 47, Núm. 1/2, pp. 24-30.

Severino-González, P., Duque-Orozco, Y., & Villar-Olaeta, J. (2021a). "Percepción de líderes sindicales sobre la responsabilidad social empresarial: desafíos para su gestión estratégica", Interciencia, Vol. 46, Núm. 3, pp. 110-117.

Severino-González, P., Medina-Giacomozzi, A., & Muñoz-Huaracán, S. (2021b). "Responsabilidad social y sistema de salud. Percepción: percepción de los trabajadores de la salud de Chile", Interciencia, Vol. 46, Núm. 3, pp. 126-132.

Severino-González, P., Villalobos-Antunez, J., Vergara-Gómez, J., & Yáñez-Venegas, M. (2021c). "Percepción sobre la responsabilidad social corporativa de los estudiantes de educación superior de Chile". Formación universitaria, Vol. 14, Núm. 4, pp. 39-48. doi: http://dx.doi.org/10.4067/S0718-50062021000400039

Stewart, J., Goad, E., Cravens, K., & Oishi, S. (2017). "Managing millennials: Embracing generational differences. Business Horizons", Vol. 60, Num. 1, pp. 45-54. doi: https://doi.org/10.1016/j.bushor.2016.08.011

Szutowski, D., & Ratajczak, P. (2016). "The relation between CSR and innovation. Model approach", Journal of Entrepreneurship, management and innovation, Vol. 12, Num. 2, pp. 77-94.

Tarka, P. (2017). "An overview of structural equation modeling: its beginnings, historical development, usefulness and controversies in the social sciences", Quality & Quantity, Vol. 52, pp. 313-354. doi: https://doi.org/10.1007/s11135-017-0469-8

Trespalacios, J. (2020). "El marketing ante los nuevos retos sociales y de mercado", Madrid: Editorial Centro de Estudios Ramón Areces, S.A.

Wendlandt, T., Álvarez, M., Nuñez, M., & Valdez, D. (2016). "Validación de un instrumento para medir la responsabilidad social empresarial en consumidores de México", AD-minister, Vol. 29, pp. 79-100. doi: https://doi.org/10.17230/ad-minister.29.4

Whittaker, T., & Schumacker, R. (2022). "A beginner's guide to structural equation modeling", New York: Routledge. doi: https://doi.org/10.4324/9781003044017

Yuan, Y., Lu, L., Tian, G., & Yu, Y. (2018). "Business Strategy and Corporate Social Responsibility", Journal of Business Ethics, Vol. 162, pp. 359-377. doi: https://doi.org/10.1007/s10551-018-3952-9

Zahid, M., Naeem, H., Aftab, I., & Ali, S. (2021). "From corporate social responsibility activities to financial performance: role of innovation and competitive advantage", Asia Pacific Journal of Innovation and Entrepreneurship, Vol. 15, Num. 1, pp. 1-12. doi: http://dx.doi.org/10.1108/APJIE-04-2020-0046

Zambrano, M., & Ruano, M. (2019). "Does environmental noise affect housing rental prices in developing countries? Evidence from Ecuador", Land Use Policy, Vol. 87, pp. 1-11. doi: https://doi.org/10.1016/j.landusepol.2019.104059

Zhao, L., Yang, M. M., Wang, Z., & Michelson, G. (2023). "Trends in the dynamic evolution of corporate social responsibility and leadership: A literature review and bibliometric analysis", Journal of Business Ethics, Vol. 182, Num. 1, pp. 135-157.

Zubizarreta, M., Ganzarain, J., Cuadrado, J., & Lizarralde, R. (2021). "Evaluating disruptive innovation project management capabilities", Sustainability, Vol. 13, Num. 1, pp. 1-22. doi: https://doi.org/10.3390/su13010001

Notas

1. Agradecimientos: Los autores agradecen el apoyo proporcionado por la Universidad Metropolitana (Machala) a través del proyecto N° CMI-36 "Gestión de Empresas y Grupos de Interés hacia la Sostenibilidad desde la Responsabilidad Social Empresarial"

R E V I S T A | J O U R N A L | R E V I S T A
Globalización, Competitividad y Gobernabilidad | Globalization, Competitiveness & Governability | Globalização, Competitividade e Governabilidade

GCG
The Journal *of* Globalization, Competitiveness, and Governability

Determinantes de la Innovación con Impacto Ambiental en las Empresas Chilenas[1]

AREA: 6
TIPO: Aplicación

Determinants of innovation with environmental impact in Chilean companies
Determinantes da inovação com impacto ambiental em empresas chilenas

AUTORES

Francisco Gálvez-Gamboa[2]
Universidad Católica del Maule, Chile
fgalvez@ucm.cl

Erik Muñoz-Henríquez
Universidad de Talca, Chile
erik.munoz@utalca.cl

Andrés Valenzuela-Keller
Universidad Católica del Maule, Chile
avalen@ucm.cl

2. Autor de contacto: Facultad de Ciencias Sociales y Económicas; Universidad Católica del Maule, Av. San Miguel 3605; talca, Chile; Código Postal: 3480005, Chile.

El objetivo de este estudio es analizar los determinantes de la implementación de acciones de innovación con impacto medioambiental en empresas chilenas. Se utiliza un modelo de regresión logística a partir de datos de la Encuesta Nacional de Innovación con una muestra de 1.143 empresas. Los resultados muestran que innovar en procesos y productos determina las prácticas de innovación con impacto ambiental. También que, la innovación social, las redes con universidades, la mejora de calidad, la reducción de costos y la incorporación de las empresas son determinantes de la innovación con impacto ambiental.

The objective of this study is to analyze the determinants of the implementation of innovation actions with environmental impact in Chilean companies. A logistic regression model is used based on data from the National Innovation Survey with a sample of 1,143 companies. The results show that innovating in processes and products determines innovation practices with environmental impact. Also, social innovation, networks with universities, quality improvement, cost reduction, and incorporation of companies are determinants of innovation with environmental impact.

O objetivo deste estudo é analisar os determinantes da implementação de acções de inovação com impacto ambiental em empresas chilenas. É utilizado um modelo de regressão logística com base nos dados do Inquérito Nacional à Inovação com uma amostra de 1.143 empresas. Os resultados mostram que a inovação em processos e produtos determina as práticas de inovação com impacto ambiental. Além disso, a inovação social, as redes com universidades, a melhoria da qualidade, a redução de custos e a incorporação de empresas são determinantes da inovação com impacto ambiental.

DOI
10.58416/GCG.2025.V19.N2.03

Recibido
28.04.2024

Aceptado
21.08.2024

GCG
The Journal of Globalization, Competitiveness, and Governability

1. Introducción

Actualmente, la preocupación por el medioambiente es una cuestión relevante y un motor de crecimiento económico (Xiang et al., 2022). En el contexto actual de cambio climático y degradación ambiental las empresas están obligadas a considerar la adopción de prácticas sostenibles con el medio ambiente en sus procesos productivos (Rahmani et al., 2024). La innovación verde presenta una serie de desafíos para las empresas y los formuladores de políticas siendo un componente importante para el crecimiento económico en el futuro, vislumbrándose como uno de los factores relevante para el crecimiento y la sostenibilidad (Arilla-Llorente et al., 2024).

Las investigaciones en temáticas de innovación que favorece la transición a una economía verde son cada vez más relevantes considerando que esta mitiga la degradación ecológica y del medioambiente (Ahmad y Wu, 2022; Passaro et al., 2023). Trabajos como el desarrollado por Liu et al. (2021) plantean que, las empresas se enfrentan a una mayor presión social sobre sus repercusiones en el medio ambiente, siendo importante la generación de estrategias en esta materia. Además de aquello, la literatura del área sugiere que las innovaciones proambientales tienen un efecto positivo en la competitividad de las empresas (Hermundsdottir y Aspelund, 2021). Los trabajos del área también han mostrado como las innovaciones de procesos y productos verdes afectan positivamente al desempeño de las empresas, lo que se encuentra además relacionado con la imagen ecológica que los consumidores tienen de éstas (Xie et al., 2019).

El impacto medio ambiental de las empresas y las prácticas de innovación al interior de las organizaciones es un tema de interés científico en la actualidad. Ello considerando que estudios a la fecha sugieren que las innovaciones verdes tienen efectos positivos sobre el desempeño ambiental (Valero-Gil et al., 2023). Desde el punto de vista de Dani y Gandhi (2021) la innovación es relevante para las empresas dado que impulsa su desarrollo y favorece su competitividad. Autores como Juliao-Rossi et al. (2020) sugieren que la innovación puede ser una estrategia concreta para que las organizaciones alcancen ciertos desempeños argumentando que existen diferentes trayectorias de innovación. Estas trayectorias son determinadas por factores como el tamaño y capacidades del mercado, las capacidades internas de investigación, las capacidades de capital humano y las capacidades relacionales con socios estratégicos, entre otros. En ese contexto, Salim et al. (2019) mostraron la existencia de factores críticos en la adopción y capacidades organizacionales para la innovación ecológica, notando que es importante profundizar en explorar e identificar las capacidades de las empresas en los procesos de innovación, particularmente en cuanto a su cultura y estructura organizacional.

Este trabajo tiene por objetivo analizar los determinantes de la implementación de acciones de innovación con impacto medioambiental en empresas chilenas. Para ello, se utilizan datos de la encuesta de innovación de Chile aplicada a empresas y se estima un modelo de regresión logística con la finalidad de conocer cuáles son los factores determinantes

Palabras clave
Innovación, innovación verde, impacto ambiental.

Keywords
Innovation, green innovation, environmental impact.

Palavras-clave
Inovação, inovação verde, impacto ambiental.

Códigos JEL
O30, O31, Q50

de la adopción de innovación con nulo, bajo, medio y alto impacto ambiental. Ello tiene implicancias importantes desde el punto de vista de los tomadores de decisiones y las empresas considerando la gestión de relaciones empresa-medioambiente para el desarrollo sustentable en el contexto actual. El documento se estructura en cuatro secciones. En la primera se presenta una revisión a la literatura sobre innovación e innovación verde. En la segunda se presenta el diseño metodológico de este trabajo de investigación. En la tercera se presentan los resultados haciendo énfasis en el análisis del modelo logit. Finalmente, en la cuarta sección se discuten los resultados, se presentan las conclusiones, implicancias y líneas futuras de investigación para este objeto de estudio.

2. Revisión a la Literatura

La innovación verde es un factor clave para aspectos como la gestión ambiental, las organizaciones y las comunidades (Yang et al., 2016). Los estudios del área sugieren la importancia de la promoción de prácticas de sostenibilidad ecológica como la innovación con impacto ambiental en productos, procesos y otras prácticas de gestión eficiente de recursos considerando los efectos que esta tiene en la mitigación de problemáticas ambientales (Ahmad & Wu, 2022). En ese contexto, estudios como el realizado por Rahmani et al. (2024) sugieren que las innovaciones verdes en las empresas tienen impactos positivos en el desempeño ambiental del entorno en que se insertan. No obstante, trabajos como el planteado por Karimi Takalo et al. (2021) o Ch'ng et al. (2021) sugieren que, si bien se ha encontrado un impacto positivo de la innovación verde para las organizaciones, una importante línea de desarrollo es profundizar en los determinantes y barreras que existen para que las empresas adopten innovaciones que tengan impacto ambiental. Este trabajo profundiza sobre aquello estudiando los determinantes de la implementación y adopción de acciones de innovación con diferente grado de impacto ambiental.

Los trabajos del área muestran que existe un efecto positivo de las innovaciones en el desempeño de las empresas (Hizarci-Payne et al., 2021). Las acciones de innovación y en específico, las relacionadas con la innovación con impacto ambiental están gatilladas por factores determinantes. Por ejemplo, Peng et al. (2021) indica que las intenciones de innovación pueden influenciarse por factores como la regulación, el comportamiento, la aglomeración industrial, entre otros factores. Trabajos como el desarrollado por Kamasak (2015) proponen que las acciones de innovación en las organizaciones dependen de las estrategias y la cultura para la innovación, las relaciones con clientes y proveedores, y las capacidades de la empresa. En esta línea, Cainelli et al. (2020) mencionan para el caso específico de las innovaciones verdes o ecológicas son relevantes los incentivos de adopción relacionados a políticas y regulaciones gubernamentales. Los autores también hacen énfasis en factores asociados a los clientes y los consumidores, específicamente al papel de la demanda verde en la adopción de innovaciones ecológicas por parte de las empresas.

La experiencia previa en innovación y la cultura de innovación al interior de las organizaciones suele ser un factor importante de considerar al explicar los factores determinantes de la implementación de acciones de innovación en las empresas. Ello, considerando que trabajos como Kiefer et al. (2024) han

mostrado cómo la cultura organizacional afecta las decisiones de innovación o innovación ambiental. En ese contexto, Gálvez Gamboa y Valenzuela Keller (2021) mostraron que las experiencias de innovación previa en producto y proceso son un determinante relevante de las acciones de innovación social en las empresas. Lo anterior es también apreciable a las innovaciones verdes. El trabajo de Xie et al. (2019) muestra que tanto la innovación de procesos como productos verdes son factores importantes de considerar. En esa línea, Wang et al. (2021) muestran que las innovaciones en procesos verdes promueven positivamente la innovación verde de otro tipo. A su vez, Demirel y Kesidou (2019) mostraron la importancia de lo que denominaron eco-innovaciones de producto y procesos, notando que también puede relacionarse con la importancia que las empresas entregan a la responsabilidad social empresarial. Esta situación es descrita también por autores como Padilla-Lozano y Collazzo (2021) quienes muestran que existen efectos significativos de la responsabilidad social empresarial en la competitividad organizacional y estructuras de costos, siendo la innovación verde un aspecto fundamental y fuente de ventaja competitiva.

Las estrategias ambientales de las empresas son un factor por considerar. Algunos trabajos como el planteado por Keshminder y del Río (2019) señalan que la adopción de prácticas de innovación proambientales puede estar influenciadas por las partes interesadas de la empresa. De hecho, Shahin et al. (2024) mencionan que algunas de las barreras más importantes para la adopción de innovaciones ambientales son las relacionadas con los clientes, el mercado o los competidores. También, las fuentes de información disponibles para las empresas han sido estudiadas como un determinante de la innovación considerando las redes que las empresas mantienen con diferentes organismos. Por ejemplo, Huggins et al. (2020) plantean como las redes universidad-industria favorecen la innovación en las empresas. También, Duhaylongsod y De Giovanni (2018) mostraron que, aspecto como la integración con proveedores favorecen las estrategias de innovación y la adopción de carteras de innovaciones. Los autores muestran además que la integración con proveedores se relaciona con las innovaciones incrementales.

En general se ha demostrado que las partes interesadas y específicamente aquellas interesadas por prácticas ecológicas influyen en las decisiones de adopción de innovación verde por las empresas (Nguyen y Adomako, 2022). Autores como Sáez-Martínez et al. (2016) han mostrado que las empresas mayormente orientadas al mercado tienen mayores probabilidades de participar en innovación verde. Varios trabajos han señalado que existen efectos positivos de los grupos y partes interesadas sobre la adopción de innovaciones con foco medioambiental en las empresas (Munodawafa y Johl, 2019). De hecho, las teorías basadas en recursos y partes interesadas son comúnmente utilizadas, sin embargo, el resultado que tienen sobre las innovaciones verdes es un tanto incierto y depende de las industrias (Hazarika y Zhang, 2019). Pese a aquello, trabajos basados en teorías de inserción en redes muestran que niveles más altos de inserción fortalecen las motivaciones de los empresarios y, por tanto, la adopción de innovaciones con focos ambientales (Jin et al., 2024).

En este mismo contexto, las motivaciones tras la innovación suelen ser un factor determinante de las acciones de innovación de las empresas. Autores como Horbach et al. (2012) han mostrado que, factores como la regulación, ahorro en costos y beneficios para los clientes tienen efectos positivos sobre las innovaciones proambientales. Por ejemplo, Liu et al. (2021) mostraron que, existen efectos positivos sobre las innovaciones verdes corporativas de una nueva ley de protección ambiental en China. También, trabajos como el planteado por Peng et al. (2021) muestran el resultado de políticas de protección verde sobre la adopción de innovación ambiental en las empresas. Sumado a esto, autores como Ullah et al. (2022) plantean dos aspectos como impulsores significativos de la innovación ecológica. Estos factores están asociados a la reducción de costos y el apoyo del gobierno, situación

respaldada por otros trabajos del área (Andries y Stephan, 2019). En general, los trabajos muestran que, la presión de incentivos a través de las regulaciones tiene efectos positivos sobre la adopción de innovaciones verdes (Jin et al., 2024). Pese a lo anterior, estudios como el desarrollado por Zhang y He (2021) plantean efectos disímiles del apoyo gubernamental sobre la innovación verde corporativa.

También, como determinantes se ha utilizado a las características de las empresas tales como tamaño, capacitación, responsabilidad laboral, entre otros (Rodríguez-Rebés et al., 2024). Ejemplo de aquello son los trabajos desarrollados por Choi y Lee (2018) quienes muestran que, las empresas de mayor tamaño tienden a innovar a una tasa mayor que las de menor tamaño. Esto último ha sido estudiado en algunos trabajos que muestran que existen barreras y procesos de priorización en las pequeñas y medianas empresas que podrían ser un determinante de la innovación verde (Chien et al., 2022). Otros trabajos como el realizado por Ozturk y Ozen (2021) han analizado las diferencias de beneficios reportados por la innovación entre pequeñas y grandes empresas, de diferentes sectores industriales, notando que estos son determinantes relevantes. También, Maman et al. (2024) han mostrado que número de empleados, el sector industrial y el tipo de productos inciden en las decisiones de innovación ambiental de las empresas. En el caso de las innovaciones verdes, varios trabajos muestran efectos diferenciados en la adopción de estrategias por tamaño de la organización.

Del mismo modo, algunos autores han notado diferencias entre empresas donde sus trabajadores cuentan y no con capacitación en innovación. Por ejemplo, Ni et al. (2023) el capital humano verde tiene un impacto positivo en la innovación verde por lo que debería ser foco de atención de los responsables de las políticas y las organizaciones. Por otro lado, los trabajos empíricos de Divisekera y Nguyen, 2018 o Seenaiah y Rath (2018) han mostrado que la capacitación en temáticas de innovación de los trabajadores afecta positivamente a las decisiones de innovar de las empresas. No obstante, algunos trabajos han demostrado que las capacidades tecnológicas de investigación y desarrollo y el capital humano capacitado en innovación afecta positivamente a la innovación tradicional no así a la verde (Cuerva et al., 2014).

En síntesis, es posible apreciar que la innovación ambiental en empresas depende de factores como las capacidades internas por innovación, los niveles de capacitación y las motivaciones por adoptar acciones de innovación al interior de las organizaciones. Considerando los determinantes incorporados en la literatura, este estudio plantea como hipótesis que las decisiones por innovación ambiental dependen de:

H1: La cultura de innovación, expresada como la experiencia en innovación de otras tipologías (productos o de procesos de negocio), afectan positivamente las decisiones de innovación ambiental.

H2: Las redes de cooperación del personal interno, con el mercado y con instituciones, afecta positivamente las decisiones de innovación ambiental.

H3: Las motivaciones por innovación verde asociadas a mejoras en calidad, reducción de costos, nuevos segmentos de clientes o mercados geográficos afectan positivamente las decisiones de innovación ambiental.

H4: Las características de las empresas asociados a los recursos como su tamaño y la formación académica de su capital humano en temáticas de innovación, afecta positivamente las decisiones de innovación ambiental.

3. Metodología

3.1. Diseño y Fuente de Datos

Este estudio tiene por objetivo analizar los determinantes de la implementación de acciones de innovación con impacto medioambiental en empresas chilenas. Corresponde a un estudio de tipo descriptivo y corte transversal. Como fuente de datos se utiliza la última versión de la Encuesta Nacional de Innovación desarrollada por el Ministerio de Economía, Fomento y Turismo de Chile, en conjunto con el Instituto Nacional de Estadísticas cuyas mediciones corresponden a los años 2019 y 2020. Esta base de datos corresponde a un instrumento aplicado a empresas chilenas con representatividad a nivel nacional y que tienen como objetivo levantar información respecto de los procesos de innovación en las organizaciones acorde a los lineamientos de la Community Innovation Survey (CIS), la OCDE y el manual de Oslo.

La muestra la componen 5.876 empresas, pero en esta aplicación se segmenta la muestra a las que declaran haber implementado acciones de innovación de producto o servicio, proceso y/o social durante el año anterior. La muestra de empresas por tanto asciende a 1.143 unidades productivas. Por tamaño según ventas la muestra utilizada muestra 488 empresas grandes (42,7%), 376 empresas pequeñas (32,9%) y 279 empresas medianas (24,4%). De éstas, un 23,2% (265) declaran haber tenido un alto impacto medioambiental respecto de las acciones de innovación, 25,6% (293) un medio impacto medioambiental, 18,8% (215) tenido bajo impacto medioambiental, y 32,4% (370) un nulo impacto medioambiental. Las descriptivas de las variables de interés se presentan en el apartado de resultados.

3.2. Variables

La identificación de la variable dependiente toma el valor ***Y=1*** si la empresa adopta e implementa acciones de innovación con impacto en el medioambiente y ***Y=0*** cuando la empresa no implementa acciones en esta materia. Se definieron tres variables dependientes diferentes. La primera considera a las empresas que toman acciones con impacto bajo, medio y alto; la segunda a las que toman acciones con impacto medio y alto; y la tercera a las que toman acciones solo con impacto alto. En el procesamiento de datos se describe como la variable dependiente es utilizada en el modelamiento econométrico.

Las variables independientes, que representan a los determinantes, se encuentran vinculadas a la revisión a la literatura realizada y se detallan en la **Tabla 1**. Estas se encuentran asociadas a la experiencia con la innovación, redes de colaboración, motivaciones por innovación y características de las empresas.

Tabla 1 - Variables independientes

Variables	*Medidas*	*Autores*
Experiencia o cultura por innovación	Es una variable *dummy* si las empresas innovaron en los últimos años en: • Producto o servicio • Procesos • Social	Kamasak (2015); Xie et al. (2019); Cainelli et al. (2020); Wang et al. (2021); Gálvez Gamboa y Valenzuela Keller (2021); Kiefer et al. (2024); entre otros.

Redes de colaboración	Es una variable *dummy* si las empresas mantienen redes de información y cooperación en materias de innovación con: • Personal interno • Mercado (proveedores, clientes, etc.). • Institucionales (universidades, centros, etc.).	Duhaylongsod y De Giovanni (2018); Keshminder y del Río (2019); Huggins et al. (2020); Shahin et al. (2024); entre otros.
Motivaciones en innovación	Es una variable *dummy* si las empresas manifiestan como motivación por innovación: • Mejorar la calidad • Reducir costos • Nuevos segmentos de clientes • Nuevos mercados geográficos	Horbach et al. (2012); Peng et al. (2021); Liu et al. (2021); Ullah et al. (2022); entre otros.
Caracterización de la empresa	Es una variable *dummy* si las empresas son y tienen: • Pequeña, mediana o gran empresa. • Capacitación en innovación	Divisekera y Nguyen (2018); Seenaiah y Rath (2018); Choi y Lee (2018); Chien et al. (2022); Ni et al. (2023); entre otros.

3.3. Procesamiento de Datos

Para procesar los datos se realizaron un análisis descriptivo y un análisis de determinantes a través de un modelo de probabilidad logit con la finalidad de analizar que una empresa implemente acciones de innovación con foco en impacto medioambiental. El modelo econométrico parte de una distribución logística como plantea Greene (2012). Se estimó el modelo logit binario que permite modelar el cambio en la probabilidad de ocurrencia de que una empresa implemente acciones de innovación con impacto medioambiental como indica la **ecuación (1)**,

$$Prob(Y = 1 \mid x) = \frac{e^{x'\beta}}{1 + e^{x'\beta}} \qquad (1)$$

Donde, ***Y=1*** corresponde a una empresa que toma acciones de innovación con impacto medioambiental y ***x*** incorpora a las variables independientes asociadas a características de la empresa, experiencia en innovación, redes de cooperación y motivaciones por innovación. El modelo fue estimado a través del método de máxima verosimilitud, mediante el software RStudio y en los resultados se muestran los efectos en términos de efectos marginales promedio (AME) haciendo uso de errores estándar por el método Delta para la inferencia.

4. Resultados

Los resultados de este trabajo de investigación se presentan en dos partes: resultados descriptivos y econométricos. Los resultados descriptivos se resumen en la Tabla 2. En esta es posible apreciar la media de las principales variables y su desviación estándar, además de una prueba de diferencias de grupo (ANOVA) para las empresas con diferentes grados de innovación con impacto ambiental. En general, se aprecia que las empresas con alto impacto ambiental tienen más unidades que innovan en otras materias. Por ejemplo, un 43% de las empresas con innovaciones con alto impacto ambiental innovan en productos y servicios, mientras que para las con nulo impacto ambiental son un 33%. El caso se repite para innovación social, donde un 14% de las empresas con alto impacto ambiental innovan socialmente, mientras que solo un 4% de las empresas con nulo impacto lo hacen. En cuanto a fuentes de información y cooperación interna y con el mercado las cifras muestran que es bastante homogéneo entre grados de innovación con impacto ambiental. El detalle para quienes tienen redes con instituciones como universidades y centros es posible destacar que, estos lazos los mantienen un 28 % de empresas con alto impacto ambiental y un 14 % de empresas con nulo impacto ambiental. Para el caso de las motivaciones, es posible apreciar una mayor proporcionalidad de empresas que innovan con alto impacto motivadas con la reducción de costos y mejoras en la calidad. El detalle para todas las variables puede observarse en la **Tabla 2**.

Tabla 2 - Resultados descriptivos

	Alto impacto medioambiental		*Medio impacto medioambiental*		*Bajo impacto medioambiental*		*Nulo impacto medioambiental*		*ANOVA*
	M	*DE*	*M*	*DE*	*M*	*DE*	*M*	*DE*	
Innovación de producto y/o servicio (Sí=1)	0.43	0,50	0,37	0,48	0,4	0,49	0,33	0,47	5,75**
Innovación de procesos (Sí=1)	0,86	0,35	0,89	0,32	0,86	0,35	0,84	0,37	1,02
Innovación social (Sí=1)	0,14	0,35	0,07	0,25	0,05	0,22	0,04	0,20	20,79***
Fuentes de información y cooperación internas (al interior de la empresa) (Si=1)	0,76	0,43	0,73	0,45	0,71	0,46	0,7	0,46	2,665
Fuentes de información y cooperación en el mercado (clientes, proveedores, competidores, etc.) (Si=1)	0,81	0,39	0,84	0,37	0,81	0,39	0,80	0,40	0,447
Fuentes de información y cooperación en instituciones (universidades, centros de investigación, etc.) (Si=1)	0,28	0,45	0,26	0,44	0,20	0,4	0,14	0,35	19,77***
Motivación de innovación en mejorar la calidad de bienes y servicios (Si=1)	0,65	0,48	0,39	0,49	0,28	0,45	0,23	0,42	124,2***
Motivación de innovación en la reducción de costos por unidad producida (Si=1)	0,44	0,50	0,19	0,39	0,11	0,32	0,09	0,28	124,8***
Motivación de innovación en introducir productos en un nuevo segmento (Si=1)	0,29	0,46	0,18	0,39	0,14	0,35	0,12	0,32	32,46***
Motivación de innovación en introducir productos en un nuevo mercado geográfico (Si=1)	0,21	0,41	0,09	0,29	0,05	0,21	0,05	0,22	43,43***

Nota: M y DE representa a la media y desviación estándar, respectivamente. Niveles de significancia: * p < 0,10, ** p < 0,05, y *** p < 0,01.

Los resultados para el modelo econométrico de regresión logística son presentados en la **Tabla 3**. Este permite visualizar los determinantes que una empresa adopte e implemente acciones de innovación con impacto ambiental en diferente grado. La **Tabla 2** muestra los resultados en términos de efectos marginales promedio y entre paréntesis se presentan los errores estándar calculados por el método Delta. La bondad del ajuste de los modelos es adecuada, todos los planteados presentan significancia estadística global medido por la prueba LR. El Pseudo R^2 es apropiado para el tipo de modelo evaluado y presenta niveles de predicción aceptables medidos por el indicador ROC.

Tabla 3 - Efectos marginales para modelos de regresión logística

	Modelo 1 *Y=1* *Con bajo, medio y alto impacto medioambiental*	*Modelo 2* *Y=1* *Con medio y alto impacto medioambiental*	*Modelo 3* *Y=1* *Con alto impacto medioambiental*
Innovación de procesos (Sí=1)	0.106 **	0,060	0,001
	(0,046)	(0,048)	(0,039)
Innovación de producto y/o servicio (Sí=1)	0,072 **	0,027	0,015
	(0,037)	(0,037)	(0,030)
Innovación social (Sí=1)	0,072	0,127 **	0,107 ***
	(0,062)	(0,059)	(0,040)
Fuentes de información y cooperación en instituciones (universidades, centros de investigación, etc.) (Si=1)	0,112 ***	0,119 ***	0,046
	(0,038)	(0,037)	(0,029)
Fuentes de información y cooperación internas (al interior de la empresa) (Si=1)	-0,012	-0,001	0,001
	(0,031)	(0,033)	(0,028)
Fuentes de información y cooperación en el mercado (clientes, proveedores, competidores, etc.) (Si=1)	0,001	0,006	-0,022
	(0,036)	(0,038)	(0,031)
Motivación de innovación en mejorar la calidad de bienes y servicios (Si=1)	0,133 ***	0,172 ***	0,157 ***
	(0,031)	(0,030)	(0,024)
Motivación de innovación en la reducción de costos por unidad producida (Si=1)	0,195 ***	0,223 ***	0,189 ***
	(0,043)	(0,038)	(0,025)
Motivación de innovación en introducir productos en un nuevo segmento (Si=1)	0,036	0,021	0,013
	(0,045)	(0,044)	(0,034)
Motivación de innovación en introducir productos en un nuevo mercado geográfico (Si=1)	0,037	0,109 *	0,089 **
	(0,061)	(0,059)	(0,040)
Capacitación para la innovación (Si=1)	0,001	-0,005	-0,039
	(0,032)	(0,033)	(0,028)
Empresa mediana (ref. empresa grande)	-0,041	-0,023	-0,047
	(0,036)	(0,037)	(0,030)
Empresa pequeña (ref. empresa grande)	-0,013	0,025	-0,033
	(0,033)	(0,034)	(0,028)
# obs,	1.143	1.143	1.143
AIC	1264,479	1361,684	1018,872

LR test	96,791***	144,01***	179,77***
Pseudo R	0,073	0,097	0,154
ROC	0,682	0,704	0,767

Nota: errores estándar por método Delta entre paréntesis. Niveles de significancia: * p < 0,10, ** p < 0,05, y *** p < 0,01.

Los resultados empíricos de la aplicación muestran los determinantes de la adopción e implementación de innovación con impacto ambiental. Es posible apreciar que, existen factores determinantes de cada grado de impacto ambiental. El Modelo 1 muestra a las empresas que adoptan innovaciones con bajo, medio y alto grado de impacto ambiental. Los determinantes en este caso están asociados a las motivaciones de reducción en costos (Δ=19,5%) y mejoras de la calidad (Δ=13,3%) Por orden de magnitud, también aumentan la probabilidad de adoptar innovaciones la cooperación institucional con universidades y centros (Δ=11,2%), las innovaciones previas en procesos (Δ=10,6%) y las experiencias previas en innovaciones de producto (Δ=7,2%)
El Modelo 2 muestra a las empresas que adoptan innovaciones con medio y alto grado de impacto ambiental. En este caso, aumentan la probabilidad de adoptar innovaciones la motivación por reducción de costos (Δ=22,3%) y mejoras en la calidad (Δ=17,2%). También, en orden de magnitud de los efectos aumentan esta probabilidad aquellas empresas con experiencia en innovación social (Δ=12,7%), con cooperación institucional con universidades y centros (Δ=11,9%) y con motivaciones por incorporarse nuevos mercados geográficos (Δ=10,9%) El Modelo 3 muestra las empresas que adoptan innovaciones con alto grado de impacto ambiental. Los determinantes en este caso y por orden de magnitud se encuentran relacionados con las motivaciones por reducción de costos (Δ=18,9%), mejoras en la calidad (Δ=15,7%), experiencias en innovación social (Δ=10,7%) y las intenciones por incorporarse a nuevos mercados (Δ=8,9%) En general, estos determinantes aumentan la probabilidad que una empresa adopte e implemente acciones de innovación con potencial impacto ambiental.

5. Discusión y Conclusiones

Este trabajo de investigación tuvo por objetivo analizar los determinantes de la implementación de acciones de innovación con impacto medioambiental en empresas chilenas. Los resultados obtenidos son importantes, toda vez que permiten comprender los factores que motivan a las empresas a implementar acciones de innovación con impacto ambiental, considerando que estas pueden afectar positivamente a cuestiones como la competitividad de las empresas y el medio ambiente (Hermundsdottir y Aspelund, 2021; Dani y Gandhi 2021). Los resultados empíricos de esta aplicación son útiles para formuladores de política toda vez que muestran como el desarrollo, las redes y motivaciones por innovación predicen la adopción de innovación verde en las empresas.

En la aplicación, es posible evidenciar que la gestión de innovación de productos y/o servicios, y procesos son factores determinantes de las innovaciones con bajo, medio y alto nivel de impacto ambiental. Este resultado es concordante con lo planteado por Xie et al., (2019) quienes muestran que, existe una relación reciproca de los procesos de innovación al interior de las organizaciones,

como además muestran trabajos como el de Kiefer et al. (2024) que hace alusión a las dinámicas de cultura organizacional. También, los resultados son concordantes con lo planteado por Wang et al. (2021) quienes encontraron que la innovación de procesos afecta positivamente a la innovación de producto. Esto es importante de destacar, sin embargo, dicha relación se produce solo si se incluyen las innovaciones con bajo impacto ambiental. Ahora bien, si se incluyen las innovaciones de medio y alto desempeño ambiental, la cultura de innovación parece tener un menor efecto sobre las innovaciones verdes. Hay efectos importantes de aquellas empresas que innovan socialmente, lo que podría estar relacionado con estrategias y prácticas conscientes con la comunidad y con el medioambiente. Esto también podría estar relacionado con lo planteado por Demirel y Kesidou (2019) quienes mostraron que las prácticas y políticas de responsabilidad social empresarial influyen positivamente sobre la decisión de las empresas en introducción innovación verde.

Los resultados también muestran la importancia de las redes de cooperación considerando la literatura que muestra que estas redes pueden ser barreras para la adopción de estrategias de innovación con foco ambiental Shahin et al. (2024). Específicamente, este trabajo muestra la importancia de las redes universidad-empresa y centros de investigación dado que predicen la adopción de innovación verde. Ello es concordante con lo planteado por Huggins et al. (2020) y Duhaylongsod y De Giovanni (2018) quienes señalan que las empresas con redes de apoyo en las universidades son mayormente propensas a adoptar diferentes tipos de innovaciones. Evidentemente esto será potenciado si el foco de la red de información profundiza a la innovación ambiental, tal como plantea Nguyen y Adomako (2022). Los autores muestran que la integración de redes con interés en prácticas ecológicas favorece la adopción de este tipo de innovaciones, por lo que una implicancia práctica del trabajo es potenciar estas redes y también, la formación en este tipo de tópicos para las industrias.

Sobre las motivaciones, los resultados muestran que, las motivaciones por aumentar la calidad y costos impactan transversalmente la adopción de innovación con bajo, medio y alto impacto ambiental. Esta situación es concordante con lo planteado por Horbach et al. (2012) quien demuestra que las motivaciones en costos suelen ser un determinante de la adopción de este tipo de innovaciones. Es interesante que al especificar en las innovaciones con medio y alto impacto ambiental las motivaciones por introducirse en mercados geográficos nuevos resulta significativa. Esta situación es importante considerando que algunos trabajos del área han mostrado como las regulaciones pueden modificar las prácticas proambientales en las empresas. Por ejemplo, Liu et al. (2021) y Peng et al. (2021) mostraron efectos positivos de regulaciones sobre la adopción de innovación verde. También, Jin et al. (2024) mostraron la importancia de los incentivos y las regulaciones, específicamente asociados a los costos, situación relevada en este trabajo. Sobre este punto los estudios futuros debiesen profundizar con mayor énfasis considerando que por disponibilidad de la información no es posible saber con exactitud si el resultado está relacionado con las regulaciones existentes en los nuevos mercados que las empresas desean introducir.

Los factores internos de caracterización no fueron relevantes en este estudio, notando que no existen diferencias entre grupos de empresa por tamaño y capacitación. Los resultados obtenidos por la aplicación si son concordante con lo planteado por Cuerva et al. (2014), quienes muestran que la adopción de innovación verde en las empresas no se encuentra relacionada por los niveles de capacitación en las organizaciones. Ello podría relacionarse con que la capacitación de las empresas debiera orientarse a innovación con foco ambiental para generar impactos positivos en los planes y estrategias de innovación formulados. Los resultados se contraponen a lo realizado por Chien et al. (2022) o Ni et al. (2023) quienes muestran diferencias de priorización y barreras a las que se enfrentan las pequeñas y medianas empresas por tamaño y que la capacitación es factor relevante para las organizaciones. Sin embargo,

este resultado es coherente con lo propuesto por Rodríguez-Rebés et al. (2024) quienes mencionan que los determinantes más citados para la ecoinnovación no son relevantes para las pequeñas empresas. Por ello, se considera relevante profundizar el estudio de este tipo de empresas considerando que representan un importante volumen del total de empresas en el país. Por disponibilidad de información este trabajo tampoco profundiza sobre la etapa ni trayectoria de las innovaciones con foco ambiental que desarrollaron las empresas, situación relevante de considerar en estudios futuros.

Referencias

Ahmad, M.; Wu, Y. (2022), "Combined role of green productivity growth, economic globalization, and eco-innovation in achieving ecological sustainability for OECD economies", Journal of Environmental Management, 302, 113980, doi:10.1016/j.jenvman.2021.113980

Andries, P.; Stephan, U. (2019), "Environmental Innovation and Firm Performance: How Firm Size and Motives Matter", Sustainability, 11(13), Article 13, doi:10.3390/su11133585

Arilla-Llorente, R.; Gavurova, B.; Rigelsky, M.; Ribeiro-Soriano, D. (2024), "Quantifying the dynamics of relationships between eco-innovations and SDG 8", Energy Economics, 130, 107280, doi:10.1016/j.eneco.2023.107280

Cainelli, G.; D'Amato, A.; Mazzanti, M. (2020), "Resource efficient eco-innovations for a circular economy: Evidence from EU firms", Research Policy, 49(1), 103827, doi:10.1016/j.respol.2019.103827

Chien, F.; Kamran, H. W.; Nawaz, M. A.; Thach, N. N.; Long, P. D.; Baloch, Z. A. (2022), "Assessing the prioritization of barriers toward green innovation: Small and medium enterprises Nexus", Environment, Development and Sustainability, 24(2), 1897-1927, doi:10.1007/s10668-021-01513-x

Ch'ng, P.-C.; Cheah, J.; Amran, A. (2021), "Eco-innovation practices and sustainable business performance: The moderating effect of market turbulence in the Malaysian technology industry", Journal of Cleaner Production, 283, 124556, doi:10.1016/j.jclepro.2020.124556

Choi, J.; Lee, J. (2018), "Firm size and compositions of R&D expenditures: Evidence from a panel of R&D performing manufacturing firms", Industry and Innovation, 25(5), 459-481, doi:10.1080/13662716.2017.1297222

Cuerva, M. C.; Triguero-Cano, Á.; Córcoles, D. (2014), "Drivers of green and non-green innovation: Empirical evidence in Low-Tech SMEs", Journal of Cleaner Production, 68, 104-113, doi:10.1016/j.jclepro.2013.10.049

Dani, M. V.; Gandhi, A. V. (2021), "Understanding the drivers of innovation in an organization: A literature review", International Journal of Innovation Science, 14(3/4), 476-505, doi:10.1108/IJIS-10-2020-0201

Demirel, P.; Kesidou, E. (2019), "Sustainability-oriented capabilities for eco-innovation: Meeting the regulatory, technology, and market demands", Business Strategy and the Environment, 28(5), 847-857, doi:10.1002/bse.2286

Divisekera, S.; Nguyen, V. K. (2018), "Determinants of innovation in tourism evidence from Australia", Tourism Management, 67, 157-167, doi:10.1016/j.tourman.2018.01.010

Duhaylongsod, J. B.; De Giovanni, P. (2018), "The impact of innovation strategies on the relationship between supplier integration and operational performance", International Journal of Physical Distribution & Logistics Management, 49(2), 156-177, doi:10.1108/IJPDLM-09-2017-0269

Gálvez Gamboa, F.; Valenzuela Keller, A. A. (2021), "Factores determinantes de la implementación de actividades de innovación social: El caso de las empresas chilenas", GCG: revista de globalización, competitividad y gobernabilidad, 15(2), 122-135, doi:10.3232/GCG.2021.V15.N2.06

Greene, W. H. (2012), "Econometric Analysis (7th ed.)", Prentice Hall.

Hazarika, N.; Zhang, X. (2019), "Evolving theories of eco-innovation: A systematic review", Sustainable Production and Consumption, 19, 64-78, doi:10.1016/j.spc.2019.03.002

Hermundsdottir, F.; Aspelund, A. (2021), "Sustainability innovations and firm competitiveness: A review", Journal of Cleaner Production, 280, 124715, doi:10.1016/j.jclepro.2020.124715

Hizarci-Payne, A. K.; İpek, İ.; Kurt Gümüş, G. (2021), "How environmental innovation influences firm performance: A meta-analytic review", Business Strategy and the Environment, 30(2), 1174-1190, doi:10.1002/bse.2678

Horbach, J.; Rammer, C.; Rennings, K. (2012), "Determinants of eco-innovations by type of environmental impact—The role of regulatory push/pull, technology push and market pull", Ecological Economics, 78, 112-122, doi:10.1016/j.ecolecon.2012.04.005

Huggins, R.; Prokop, D.; Thompson, P. (2020), "Universities and open innovation: The determinants of network centrality", The Journal of Technology Transfer, 45(3), 718-757, doi:10.1007/s10961-019-09720-5

Jin, S.; Wang, J.; Zhu, P. (2024), "The impact of regulatory pressure on eco-innovation: The role of eco-motivation and network embeddedness", Journal of Cleaner Production, 466, 142749, doi:10.1016/j.jclepro.2024.142749

Juliao-Rossi, J.; Forero-Pineda, C.; Losada-Otalora, M.; Peña-García, N. (2020), "Trajectories of innovation: A new approach to studying innovation performance", Journal of Business Research, 115, 322-333, doi:10.1016/j.jbusres.2019.11.026

Kiefer, C. P.; Carrillo-Hermosilla, J.; del Río, P. (2024), "How does corporate environmental culture enable the eco-innovation transition of firms towards the circular economy?", Corporate Social Responsibility and Environmental Management, doi:10.1002/csr.2888

Kamasak, R. (2015), "Determinants of innovation Performance: A Resource-based Study", Procedia - Social and Behavioral Sciences, 195, 1330-1337, doi:10.1016/j.sbspro.2015.06.311

Karimi Takalo, S.; Sayyadi Tooranloo, H.; Shahabaldini parizi, Z. (2021); "Green innovation: A systematic literature review", Journal of Cleaner Production, 279, 122474, doi:10.1016/j.jclepro.2020.122474

Keshminder, J.; del Río, P. (2019), "The missing links? The indirect impacts of drivers on eco-innovation", Corporate Social Responsibility and Environmental Management, 26(5), 1100-1118, doi:10.1002/csr.1789

Liu, Y.; Wang, A.; Wu, Y. (2021), "Environmental regulation and green innovation: Evidence from China's new environmental protection law", Journal of Cleaner Production, 297, 126698, doi:10.1016/j.jclepro.2021.126698

Maman, A.; Dias, J. G.; Bassi, F. (2024), "Sustainability-oriented management in the SMEs. A multilevel analysis in the European Union", Journal of Environmental Management, 365, 121559, doi:10.1016/j.jenvman.2024.121559

Munodawafa, R. T.; Johl, S. K. (2019), "A Systematic Review of Eco-Innovation and Performance from the Resource-Based and Stakeholder Perspectives", Sustainability, 11(21), Article 21, doi:10.3390/su11216067

Nguyen, N. P.; Adomako, S. (2022), "Stakeholder pressure for eco-friendly practices, international orientation, and eco-innovation: A study of small and medium-sized enterprises in Vietnam", Corporate Social Responsibility and Environmental Management, 29(1), 79-88, doi:10.1002/csr.2185

Ni, L.; Ahmad, S. F.; Alshammari, T. O.; Liang, H., Alsanie, G.; Irshad, M.; Alyafi-AlZahri, R.; BinSaeed, R. H.; Al-Abyadh, M. H. A.; Abu Bakir, S. M. M.; Ayassrah, A. Y. A. B. A. (2023), "The role of environmental regulation and green human capital towards sustainable development: The mediating role of green innovation and industry upgradation", Journal of Cleaner Production, 421, 138497, doi:10.1016/j.jclepro.2023.138497
Ozturk, E.; Ozen, O. (2021), "How Management Innovation Affects Product and Process Innovation in Turkey: The Moderating Role of Industry and Firm Size", European Management Review, 18(3), 293-310, doi:10.1111/emre.12444

Padilla-Lozano, C. P.; Collazzo, P. (2021), "Corporate social responsibility, green innovation and competitiveness – causality in manufacturing", Competitiveness Review: An International Business Journal, 32(7), 21-39, doi:10.1108/CR-12-2020-0160

Passaro, R.; Quinto, I.; Scandurra, G.; Thomas, A. (2023), "The drivers of eco-innovations in small and medium-sized enterprises: A systematic literature review and research directions", Business Strategy and the Environment, 32(4), 1432-1450, doi:10.1002/bse.3197

Peng, H.; Shen, N.; Ying, H.; Wang, Q. (2021), "Can environmental regulation directly promote green innovation behavior?——Based on situation of industrial agglomeration", Journal of Cleaner Production, 314, 128044, doi:10.1016/j.jclepro.2021.128044

Rahmani, A.; Bonyadi Naeini, A.; Mashayekh, J.; Aboojafari, R.; Daim, T.; Yalcin, H. (2024), "Green innovation for a greener future: A meta-analysis of the impact on environmental performance", Journal of Cleaner Production, 460, 142547, doi:10.1016/j.jclepro.2024.142547

Rodríguez-Rebés, L.; Ibar-Alonso, R.; Gómez, L. M. R.; Navío-Marco, J. (2024)., "The use and drivers of organisational eco-innovation in European SMEs", Research in International Business and Finance, 70, 102297, doi:10.1016/j.ribaf.2024.102297

Sáez-Martínez, F. J.; Díaz-García, C.; Gonzalez-Moreno, A. (2016), "Firm technological trajectory as a driver of eco-innovation in young small and medium-sized enterprises", Journal of Cleaner Production, 138, 28-37, doi:10.1016/j.jclepro.2016.04.108

Salim, N.; Ab Rahman, M. N.; Abd Wahab, D. (2019), "A systematic literature review of internal capabilities for enhancing eco-innovation performance of manufacturing firms", Journal of Cleaner Production, 209, 1445-1460, doi:10.1016/j.jclepro.2018.11.105

Seenaiah, K.; Rath, B. N. (2018), "Determinants of Innovation in Selected Manufacturing Firms in India: Role of R&D and Exports" Science, Technology and Society, 23(1), 65-84, doi:10.1177/0971721817744445

Shahin, V.; Alimohammadlou M.; Abbasi, A. (2024), "Identifying and prioritizing the barriers to green innovation in SMEs and the strategies to counteract the barriers: An interval-valued intuitionistic fuzzy approach", Technological Forecasting and Social Change, 204, 123408, doi:10.1016/j.techfore.2024.123408

Ullah, S.; Khan, F. U.; Ahmad, N. (2022), "Promoting sustainability through green innovation adoption: A case of manufacturing industry", Environmental Science and Pollution Research, 29(14), 21119-21139, doi:10.1007/s11356-021-17322-8

Valero-Gil, J.; Surroca, J. A.; Tribo, J. A., Gutierrez, L.; Montiel, I. (2023), "Innovation vs. standardization: The conjoint effects of eco-innovation and environmental management systems on environmental performance", Research Policy, 52(4), 104737, doi:10.1016/j.respol.2023.104737

Wang, M.; Li, Y.; Li, J.; Wang, Z. (2021), "Green process innovation, green product innovation and its economic performance improvement paths: A survey and structural model", Journal of Environmental Management, 297, 113282, doi:10.1016/j.jenvman.2021.113282

Xiang, X.; Liu, C.; Yang, M. (2022), "Who is financing corporate green innovation?", International Review of Economics & Finance, 78, 321-337, doi:10.1016/j.iref.2021.12.011

Xie, X.; Huo, J.; Zou, H. (2019), "Green process innovation, green product innovation, and corporate financial performance: A content analysis method", Journal of Business Research, 101, 697-706, doi:10.1016/j.jbusres.2019.01.010

Yang, L.-R.; Chen, J.-H.; Li, H.-H. (2016), "Validating a model for assessing the association among green innovation, project success and firm benefit", Quality & Quantity, 50(2), 885-899, doi:10.1007/s11135-015-0180-6

Zhang, G.; He, B.-J. (2021), "Towards green roof implementation: Drivers, motivations, barriers and recommendations" Urban Forestry & Urban Greening, 58, 126992, doi:10.1016/j.ufug.2021.126992

Notas

1. Agradecimientos: Los autores agradecemos al Ministerio de Economía, Fomento y Turismo y al Ministerio de Ciencia, Tecnología, Conocimiento e Innovación, de Chile, que en conjunto con el Instituto Nacional de Estadísticas (INE), son propietarios intelectuales de la base de datos de la XI Encuesta Nacional de Innovación (ENI).

R E V I S T A
Globalización, Competitividad y Gobernabilidad
J O U R N A L
Globalization, Competitiveness & Governability
R E V I S T A
Globalização, Competitividade e Governabilidade

GCG
The Journal *of* Globalization, Competitiveness, and Governability

Influência do Engajamento no Trabalho na Relação Entre Capital Psicológico e o Desempenho Gerencial de *Controllers*

AREA: 1
TIPO: Aplicação

Influencia del compromiso laboral en la relación entre el capital psicológico y el desempeño gerencial de los controllers

Influence of work engagement on the relationship between psychological capital and managerial performance of controllers

AUTORES

Larissa dos Santos Pontes[1]
Universidade Federal de Santa Maria - UFSM, Brasil
larissadspontes@gmail.com

Vinícius Costa da Silva Zonatto
Universidade Federal de Santa Maria - UFSM, Brasil
viniciuszonatto@gmail.com

Anderson Betti Frare
Universidade Federal de Santa Maria - UFSM, Brasil
anderson.frare@ufsm.br

Camila da Silva Gonçalves Werner
Universidade Federal de Santa Maria - UFSM, Brasil
camila_sgoncalves@hotmail.com

1. Autor de Contato: Av. Roraima nº 1000 Cidade Universitária Bairro - Camobi, Santa Maria - RS, Brasil. CEP: 97105-900.

Este estudo avaliou a influência do engajamento no trabalho na relação entre capital psicológico e desempenho gerencial de 166 controllers *que atuam no contexto orçamentário de diferentes organizações industriais no Brasil. Os resultados revelam que o capital psicológico, por meio das capacidades psicológicas de autoeficácia, esperança, otimismo e resiliência, atua como elemento potencializador do engajamento no trabalho, refletindo positivamente no vigor, dedicação e absorção dos* controllers *para o trabalho. A interação entre estas variáveis é determinante para elevar o desempenho gerencial, resultados que revelam que organizações que promovem o capital psicológico dos* controllers *e seu engajamento no trabalho, tornam-se mais propensas a elevar o desempenho gerencial.*

Este estudio evaluó la influencia del compromiso laboral en la relación entre el capital psicológico y el desempeño gerencial de 166 controllers que trabajan en el contexto presupuestario de diferentes organizaciones industriales de Brasil. Los resultados muestran que el capital psicológico, a través de las capacidades psicológicas de autoeficacia, esperanza, optimismo y resiliencia, actúa como elemento potenciador del compromiso laboral, reflejándose positivamente en el vigor, dedicación y absorción de los controllers en su trabajo. La interacción entre estas variables es un factor determinante para aumentar el desempeño gerencial. Los resultados muestran que las organizaciones que promueven el capital psicológico de los controllers y su compromiso laboral tienen más probabilidades de aumentar el desempeño gerencial.

This study evaluated the influence of work engagement on the relationship between psychological capital and managerial performance of 166 controllers working in the budgetary context of different industrial organizations in Brazil. The results show that psychological capital, through the psychological capacities of self-efficacy, hope, optimism and resilience, acts as a potentiating element of work engagement, positively reflecting on the controllers' vigor, dedication and absorption in their work. The interaction between these variables is a determining factor in raising managerial performance. The results show that organizations that promote controllers' psychological capital and their work engagement are more likely to raise managerial performance.

DOI	Recebido	Aceitado
10.58416/GCG.2025.V19.N2.04	05.07.2024	21.08.2024

GCG
The Journal *of* Globalization, Competitiveness, and Governability

1. Introdução

As empresas evoluíram e os profissionais tornaram-se um dos ativos mais valiosos das organizações (Bakker, 2022; Wang et al., 2024). Assim, promover os recursos pessoais proporcionados por capacidades psicológicas positivas pode gerar ganhos significativos para o setor, negócios e o funcionários, pois oportunizam bem-estar e gestão do estresse relacionado ao trabalho (Ergun et al., 2023; Wang et al., 2024). Uma capacidade psicológica positiva que pode ser estimulada no ambiente das empresas é o capital psicológico (Luo et al., 2022).

O capital psicológico envolve quatro capacidades psicológicas positivas que formam um constructo de ordem superior (Avey et al., 2011). Engloba crenças de autoeficácia, esperança, otimismo e resiliência (Luthans et al., 2007; Venkatesh & Blaskovich, 2012). As crenças de autoeficácia representam o esforço empregado nas tarefas desafiadoras. A esperança é a capacidade dos indivíduos serem perseverantes diante dos objetivos. O otimismo são as atitudes positivas sobre o sucesso hoje e no futuro. A resiliência é superar problemas e adversidades que podem comprometer o alcance do sucesso (Luthans et al., 2007).

No contexto gerencial, profissionais que dispõe de capital psicológico elevado tornam-se mais resilientes e propensos a atuar proativamente para superar os desafios organizacionais enfrentados (Degenhart et al., 2022). Bem como no ambiente de trabalho de grandes organizações (Luo et al., 2022). As evidências encontradas sugerem que seus efeitos são positivos para o alcance dos objetivos, metas e resultados organizacionais (Degenhart et al., 2022; Schlup et al., 2021).

O engajamento no trabalho é definido como a disposição dos indivíduos para o trabalho (Saks, 2006), sendo caracterizado por vigor, dedicação e absorção (Bakker, 2022; Schaufeli et al., 2006). O vigor está relacionado aos altos níveis de energia e resiliência que os indivíduos possuem. Sua propensão em empreender esforços para realizar as atividades durante o trabalho (Bakker, 2022). Já a dedicação remete a um sentimento de forte envolvimento no trabalho, e a absorção, a concentração e total absorção no trabalho (Bakker, 2022). O engajamento no trabalho tem sido apontado como um fator explicativo do grau de envolvimento dos indivíduos com as atividades de trabalho (Kahn, 1990). O sucesso e viabilidade das organizações dependem do engajamento dos seus funcionários (Naim et al., 2024). Portanto, capaz de predizer o desempenho gerencial.

Essas duas capacidades são relevantes para os indivíduos e para a organização. Por meio da autoeficácia, esperança, otimismo, resiliência (Avey et al., 2011) e do vigor, dedicação e absorção, os indivíduos serão capazes de superar os desafios e contingências organizacionais enfrentadas (Bakker, 2022; Schaufeli et al., 2006). Com isso, espera-se que o desenvolvimento dessas capacidades seja um propulsor do desempenho dos profissionais que atuam em funções gerenciais.

A este respeito, evidências encontradas na literatura têm apresentado resultados conflitantes sobre os antecedentes do desempenho gerencial, o que denota à necessidade de realização de

Palavras-chave
Capital psicológico; Engajamento no Trabalho; Desempenho Gerencial; *Controllers*.

Palabras clave
Capital psicológico; Compromiso laboral; Desempeño gerencial; *Controllers*.

Keywords
Psychological capital; Work engagement; Managerial performance; Controllers.

Códigos JEL
J21; J24; M54

novos estudos sobre o tema. O desempenho gerencial é o resultado dos esforços empreendidos pelos profissionais que possuem responsabilidades de gestão em suas atribuições de trabalho (Degenhart et al., 2022; Machado et al., 2022). Portanto, um importante preditor do desempenho organizacional.

A inserção de capacidades psicológicas positivas nas pesquisas com gestores de organizações industriais que possuem responsabilidade orçamentária demonstra o potencial desses fatores para influenciar atitudes, comportamentos e o desempenho dos profissionais (Degenhart et al., 2022; Schlup et al., 2021; Zonatto et al., 2020). O capital psicológico e o engajamento no trabalho são capacidades psicológicas positivas que se tornam necessárias de serem estimuladas para que os profissionais possam comprometer-se com a execução de suas atividades laborais (Wang et al., 2024) e mobilizem esforços na busca pelo alcance de bons níveis de desempenho gerencial.

Portanto, espera-se que profissionais que atuam diretamente no processo orçamentário, caso dessa pesquisa, e que apresentem elevados níveis de capital psicológico e engajamento no trabalho, tornam-se mais propensos a apresentar desempenho gerencial elevado. Profissionais que possuem características de autoconfiança, são esperançosos, otimistas e resilientes, e, portanto, tendem a ser mais engajados (Wang et al., 2024). Assim, tornam-se mais suscetíveis de apresentar desempenho gerencial elevado (Venkatesh & Blaskovich, 2012).

A Teoria Social Cognitiva estabelece que diferentes fatores podem determinar o desempenho do indivíduo no trabalho, sendo fatores cognitivos e pessoais, comportamentais e relacionados ao ambiente, elementos preditores da ação humana no ambiente de trabalho (Degenhart et al., 2022). Bandura et al. (2008) explica que fatores cognitivos e pessoais, que refletem no comportamento humano, podem ser modificados. Portanto, podem ser aprimorados para apoiar o desenvolvimento das atividades de trabalho dos gestores.

Neste contexto, acredita-se que o capital psicológico dos *controllers* possa potencializar o seu engajamento no trabalho, bem como a interação entre tais fatores, possa ser capaz de influenciar positivamente o desempenho gerencial, explicando em que condições o engajamento no trabalho atua para elevar o desempenho gerencial. Dessa forma, esta pesquisa busca responder a seguinte questão: Qual a influência do engajamento no trabalho na relação entre capital psicológico e o desempenho gerencial de *controllers*?

Profissionais *controllers* contribuem para a gestão das organizações e são provedores de informações para a tomada de decisões gerenciais (Fourné et al., 2023; Schlup et al., 2021). Portanto, os *controllers* exercem um importante papel nos processos de gestão. São responsáveis pela estruturação do sistema de controle gerencial adotado pelas empresas. Assim, auxiliam a gestão das organizações, promovendo a qualidade do conteúdo informacional gerado e agilizando a disponibilidade de informações para a tomada de decisões (Fourné et al., 2023).

Assim, a pesquisa justifica-se por trazer discussões que podem ser relevantes para os profissionais que atuam na área de controladoria e para as organizações industriais, visto que seus resultados são oportunos para fornecer *insights* para auxiliar a gestão das organizações quando se trata de promover um ambiente colaborativo e de incentivo para elevar o desempenho gerencial de *controllers* e, consequentemente, o desempenho organizacional, por meio da promoção das capacidades psicológicas positivas que influenciam na forma como os profissionais vivenciam o ambiente de trabalho, se engajam e elevam o seu desempenho gerencial.

2. Base Teórica e Hipóteses da Pesquisa

2.1. Capital Psicológico e Desempenho Gerencial

O conceito do capital psicológico foi incorporado por Luthans et al. (2007). Constitui-se o estado positivo de desenvolvimento psicológico, sendo estabelecido por quatro dimensões: autoeficácia, esperança, otimismo e resiliência (Luthans et al., 2007; Venkatesh & Blaskovich, 2012). É definido como um constructo de ordem superior com a capacidade de influenciar as atitudes e o desempenho dos funcionários (Degenhart et al., 2022).

O capital psicológico positivo do funcionário serve para apoiar a insegurança e lidar com o estresse do trabalho (Ergun et al., 2023). Os achados de Machado et al. (2022) reforçam as características positivas do capital psicológico, afirmando que o seu desenvolvimento promove o envolvimento no trabalho e o desempenho nas tarefas. O capital psicológico e a inteligência emocional promovem melhor desempenho de acadêmicos da área de gestão (Costa et al., 2021), bem como pode promover o desempenho adaptativo, que é caracterizado como a capacidade dos funcionários de criarem conexões interpessoais, obter conhecimentos e habilidades para enfrentar contingências (Luo et al., 2022).

O capital psicológico quando desenvolvido tem um impacto significativo nos comportamentos de desempenho no trabalho (Shaheen et al., 2024). Além disso, promove a motivação intrínseca e o comprometimento com as metas (Shaheen et al., 2024). Indivíduos que possuem os recursos psicológicos apresentam ações inovadoras relacionadas ao trabalho e apresentam menor estresse laboral (Ullah et al., 2024). Gestores que dispõem de altos níveis de capital psicológico, empregam mais esforços para atingir metas e objetivos, fomentando o desempenho gerencial (Schlup et al., 2021).

Com base nas evidências encontradas, espera-se que o desenvolvimento do capital psicológico seja um propulsor do desempenho gerencial. Assim, a primeira hipótese de pesquisa estabelece que:

H1: O capital psicológico exerce influência positiva no desempenho gerencial.

2.2. Capital Psicológico e Engajamento no Trabalho

O capital psicológico é uma diferença individual significativa que pode ser desenvolvida (Luo et al., 2022). Funcionários que apresentam altos níveis de capital psicológico possuem menos insegurança com o trabalho, enfrentam o estresse gerado pelo trabalho e possuem menor intenção de deixar a empresa (Ergun et al., 2023). Indivíduos com um estado positivo de desenvolvimento psicológico aumentam o envolvimento com o trabalho realizado, influenciando atitudes positivas que melhoram o desempenho gerencial (Machado et al., 2022).

O conceito do engajamento no trabalho advém do estudo de Kahn (1990) e parte do pressuposto de que os indivíduos empregam graus variados de si mesmo, física, cognitiva ou emocionalmente no desempenho das atividades de trabalho. O engajamento no trabalho está relacionado ao grau em que um indivíduo está atento e absorto nas atividades do trabalho (Bakker, 2022). Portanto, necessário ao aprimoramento do desempenho da empresa.

O capital psicológico é um preditor importante do engajamento no trabalho, visto que fornece os recursos necessários para que os indivíduos se comprometam com as atividades do trabalho (Wang et al., 2024). Quando associado com a inteligência emocional o capital psicológico pode elevar as habilidades emocionais dos indivíduos, promovendo o engajamento com as atividades no trabalho (Narayanasami et al., 2024).

Desse modo, com a finalidade de avançar na literatura que trata da relação entre as variáveis capital psicológico e engajamento no trabalho no contexto orçamentário, a segunda hipótese do estudo estabelece que:

H2: O capital psicológico exerce influência positiva no engajamento no trabalho.

2.3. Engajamento no Trabalho e Desempenho Gerencial

O engajamento no trabalho é um estado mental no qual os indivíduos estão imersos nas atividades do trabalho, possuem sensação de energia e entusiasmo pelo trabalho realizado (Bakker, 2022). Os profissionais ficam mais engajados quando têm clareza sobre a sua função profissional, sua importância e seu impacto nos objetivos da organização, com isso apresentam desempenho além das expectativas para obter melhores resultados (Majid et al., 2023). Os funcionários permanecem engajados quando possuem percepção do seu papel de trabalho, sua função na organização e quando há clareza no ambiente de trabalho (Lee et al., 2024).

O engajamento no trabalho está associado ao comprometimento organizacional e o comportamento de cidadania organizacional, e atua mitigando a intenção de sair da empresa (Saks, 2006). No entanto, a insegurança no trabalho e a ambiguidade de papeis pode influenciar nas atitudes dos profissionais, pois os distancia de um perfil consistente e forte de si mesmos no ambiente de trabalho, tornando-os menos propensos a manter o foco no trabalho para contribuir com a organização (Lee et al., 2024).

Fatores como o compartilhamento de conhecimento leva a maior engajamento dos funcionários (Naim et al., 2024). Assim como o capital psicológico influencia os níveis de engajamento (Wang et al., 2024). O engajamento no trabalho encontra-se relacionado as atitudes e comportamentos dos funcionários (Narayanasami et al., 2024; Saks, 2006). Portanto, uma capacidade necessária de ser desenvolvida (Naim et al., 2024; Narayanasami et al., 2024).

Diante disso, espera-se que no contexto orçamentário, o engajamento no trabalho tenha a função de alavancar melhores níveis de desempenho gerencial. Assim, a terceira hipótese estabelece que:

H3: O engajamento no trabalho exerce influência positiva no desempenho gerencial.

2.4. Efeito Mediador do Engajamento no Trabalho

A Teoria Social Cognitiva explica que os indivíduos diferem em suas capacidades psicológicas, e que apresentam atitudes distintas ao interagir no ambiente de trabalho (Bandura, 1977). Nessa perspectiva, uma forma das organizações manterem-se competitivas é por meio de profissionais engajados, visto que estes profissionais conseguem investir esforços em seu trabalho (Bakker, 2022). Diante disso, espera-se que o engajamento no processo orçamentário gere resultados positivos. Tendo em vista, que maiores responsabilidades tendem a gerar maior envolvimento dos profissionais com as atividades orçamentárias (Zonatto et al., 2020).

O desenvolvimento dos processos orçamentários, porém, nem sempre envolve a participação ativa dos gestores (Schlup et al., 2021). A participação no processo orçamentário permite fornecer orçamentos com suporte orçamentário adequado e permite melhor desempenho no trabalho (Zonatto et al., 2020). Isto porque gestores com responsabilidade orçamentária demandam a alocação de recursos adequada para o desenvolvimento de suas atividades de trabalho. Quando isto não ocorre, estes gestores podem não apresentar um comportamento comprometido, engajado e um desempenho elevado.

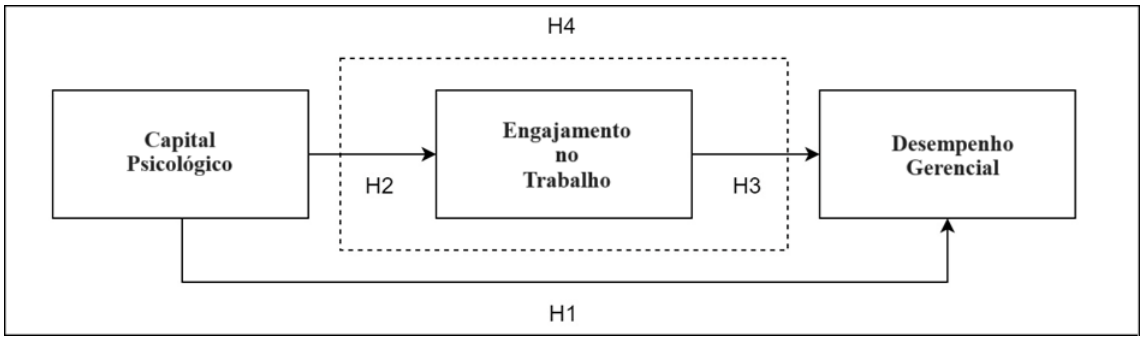
Portanto, estudar fatores psicológicos, com foco na análise do indivíduo, parte da ideia de que tais variáveis influenciam o comportamento dos indivíduos no ambiente de trabalho (Bakker, 2022; Degenhart et al., 2022; Wang et al., 2024) e, por consequência, o desempenho organizacional. Denota-se que indivíduos com altos níveis de capital psicológico possuem um comportamento inovador, são proativos e sugerem novas ideias para aprimorar o ambiente de trabalho (Ullah et al., 2024). Lee et al. (2024) identificou que o apoio social da equipe promove o engajamento no trabalho dos indivíduos e, consequentemente, o desempenho no trabalho.

Portanto, a partir destas evidências, infere-se que o capital psicológico primeiro fomenta o engajamento no trabalho, para consequentemente aprimorar o desempenho gerencial. Deste modo, o engajamento no trabalho potencialmente atua como mediador na relação entre capital psicológico e desempenho gerencial. Assim, a quarta hipótese a ser testada estabelece que:

> *H4: O engajamento no trabalho possui efeito mediador na relação entre o capital psicológico e o desempenho gerencial.*

Propõe-se um modelo teórico de análise com a finalidade de investigar as relações diretas entre as variáveis estudadas e o efeito mediador do engajamento no trabalho na relação entre o capital psicológico e o desempenho gerencial, como evidenciado na **Figura 1**.

Figura 1 - Modelo Teórico de Análise



Fonte: Elaborado pelos autores (2024).

3. Método e Procedimentos da Pesquisa

Uma pesquisa descritiva, de levantamento e com abordagem quantitativa foi realizada com 166 *controllers* com responsabilidade orçamentária de indústrias do Brasil. O nível de análise é o indivíduo. Utilizou-se como critério de seleção para participantes da pesquisa, o uso do orçamento nas atividades da organização e a atuação com as atividades orçamentárias, visto que tal recorte tende a influenciar diretamente o nível de esforço a ser empreendido pelos gestores na busca pelo alcance dos resultados individuais e organizacionais.

Para a coleta de dados, inicialmente solicitou-se a autorização do uso do instrumento de coleta de dados da variável capital psicológico, na Mind Garden® <*www.mindgarden.com*>, detentora dos direitos autorais do constructo. Na sequência, elaborou-se o instrumento de pesquisa englobando as variáveis capital psicológico, engajamento no trabalho e desempenho gerencial, utilizando constructos baseados na literatura e já aplicados em estudos anteriores. Como os instrumentos utilizados estão originalmente na língua inglesa, procedeu-se a tradução para o português.

Para mensurar o capital psicológico utilizou-se a escala elaborada por Luthans et al. (2007), amplamente utilizada (ex.: Zonatto et al., 2023). Esta escala é composta por 24 itens, englobando as dimensões de autoeficácia, esperança, otimismo e resiliência, usada nas pesquisas que abordam o capital psicológico. A percepção do engajamento no trabalho foi coletada com o uso do instrumento desenvolvido por Schaufeli et al. (2006), que é comumente empregada em estudos afins recentes (ex.: Lu et al., 2023). O desempenho gerencial foi avaliado pelo instrumento desenvolvido por Mahoney et al. (1965) e usado também por estudos recentes (ex.: Degenhart et al., 2022; Zonatto, 2014). Após a elaboração do questionário de pesquisa, realizou-se o procedimento de pré-teste, com a finalidade de verificar a compreensão das assertivas. Foram selecionados dois professores doutores em Ciências Contábeis e especialistas no tema para verificar a compreensão das assertivas que compreendem o constructo da pesquisa.

Na **Tabela 1** apresenta-se a síntese do constructo utilizado nesta pesquisa.

Tabela 1 - Constructo da pesquisa

Variáveis	*Definição*	*Indicadores/Escala*	*Autores*
Capital Psicológico	Capacidade psicológica positiva formado por autoeficácia, esperança, otimismo e resiliência	24 indicadores *Likert* 6 pontos	Luthans et al. (2007); Zonatto et al. (2023)
Engajamento no Trabalho	É o esforço empregado pelos indivíduos nas atividades de trabalho	9 indicadores *Likert* 7 pontos	Schaufeli et al. (2006); Lu et al. (2023)
Desempenho Gerencial	Desempenho de profissionais que exercem atividades de gestão	9 indicadores *Likert* 7 pontos	Mahoney et al (1965); Zonatto (2014); Degenhart et al. (2022)

Fonte: Elaborada pelos autores.

Essa pesquisa faz parte do projeto de pesquisa "Efeitos do Capital Psicológico em Atitudes, Comportamentos e no Desempenho Gerencial no Contexto Orçamentário". Nesse sentido, após a elaboração do questionário deu-se início ao processo de registro no Comitê de Ética da instituição, registrado e aprovado conforme o parecer número 4.335.415. Para a coleta de dados, foi enviado um questionário através do *LinkedIn*®. Para selecionar os possíveis respondentes, delimitou-se a busca pelo termo "*controller*". O primeiro contato era realizado mediante o envio de um convite informando sobre os objetivos da pesquisa, após o aceite, o link da pesquisa elaborado no *Google Forms* era enviado ao respondente. Esse procedimento é comumente empregado e validado em estudos afins (ex.: Degenhart et al., 2022). Dos 736 convites enviados, conseguiu-se o retorno de 166 respostas válidas de profissionais de diferentes organizações industriais. O período de coleta compreende os meses de novembro de 2020 a fevereiro de 2021. Assegurou-se aos participantes da pesquisa o anonimato da sua identificação e da empresa, como também foi informado a adoção de procedimentos éticos relacionados ao consentimento informado e confidencialidade do participante e da empresa em que atua.

Para verificar a adequação do tamanho da amostra, procedeu-se o teste do poder da amostra, realizado no software G*Power 3.1. Utilizou-se os seguintes parâmetros: tamanho do efeito (0,15), probabilidade de erro do tipo (0,05), poder mínimo de (0,80) e número máximo de preditores em uma variável dependente (2,00). Diante disso, o modelo exige o mínimo de amostra de 68 respondentes. Portanto, a amostra de 166 respondentes é adequada para a avaliação realizada (Faul et al., 2009; Hair Jr. et al., 2022). O perfil da amostra do estudo é apresentado na **Tabela 2**.

Tabela 2 - Perfil da amostra (n=166)

Formação	*n (%)*	*Idade*	*n (%)*
Ensino Superior	21 (12,65%)	Até 30 anos	19 (11,44%)
Especialização	118 (71,09%)	De 31 a 40 anos	74 (44,58%)
Mestrado	25 (15,06%)	De 41 a 50 anos	50 (30,12%)
Doutorado	2 (1,20%)	A partir de 51 anos	23 (13,8%)
Tempo de Empresa	*n (%)*	*Tempo na Função Atual*	*n (%)*
Até 5 anos	100 (66,27%)	Até 5 anos	127 (76,50%)
De 6 a 10 anos	26 (15,66%)	De 6 a 10 anos	23 (13,86%)
De 11 a 20 anos	20 (12,05%)	De 11 a 20 anos	15 (9,04%)
A partir de 21 anos	10 (6,02%)	A partir de 21 anos	1 (0,60%)
Tempo Responsabilidade Orç.	*n (%)*	*Sexo*	*n (%)*
Até 5 anos	117 (70,48%)	Masculino	141 (84,94%)
De 6 a 10 anos	36 (21,69%)	Feminino	25 (15,06%)
De 11 a 20 anos	11 (6,63%)		
A partir de 21 anos	2 (1,20%)		

Fonte: Elaborada pelos autores.

Para testar as relações analisadas foi utilizada a Modelagem de Equações Estruturais. Para isso, usou-se os critérios de análise propostos por Hair Jr. et al. (2022). O método PLS-SEM permite estimar modelos complexos, variáveis indicadoras e caminhos estruturais sem a imposição de pressupostos de distribuição normal dos dados (Hair Jr. et al., 2019).

4. Resultados da Pesquisa

4.1. Análise dos Dados

A **Tabela 3** apresenta os resultados dos indicadores de confiabilidade e validade discriminante do modelo estrutural analisado.

Tabela 3 - Indicadores de confiabilidade e validade discriminante do modelo estrutural

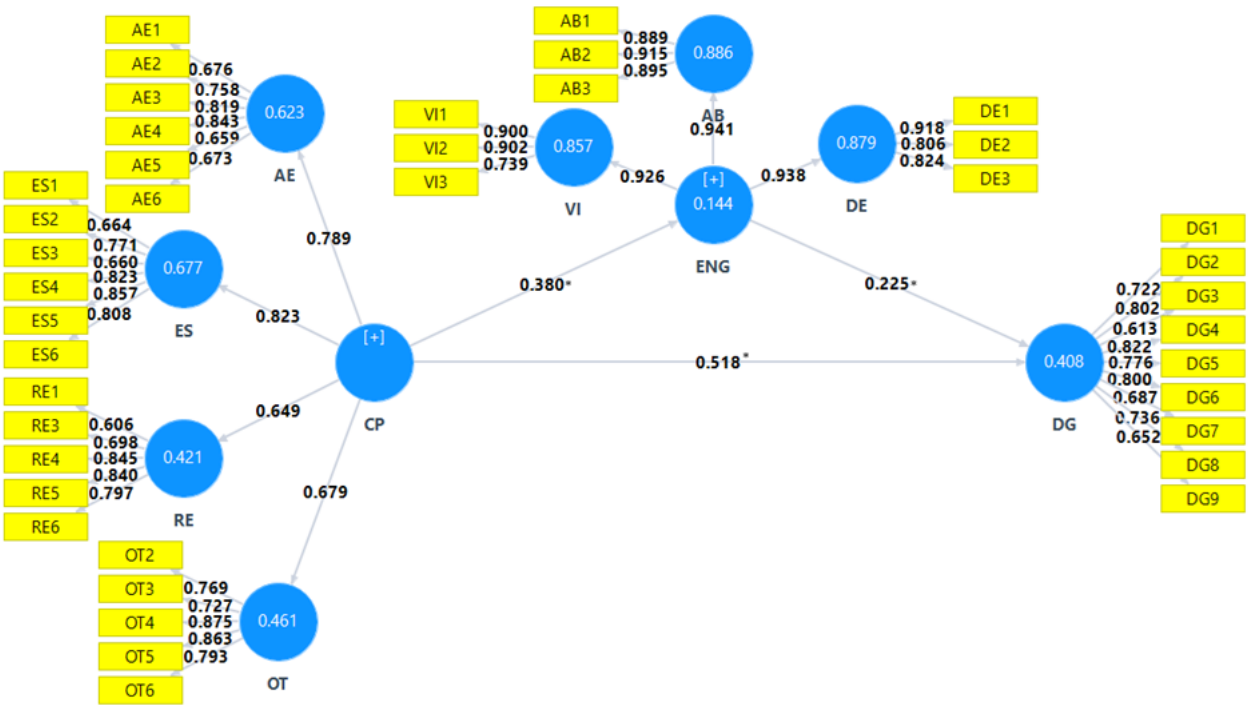
Indicadores de Confiabilidade	*AE*	*ES*	*RE*	*OT*	*VI*	*AB*	*DE*	*DG*
Alfa de *Cronbach* (AC)	0.834	0.858	0.817	0.865	0.807	0.882	0.808	0.894
Confiabilidade Composta (CC)	0.879	0.895	0.873	0.903	0.886	0.927	0.887	0.914
Variância Média Extraída (AVE)	0.550	0.589	0.582	0.652	0.723	0.809	0.724	0.544
Validade Discriminante	*AE*	*ES*	*RE*	*OT*	*VI*	*AB*	*DE*	*DG*
AE. Autoeficácia	***0.742***							
ES. Esperança	0.558	***0.768***						
RE. Resiliência	0.374	0.354	***0.763***					
OT. Otimismo	0.337	0.384	0.355	***0.807***				
VI. Vigor	0.341	0.369	0.195	0.226	***0.850***			
AB. Absorção	0.246	0.368	0.153	0.202	0.797	***0.900***		
DE. Dedicação	0.324	0.366	0.060	0.115	0.808	0.829	***0.851***	
DG. Desempenho Gerencial	0.428	0.568	0.356	0.394	0.414	0.419	0.346	***0.738***

Fonte: Dados da pesquisa.

Os resultados encontrados para a análise do modelo mostram que todos os indicadores de confiabilidade alcançaram valores superiores aos valores mínimos recomendados por Hair Jr. et al. (2022). Os valores do Alfa de *Cronbach* (AC) e Confiabilidade Composta (CC) atingiram valores superiores a 0,8, assim como os valores da Variância Média Extraída (AVE) que apresentaram valores superiores a 0,50, indicando a validade convergente dos constructos de mensuração. Os resultados evidenciados na **Tabela 3** indicam a alta confiabilidade das escalas de mensuração utilizadas no modelo estrutural. O modelo estrutural analisado também apresenta validade discriminante, de acordo com o critério de Fornell e Larcker (1981), visto que a raiz quadrada da AVE é maior que as correlações entre as demais variáveis latentes.

A **Figura 2** apresenta os resultados das estimativas de caminhos. Neste modelo, os indicadores RE2 e OT1 do constructo capital psicológico foram excluídos do modelo de mensuração, por apresentarem coeficientes fatoriais inferiores a 0,50. Os demais indicadores utilizados foram mantidos no modelo, alcançando valores não inferiores a 0,606.

Figura 2 - Estimativas de caminhos do modelo estrutural



Legenda: *p<0,01
Fonte: Dados da pesquisa.

Os resultados observados na **Figura 2** fornecem suporte para aceitar as quatro hipóteses da pesquisa (*H1, H2, H3* e *H4*). O coeficiente de caminho existente entre o capital psicológico e desempenho gerencial foi estatisticamente significativo e positivo (β=0,518; $p < 0,000$), assim como o resultado encontrado entre o capital psicológico e o engajamento no trabalho (β=0,380; $p < 0,000$). O coeficiente de caminho direto entre o engajamento no trabalho e o desempenho gerencial também foi estatisticamente significativo e positivo (β=0,225; $p < 0,003$). Por fim, o teste do efeito mediador do engajamento no trabalho (β=0,085; $p < 0,009$) também foi confirmado. No modelo analisado, o poder de explicação (R^2) do desempenho gerencial foi de 40,80%, considerado elevado.

A **Tabela 4** apresenta a síntese dos coeficientes de caminhos das relações investigadas.

Tabela 4 - Coeficientes de caminhos do modelo estrutural

Relações estruturais	*Coeficiente estrutural*	*Erro padrão*	*Valor t*	*Valor p*	*R²*	*VIF*	*f²*	*Q²*
CP → DG	0.518	0.055	9.350	0.000*	0.408	1.168	0.426	0.210
CP → ENG	0.380	0.076	4.980	0.000*	0.144	1.000	0.571	0.094
ENG → DG	0.225	0.076	2.951	0.003*	0.408	1.168	0.426	0.210
CP → ENG → DG	0.085	0.033	2.611	0.009*	0.408	1.168	0.426	0.210

Legenda: *p<0,01
Fonte: Dados da pesquisa.

A avaliação do tamanho do efeito (f^2) apresentou resultados superiores a 0,426 em todas as relações. A acurácia preditiva (Q^2) resultou em valores superiores a 0,094, também adequados para a análise. Dessa forma, pode-se afirmar que as relações teóricas investigadas foram confirmadas. Assim, pode-se inferir que o capital psicológico exerce influência estatisticamente significativa e positiva no desempenho gerencial e no engajamento no trabalho. Além disso, o engajamento no trabalho é capaz de influenciar estatística e significativamente o desempenho gerencial. Também se comprovou o efeito mediador parcial do engajamento no trabalho na relação entre o capital psicológico e o desempenho gerencial (Hair Jr. et al., 2022).

4.2. Discussão dos Resultados

Os resultados da pesquisa confirmam que ao observar variáveis comportamentais no contexto orçamentário, as interações entre essas variáveis, promovem o desempenho dos profissionais que atuam na função gerencial. Indivíduos com percepção do capital psicológico, quando cientes de que são detentores de autoeficácia, esperança, otimismo e resiliência são profissionais com melhor desempenho gerencial (Degenhart et al., 2022; Schlup et al., 2021; Venkatesh & Blaskovich, 2012). O capital psicológico é um propulsor do desempenho, pois faz com que os profissionais se sintam capazes de desempenhar as tarefas e alcançar os objetivos estabelecidos e também os resultados esperados (Luthans et al., 2007; Shaheen et al., 2024).

Isso pode ser explicado pelo fato de que estes indivíduos estão propensos a serem mais resilientes e persistentes no alcance dos objetivos de trabalho (Ullah et al., 2024). Nesse sentido, os achados da pesquisa estão em concordância com a literatura, demonstrando que quando os profissionais possuem as características do capital psicológico, estes buscam empregar mais esforços para alcançar maiores níveis de desempenho gerencial (*H1*). Este achado é semelhante ao observado por Rabenu et al. (2017), Degenhart et al. (2022), Machado et al. (2022) e Shaheen et al. (2024).

Devido a sua capacidade positiva, o capital psicológico demonstrou ser um antecedente do engajamento no trabalho observado nas práticas orçamentárias das indústrias brasileiras. O engajamento no trabalho compreende um estado psicológico positivo de disposição para as atividades de trabalho (Bakker, 2022). Os profissionais engajados possuem um sentimento de realização com as atividades desenvolvidas (Schaufeli et al., 2006). Além disso, percebem o trabalho como sendo gratificante e satisfatório (Bakker, 2022).

Desta maneira, pode-se afirmar que, de acordo com a amostra avaliada, quando os *controllers* reconhecem a autoeficácia, esperança, otimismo e resiliência, esses profissionais são altamente engajados, e possuem satisfação ao executar as atividades relacionadas ao orçamento da sua unidade (*H2*). Luo et al. (2022) e Wang et al. (2024) também encontraram uma associação positiva entre o capital psicológico e o engajamento no trabalho, corroborando estas afirmações.

Os resultados obtidos mediante a modelagem de equações estruturais revelaram que o engajamento no trabalho, capacidade positiva relacionado ao trabalho, é um fator que explica o desempenho gerencial dos *controllers*. De acordo com a literatura, atitudes proativas e positivas influenciam o desempenho (Shaheen et al., 2024). No entanto, elevadas exigências no trabalho reduzem o engajamento e, consequentemente, o desempenho no trabalho (Lee et al., 2024). Nesta pesquisa, comprovou-se que quando os *controllers* se consideram altamente engajados nas atividades orçamentárias, apresentam altos níveis de desempenho gerencial, confirmando a hipótese *H3*.

Ao analisar o engajamento no trabalho como mediador da relação entre o capital psicológico e o desempenho gerencial dos *controllers* (*H4*), o resultado encontrado é uma mediação parcial e complementar (Hair Jr. et al., 2022). Estes achados revelam que indivíduos com o capital psicológico desenvolvido possuem confiança em si e empregam esforços em atividades desafiadoras, são otimistas, perseverantes no alcance de metas e resilientes para enfrentar contingências (Avey et al., 2011; Luthans et al., 2007). Os recursos psicológicos e a força dos indivíduos, na forma de capital psicológico, fornece oportunidades para que estes possam alcançar o sucesso, possibilitando momentos de realizações e sentimentos positivos no trabalho (Shaheen et al., 2024).

Portanto, pode-se concluir que os *controllers* que possuem características de autoeficácia, são otimistas, esperançosos e resilientes, quando atuam nos processos orçamentários, e apresentam elevadas características de vigor, dedicação e absorção no trabalho, promovendo altos níveis de desempenho gerencial. Estes são profissionais que se empenham mais para alcançar os resultados esperados na função gerencial desempenhada.

Os resultados encontrados revelam a importância das capacidades psicológicas positivas do capital psicológico para promoção do engajamento no trabalho. Profissionais que reconhecem as características positivas, bem como conseguem empregar essas características para lidar com as adversidades enfrentadas no ambiente organizacional, são aqueles que se destacam e conseguem elevar o seu desempenho gerencial na função de *controllers*. Por estas razões, tais características devem ser desenvolvidas.

O capital psicológico pode ser desenvolvido nas organizações, assim como o engajamento no trabalho (Luo et al., 2022; Machado et al., 2022). A promoção pode ocorrer mediante a elaboração de ações que favoreçam a capacitação dos funcionários para o exercício de suas atribuições de trabalho (Bakker, 2022). Treinamentos organizacionais, intervenções, oportunidades de aprendizagem e desenvolvimento, recompensas e incentivos promovem resultados positivos no trabalho (Shaheen et al., 2024). Ao desenvolverem os recursos pessoais e apoiar os funcionários no enfrentamento dos problemas da organização, potencializa-se sua atuação e o seu desempenho (Ergun et al., 2023). Por isso, o capital psicológico e o engajamento no trabalho são capacidades importantes de serem estimuladas nas organizações, para alavancar não só o desempenho individual, como também o desempenho organizacional.

5. Conclusão

Esta pesquisa teve por objetivo avaliar a influência do engajamento no trabalho na relação entre capital psicológico e o desempenho gerencial, a partir de uma pesquisa descritiva, de levantamento, e abordagem quantitativa dos dados, com uso da MEE, com amostra não probabilística de 166 profissionais *controllers* que atuam em indústrias no Brasil e possuem responsabilidade orçamentária. Os resultados encontrados evidenciam a influência positiva do engajamento no trabalho na relação existente entre o capital psicológico e o desempenho gerencial.

Esta mediação é parcial, o que denota que tanto o capital psicológico como o engajamento no trabalho atuam para potencializar o desempenho gerencial dos *controllers*. Esta interação é importante e reflete nos aspectos cognitivos e comportamentais, preconizados pela Teoria Social Cognitiva, para explicar a ação humana. Indivíduos são seres racionais, que possuem um sistema autorreferente que lhes permite julgar as condições de trabalho. Portanto, definir se os recursos alocados são adequados diante de suas necessidades de trabalho.

Ao identificarem o atendimento de tais condições, se tornam mais propensos a empreender maior esforço para alcançar os objetivos, metas e resultados organizacionais desejados. Portanto, nestas condições, são profissionais mais autoconfiantes e resilientes, bem como mais dispostos e com vigor para realizar suas atividades de trabalho. Estas atitudes individuais são necessárias para a aceitação e a mobilização de maiores esforços para o enfrentamento das situações adversas experimentadas. Do mesmo modo, para o alcance de desempenho gerencial elevado.

Este estudo está sujeito a limitações. Primeiramente, avaliou-se apenas a percepção de *controllers* que atuam com responsabilidade orçamentária. A realização de novos estudos com profissionais que atuam em diferentes setores das organizações pode apresentar resultados divergentes. A forma de coleta dos dados limita as inferências a profissionais com perfil ativo no *LinkedIn*®, o que pode restringir um alcance mais amplo de profissionais que exercem esta função. Fatores específicos de cada organização também podem explicar tais resultados, e podem ser considerados quando da realização de novos estudos.

A análise proposta contempla a investigação de tais fatores no período pandêmico. Desta forma, aspectos contextuais relacionados a crises (como a pandêmica, climática, entre outras) e aspectos organizacionais (relacionados a tensões, ambiguidade de papéis e restrições de recursos), também podem afetar as cognições e aspectos motivacionais dos indivíduos no trabalho, o que se apresenta como uma oportunidade para a realização de novos estudos. Há que se considerar que tanto o capital psicológico como o engajamento no trabalho são estados psicológicos positivos que podem ser influenciados negativamente por tais aspectos (Schlup et al., 2021). Dado esse contexto, os achados do estudo devem ser interpretados com parcimônia. Contudo, isso não representa um problema, dado que estudos afins também apresentam recortes temporais em cenários com circunstâncias e épocas idênticas (ex.: Ergun et al., 2023; Lu et al., 2023; Zonatto et al., 2023).

A investigação de outras capacidades positivas e variáveis negativas como fator mediador da relação entre o capital psicológico e o desempenho gerencial também pode ser considerada, bem como avaliar outros fatores ambientais (organizacionais) que podem ser desenvolvidos e estimulados no ambiente

de trabalho. A realização de pesquisas com outras abordagens metodológicas, tais como experimentos, estudos de caso ou múltiplos estudos de caso, e a adoção de método qualitativo ou misto, também pode possibilitar captar as opiniões dos profissionais de forma mais ampla.

Referências

Avey, J.B., Reichard, R.J., Luthans, F., & Mhatre, K.H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. Human Resource Development Quarterly, 22(2), 127–152. https://doi.org/10.1002/hrdq.20070

Bakker, A.B. (2022). The social psychology of work engagement: state of the field. Career Development International, 27(1), 36–53. https://doi.org/10.1108/cdi-08-2021-0213

Bandura, A. (1977). Social Learning Theory. Englewood Cliffs, N. J.: Prentice-Hall.

Bandura, A., Azzi, R. G., & Polydoro, S. (2008). Teoria Social Cognitiva: Conceitos Básicos. Artmed.

Costa, M.G., Pinto, L.H., Martins, H., & Vieira, D.A. (2021). Developing psychological capital and emotional intelligence in higher education: A field experiment with economics and management students. The International Journal of Management Education, 19, 1–13. https://doi.org/10.1016/j.ijme.2021.100516

Degenhart, L., Zonatto, V.C.S., & Lavarda, C. E. F. (2022). Efeitos do capital psicológico e atitudes gerenciais na relação entre participação orçamentária e desempenho. Revista Contabilidade & Finanças, 33(9), 216–231. https://doi.org/10.1590/1808-057x202113790

Ergun, G.S., Bozkurt, H.O., Arslan, E., Kendir, H., & Yayla, O. (2023). Psychological capital as a moderator in the relationship between job insecurity, job stress, and hotel employees' turnover intention during the Russia-Ukraine war. International Journal of Hospitality Management, 111, 1–9. https://doi.org/10.1016/j.ijhm.2023.103475

*Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. Behavior Research Methods, 41(4), 1149–1160. https://doi.org/10.3758/brm.41.4.1149*

Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39–50. https://doi.org/10.2307/3151312

Fourné, S.P.L., Guessow, D., Margolin, M., & Schäffer, U. (2023). Controllers and strategic decision-making: the role of cognitive flexibility in controller-manager collaboration. Management Accounting Research, 60, 1–13. https://doi.org/10.1016/j.mar.2023.100840

Hair Jr, J.F., Hult, G.T.M., Ringle, C. M., & Sarstedt, M. (2022). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (3rd ed.). Sage.

Hair, J.F., Risher, J.J., Sarstedt, M., & Ringle, C.M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at Work. Academy of Management Journal, 33(4), 692–724. https://doi.org/10.5465/256287

Lee, M.C.C., Sim, B.Y.H., & Tuckey, M.R. (2023). Comparing effects of toxic leadership and team social support on job insecurity, role ambiguity, work engagement, and job performance: A multilevel mediational perspective. Asia Pacific Management Review, 29(1), 115–126. https://doi.org/10.1016/j.apmrv.2023.09.002

Lu, Y., Zhang, M. M., Yang, M.M., & Wang, Y. (2023). Sustainable human resource management practices, employee resilience, and employee outcomes: Toward common good values. Human Resource Management, 62(3), 331-353. https://doi.org/10.1002/hrm.22153

Luo, C.-Y., Tsai, C.-H. (Ken), Su, C.-H. (Joan), Kim, H.J., Gao, J.-L., & Chen, M.-H. (2022). How does hotel employees' psychological capital promote adaptive performance? The role of change readiness. Journal of Hospitality and Tourism Management, 51, 491–501. https://doi.org/10.1016/j.jhtm.2022.05.006

Luthans, F., Youssef, C.M., & Avolio, B.J. (2007). Psychological Capital: Developing the Human Competitive Edge. Oxford University Press.

Machado, F.S., Zonatto, V.C.S., Degenhart, L., Kieling, D.L., & Bianchi, M. (2022). Enabling cognitive effects of vertical information sharing on psychological capital, managerial attitudes, and performance. Brazilian Administration Review, 19(3), 1–27. https://doi.org/10.1590/1807-7692bar2022210085

Mahoney, T.A., Jerdee, T. H., & Carroll, S. J. (1965). The job(s) of management. Industrial Relations, 4(2), 97–110. https://doi.org/10.1111/j.1468-232x.1965.tb00922.x

Majid, F., Raziq, M.M., Memon, M.A., Tariq, A., & Rice, J.L. (2023). Transformational leadership, job engagement, and championing behavior: assessing the mediating role of role clarity. European Business Review, 35(6), 941–963. https://doi.org/10.1108/ebr-01-2023-0028

Naim, M.F., Shehzad, N., Al Nahyan, M. T., Jabeen, F., & Usai, A. (2024). The impact of knowledge sharing on employee engagement through the mediating role of competency development and moderating role of social climate. Journal of Knowledge Management, 28(7), 1889–1916. https://doi.org/10.1108/jkm-04-2023-0276

Narayanasami, S., Joseph, M.S., & Parayitam, S. (2024). Emotional intelligence and psychological capital as moderators in the relationship between employee commitment and work engagement: evidence from employees in banking from India. Journal of Asia Business Studies, 18(1), 136–157. https://doi.org/10.1108/jabs-03-2023-0107

Rabenu, E., Yaniv, E., & Elizur, D. (2017). The relationship between psychological capital, coping with stress, well-being, and performance. Current Psychology, 36(4), 875–887. https://doi.org/10.1007/s12144-016-9477-4

Saks, A.M. (2006). Antecedents and consequences of employee engagement. Journal of Managerial Psychology, 21(7), 600–619. https://doi.org/10.1108/02683940610690169

Schaufeli, W.B., Bakker, A.B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. Educational and Psychological Measurement, 66(4), 701–716. https://doi.org/10.1177/0013164405282471

Schlup, D., Beck, F., & Zonatto, V.C.S. (2021). Efeitos mediadores do capital psicológico e da síndrome de burnout na relação entre participação orçamentária e desempenho gerencial. Advances in Scientific and Applied Accounting, 14(1), 297–314. https://doi.org/10.14392/asaa.2021140109

Shaheen, M., Gupta, R., & Zeba, F. (2024). Psychological capital and multifaceted nature of job performance: mediation by intrinsic motivation and goal-commitment. International Journal of Productivity and Performance Management, 73(6), 1970–1995. https://doi.org/10.1108/ijppm-06-2022-0274

Ullah, I., Hameed, R.M., & Mahmood, A. (2024). The impact of proactive personality and psychological capital on innovative work behavior: evidence from software houses of Pakistan. European Journal of Innovation Management, 27(6), 1967–1985. https://doi.org/10.1108/ejim-01-2022-0022

Venkatesh, R., & Blaskovich, J. (2012). The mediating effect of psychological capital on the budget participation-job performance relationship. Journal of Management Accounting Research, 24(1), 159–175. https://doi.org/10.2308/jmar-50202

Wang, F., Li, W., Feng, Y., Ren, Y., Chen, Y., & Xiao, H. (2024). Political skill amplifies the beneficial effects of leader humor on actors' work engagement via psychological capital. Journal of Business Research, 182, 1–13. https://doi.org/10.1016/j.jbusres.2024.114775

Zonatto, V.C.S., Degenhart, L., Bauer, L., & Nascimento, J.C. (2020). Efeitos cognitivos, motivacionais e do valor de realização da participação orçamentária sobre o desempenho no trabalho. Enfoque: Reflexão Contábil, 39(3), 133–150. https://doi.org/10.4025/enfoque.v39i3.46835

Zonatto, V.C.D.S., Machado, F. S., Aguiar, A. B. D., & Marquezan, L. H. F. (2023). Efeitos das características habilitantes do controle orçamentário no capital psicológico de gestores com responsabilidade orçamentária. Revista Contabilidade & Finanças, 34(91), 1-16. https://doi.org/10.1590/1808-057x20221753.pt

R E V I S T A | J O U R N A L | R E V I S T A
Globalización, Competitividad y Gobernabilidad | Globalization, Competitiveness & Governability | Globalização, Competitividade e Governabilidade

GCG
The Journal *of* Globalization, Competitiveness, and Governability

Conditional Conservatism in Regulatory and Corporate Standards in Brazilian Electrification Cooperatives

AREA: 2
TYPE: Application

Conservadurismo Condicional en los Estándares Regulatorio y Societario en Cooperativas de Electrificación Brasileñas
Conservadorismo Condicional nos Padrões Regulatório e Societário nas Cooperativas de Eletrificação Brasileiras

AUTHORS

Paulo Vitor Souza de Souza[1]
Universidade Federal do Paraná (UFPR), Brasil
paulovsouza@ufpr.br

Gabriela Mel dos Santos Rêgo
Universidade Federal do Pará (UFPA), Brasil
gabriela.rego@icsa.ufpa.br

Priscila Pontes Nunes
Universidade Federal de Pernambuco (UFPE), Brasil
priscilapontesnunes@gmail.com

1. Contact Author: Prefeito Lothário Meissner Avenue, 632. Jardim Botânico, Curitiba – PR, Brasil. CEP: 80210-170.

This study analyzes conditional conservatism in regulatory and corporate financial statements of Brazilian electrification cooperatives, using data from ANEEL (2011-2022) from 36 cooperatives. The Ball and Shivakumar (2005) model of conditional conservatism was applied using fixed-effects regressions. The results showed significant differences: the regulatory standard presented a more optimistic perspective, while the corporate standard was more conservative. The quality of accounting information varies according to the accounting standard, impacting the perception of conservatism. This study is useful for regulators and cooperatives, expanding the understanding of the quality of accounting information in electrification cooperatives.

Este estudio analiza el conservadurismo condicional en los estados contables regulatorios y societarios de cooperativas de electrificación brasileñas, utilizando datos de ANEEL (2011-2022) de 36 cooperativas. Se aplicó el modelo de conservadurismo condicional de Ball y Shivakumar (2005) mediante regresiones de efectos fijos. Los resultados mostraron diferencias significativas: el estándar regulatorio presentó una perspectiva más optimista, mientras que el estándar societario fue más conservador. La calidad de la información contable varía según el estándar contable, lo que impacta la percepción del conservadurismo. Este estudio es útil para los reguladores y los cooperativistas, ampliando la comprensión de la calidad de la información contable en cooperativas de electrificación.

Este estudo analisa o conservadorismo condicional em demonstrativos contábeis regulatórios e societários de cooperativas de eletrificação brasileiras, utilizando dados da ANEEL (2011-2022) de 36 cooperativas. O modelo de Ball e Shivakumar (2005) de conservadorismo condicional foi aplicado com regressões por efeitos fixos. Os resultados mostraram diferenças significativas: o padrão regulatório apresentou uma perspectiva mais otimista, enquanto o padrão societário foi mais conservador. A qualidade das informações contábeis varia conforme o padrão contábil, impactando a percepção de conservadorismo. Este estudo é útil para reguladores e cooperados, ampliando a compreensão da qualidade da informação contábil em cooperativas de eletrificação.

DOI
10.58416/GCG.2025.V19.N2.05

Received
30.07.2024

Accepted
21.09.2024

GCG
The Journal *of* Globalization, Competitiveness, and Governability

1. Introduction

The regulation of economic sectors aims to protect consumers from potential monopolistic exploitation and can be exercised by regulatory agencies, which seek to ensure benefits to the society that consumes essential services (Parker, 2002; Stigler, 1971). In the Brazilian context, regulatory agencies play a fundamental role in mitigating political and ideological influences by contributing to the maximization of social welfare (Antonelli et al., 2018; Holanda & Coelho, 2020).

The electric sector, as a provider of essential resources for the functioning of society, requires state intervention to ensure fair prices and quality in the services provided (Andrade & Martins, 2017; Ferreira et al., 2021). The creation of the National Electric Energy Agency (ANEEL) in Brazil aimed to regulate and supervise companies in the electric sector to ensure sustainability, fair remuneration for investors, and adequate tariffs for consumers (Andrade & Martins, 2017).

A particularity of companies regulated by ANEEL is the obligation to present financial statements based on different accounting standards, which are divided into two distinct accounting systems: regulatory and corporate (Ferreira et al., 2021; Ribeiro & Silva, 2017). This accounting duality can generate discrepancies in the recognition and measurement of accounting elements such as assets, liabilities, revenues, and expenses (Ferreira et al., 2021).

In this regulatory and accounting environment, electric cooperatives emerge as a viable alternative for providing energy to rural areas and promoting the socioeconomic development of these regions (Scheffer et al., 2021). The main difference of electric cooperatives is their collective decision-making process, which involves members who participate in deliberative decisions democratically (Scheffer et al., 2021). These entities are governed by ANEEL and, therefore, are subject to the same regulatory norms as other companies in the sector. Consequently, cooperatives may face unique challenges in preparing and presenting financial statements due to their particularities.

In this context, the quality of accounting information is fundamentally important for effective decision-making, especially because that regulation can have on financial statements (Morais et al., 2019). Accounting conservatism, through the timelier recognition of losses compared to gains, emerges as a relevant measure of informational quality, particularly in environments where the credit market plays a significant role (Ball & Shivakumar, 2005).

The analysis of the effects of different accounting standards on the quality of accounting information in the electric sector reveals a gap in the literature, with few studies addressing this particularity comprehensively. While research such as that by Flores and Lopes (2019) indicates that the adoption of international accounting standards in Brazil negatively affected the relevance of accounting information in electric distribution companies, studies conducted by Ferreira et al. (2021) and Souza et al. (2024) suggest that information prepared under the corporate standard is more relevant compared to information under the regulatory standard in companies in the Brazilian electric sector.

Keywords
Electrification Cooperatives; Conditional Conservatism; Economic Regulation; Corporate Standard; Regulatory Standard.

Palabras clave
Cooperativas de Electrificación; Conservadurismo Condicional; Regulación Económica; Estándar Societario; Estándar Regulatorio.

Palavras-Chave
Cooperativas de Eletrificação; Conservadorismo Condicional; Regulação Econômica; Padrão Societário; Padrão Regulatório.

JEL Codes
G18; L94; M41

This discrepancy highlights the complexity of the relationship between different accounting standards and the quality of accounting information in the specific context of electric companies in Brazil. Given this scenario, the present research aims to investigate whether conditional conservatism in electrification cooperatives differs between regulatory and corporate financial statements, considering the nuances of the regulatory and accounting environment in which these entities operate.

Investigating the behavior of conditional conservatism in electric cooperatives allows for a deeper understanding of how they operate within regulatory and corporate contexts, highlighting their role in providing electric services in rural areas and their impact on the socioeconomic development of these regions. By analyzing the differences in conditional conservatism between regulatory and corporate financial statements of electrification cooperatives, the study can provide valuable insights to improve sector regulation, ensuring better consumer protection and greater transparency in the accounting information presented by companies in this industry.

The study contributes to theoretical development by exploring the application of the concept of conditional conservatism in a specific context, such as electric cooperatives, as it can open new perspectives and research areas within the field of accounting and economic regulation. Therefore, by understanding how differences in accounting standards affect conditional conservatism in electric cooperatives, managers of these entities can make more informed strategic decisions aimed at operational efficiency, financial sustainability, and compliance with regulatory obligations.

2. Theoretical Framework

2.1. Regulation and the Role of Regulatory Agencies

The economic regulation of public services results from the need to protect consumers from monopolistic exploitation (Parker, 2002). Therefore, regulation can be sought or imposed on a sector, as it is designed and operated to benefit the society that consumes essential services (Stigler, 1971).

In Brazil, regulation is carried out through regulatory agencies, which aim to regulate a specific matter, seeking to mitigate political and ideological influences in their activities (Antonelli et al., 2018). Thus, as Holanda and Coelho (2020) state, the presence of regulatory agencies can reduce or prevent political interference in a sector, thereby maximizing society's welfare.

Organizations belonging to sectors providing public utility services require high investment for their operation, resulting in few companies exploiting such activities. Therefore, economic regulation aims to ensure that services are offered to consumers in a fair manner, avoiding the imposition of excessive prices (Siotis et al., 2023). Sectors that provide public utility services, such as fuels, electricity, telecommunications, and transportation, most need organization based on regulation. In this context, it is necessary to create regulatory agencies to grant public services, ensuring adequate supervision and establishing specific regulatory standards (Hinterleitner et al., 2024).

Therefore, from the perspective of Public Interest Theory of Regulation, regulation should be guided by collective interest, so that correcting market failures results in benefits for service consumers and society in general. However, the Economic Theory of Regulation posits that regulation is established to benefit smaller but more organized interest groups, such as the industry, while larger and more diffuse groups, such as consumers, would be disadvantaged (Stigler, 1971).

Observing these perspectives, it is notable that regulation can contribute both to achieving collective benefits, according to Public Interest Theory of Regulation, and to serving the interests of specific groups to the detriment of the collective, according to Economic Theory of Regulation. These reflections are interesting to observe, especially in specific sectors with available information.

2.2. Electric Sector and Report Disclosure

Electricity is a vital resource for the functioning of society's activities, and its proper supply can enhance a population's welfare (Ferreira et al., 2021; Li et al., 2024). Therefore, given its importance, there is a need for state intervention to seek, through regulation, fair prices and quality in the provision of electricity services (Andrade & Martins, 2017).

The National Electric Energy Agency (ANEEL) was created to regulate and supervise companies in this sector through public policies aimed at ensuring the sector's sustainability, fair remuneration for investors, and affordable tariffs for consumers (Andrade & Martins, 2017). However, Brazilian companies regulated by ANEEL have a peculiarity related to the mandatory presentation of their financial statements based on two accounting standards, through regulatory and corporate accounting (Ferreira et al., 2021).

Thus, as Ribeiro and Silva (2017) point out, regulatory accounting was instituted to meet regulatory needs and concepts. However, as Brugni et al. (2012) state, regulatory and corporate financial statements can present observable differences in the recognition and measurement of various accounting elements, such as assets, liabilities, revenues, and expenses, by concessionary companies. Therefore, financial statements presented in regulatory and corporate forms exhibit divergences arising from the accounting process (Flores & Lopes, 2020; Ferreira et al., 2021; Souza et al., 2024).

2.3. Electric Cooperatives

The distribution of electricity is an essential public service for society, and its demand is increasing. Faced with these needs, some electricity concessionaires in Brazil have offered services collaboratively through electrification cooperatives (González et al., 2023).

Electrification cooperatives emerged due to the need to make the concession of electricity in rural areas viable. Investment in these areas, through infrastructure for electricity distribution, was neither viable nor attractive to other electricity concessionaires, as building electric networks would be required, and this market was not considered profitable (Scheffer et al., 2021; Yadoo & Cruickshank, 2010). Thus, to reduce the electrification deficit, especially in rural areas, electric cooperatives emerged in Brazil (Kowalski et al., 2010).

Electrification cooperatives play an important role in society by providing electricity to more remote areas and can consequently foster the socioeconomic development of these regions (Scheffer et al., 2021). Thus, these entities can set up, build, and operate their own plants, acting as producers or distributors of electricity, with activities that can have significant environmental impacts (Kowalski et al., 2010).

Through electrification cooperatives, the users, or members, invest their own resources in building electric networks, making them more involved in the organization (Scheffer et al., 2021). In this context, Munaretto and Corrêa (2016) comment that, compared to other societies, cooperatives have several standout points, such as: non-profit orientation, as net surpluses are returned to members; equal rights and obligations of members; service provision to members; and the member is both a user of the service and the owner of the cooperative.

Scheffer et al. (2021) point out that the main difference of electric cooperatives is their collective decision-making process, as members participate in deliberative assemblies. Thus, cooperatives can offer some benefits compared to other entities, such as resource sharing; combination of competencies; sharing of burdens; sharing of risks and costs in exploring new opportunities; and offering superior quality services to society (Campos et al., 2016).

Electric energy cooperatives are regulated by ANEEL in the same way as other companies in the sector, and are subject to the same rules (Silva et al., 2024). Thus, these entities must also prepare their financial statements based on the standards established by ANEEL, through regulatory and corporate accounting (Ferreira et al., 2021). Therefore, it becomes important to verify whether the information provided in these statements is of quality by analyzing information in the regulatory and corporate domains and identifying if there are differences in these quality levels.

2.4. Information Quality and Conditional Conservatism

The quality of accounting information can be affected by the regulatory environment, either positively, due to increased monitoring, or negatively, through the discretion existing in the regulation process. Quality information is understood to be that which can provide advantages to a decision-maker (Morais et al., 2019).

Accounting conservatism represents a measure of informational quality, where there is unequal recognition in a company's accounting, through a tendency to recognize losses timelier than gains (Jarva & Lof, 2024; Souza & Morais, 2024). Basu (1997) points out that the tendency to recognize bad news (losses) more promptly than good news (gains) related to a company's future cash flows is called conditional conservatism.

Conservatism is an important attribute in establishing contractual relationships between the company and its creditors, who aim to ensure the minimum conditions for fulfilling obligations (Ball & Shivakumar, 2005). Thus, according to Ball et al. (2000), conservatism can increase the efficiency of contracts by reducing optimistic management through the timelier presentation of negative results. Therefore, conservatism is a quality measure used in environments where the credit market is a constant source of financing for organizations (Ball et al., 2000).

When analyzing the behavior of measures representing accounting informational quality, it is noted that some studies have observed the quality under different accounting standards from both regulatory and corporate perspectives. The studies by Ferreira et al. (2021) and Souza et al. (2024) examined the relevance of accounting information under both standards and found that information from corporate statements tends to have greater relevance, while regulatory information tends to be less relevant. Therefore, a distinct behavior between these standards is observed in electric companies.

The topic of conservatism in accounting information is contentious in academia, with differing views on its impact on information quality. Some argue that conservatism improves the accuracy of financial reporting (Ahmed et al., 2013), while others believe it undermines neutrality and increases information asymmetry (Wang, 2013). Studies by Vale and Nakao (2017) and Daryaei et al. (2022) suggest that conservatism can reduce earnings quality and be exploited by executives for higher compensation, thus negatively affecting the overall quality of accounting information. Based on the above, since conservatism is a proxy representing the quality of accounting information, and considering that electric companies, including cooperatives, present statements with distinct accounting standards (Ferreira et al., 2021; Souza et al., 2024), serving different needs (Ribeiro & Silva, 2017), the following hypothesis were delineated:

H1: The level of conditional conservatism in electrification cooperatives is lower in corporate financial statements.

H2: The level of conditional conservatism in electrification cooperatives is higher in regulatory financial statements.

3. Research Methods

3.1. Sample and Data Collection

The information aiding this study in its objective to verify conditional conservatism in the financial statements of Brazilian electric cooperatives originates from the Economic-Financial Information Center of the National Electric Energy Agency (ANEEL). The Economic-Financial Information Center of ANEEL presents information related to 49 electric cooperatives from 2011 to 2022. The criteria adopted for the exclusion of observations are listed below in **Table 1**:

Table 1. - Sample Selection Criteria

Specification	*Quantity*
Electric cooperatives during the analysis period	49
(-) Companies not recurring in all analyzed periods	(13)
(=) Final Sample	36

Source: Prepared by the authors

According to the criteria for reaching the final sample, 13 companies were excluded due to the listed criteria, resulting in 36 analyzed cooperatives. The conditional conservatism model used requires two lags in the analyzed variables (t-1 and t-2) due to the analysis of information variation from one period to another and the variables with a lag. Therefore, the years 2011 and 2012 were excluded from the analysis, leaving the years 2013 to 2022 for the research. Thus, 360 observations were analyzed, deriving from the 36 companies over 10 years.

It is noteworthy that information from a regulatory perspective was only available from 2015 onwards, and according to the model, data from 2017 onwards were used, covering a total of 6 years, with 216 observations analyzed based on regulatory statements.

3.2. Conditional Conservatism – Ball and Shivakumar (2005)

Conditional conservatism is understood as a behavior where the decision-maker tends to recognize bad news more promptly than good news by timely recognizing losses over gains (Basu, 1997). Therefore, conservatism represents a conduct where there is an imbalance between losses and gains, tending to recognize losses in advance. Ball and Shivakumar (2005) developed a model that relates the timely recognition of losses to the organization's negative cash flows, meaning conservatism represents poor economic performance in the company's current period. The model proposed by Ball and Shivakumar (2005) is represented by the equation:

$$\Delta SL_{it} = \beta_0 + \beta_1 D_{it-1} + \beta_2 \Delta SL_{it-1} + \beta_3 Cons. + \varepsilon_{it} \quad (1)$$

Where:

ΔSL_{it} represents the variation in the cooperative's net accounting surplus from year t-1 to year t; D_{it-1} rrepresents a dummy variable indicating whether there is a negative variation in the cooperative's net accounting surplus from year t-2 to year t-1, taking a value of 1 if $\Delta SL_{it-1} < 0$; and 0 otherwise; ΔSL_{it-1} represents the variation in the cooperative's net accounting surplus from year t-2 to year t-1; $Cons.$ represents the variable that represents the cooperative's conditional conservatism, through the interaction $D^*\Delta SL_{it-1}$; and $\varepsilon_{i,t}$ represents the regression error term. All variables related to net income are weighted by the total asset value at the beginning of the period.

The information regarding the variables in the Ball and Shivakumar (2005) conditional conservatism model was obtained from the income statements of electric cooperatives under two different accounting standards, either based on regulatory or corporate standards.

Therefore, results were generated using variables based on distinct bases, meaning the result used for quantifying the variables is based on statements from the same company for the same period but under different accounting standards. Thus, the analysis of conditional conservatism in electric cooperatives will be conducted through an investigation aimed at identifying whether the quality of accounting information, measured by conservatism, differs between these two perspectives of information generation.

4. Research Results

4.1. Descriptive Results

The following presents results on descriptive statistics related to measures of position and dispersion of variables, through information on mean, standard deviation, minimum, and maximum. This information is presented in two distinct columns, representing information on the same variables but under two different accounting standards. See **Table 2**:

Table 2. - Descriptive Statistics

Variáveis	*Regulatory Standard*				*Corporate Standard*			
	Mean	*Standard Deviation*	*Min*	*Max*	*Mean*	*Standard Deviation*	*Min*	*Max*
ΔSL_{it}	0.0103	0.0084	-0.1300	0.1776	0.0107	0.0067	-0.2076	0.3791
D_{it-1}	0.3889	0.0000	0.0000	1.0000	0.4139	0.0000	0.0000	1.0000
ΔSL_{it-1}	0.0116	0.0090	-0.1300	0.1776	0.0133	0.0079	-0.2076	0.3791
Cons.	-0.0091	0.0000	-0.1300	0.0000	-0.0151	0.0000	-0.2076	0.0000

Source: Prepared by the authors.

Based on the data, the variation in the current net surplus, both in the corporate standard and the regulatory standard, is similar, with a positive mean and small differences close to the thousandths. Additionally, regarding the standard deviation, it is notable that information from a regulatory perspective tends to be slightly more dispersed than from the corporate standard, representing a small difference in the variation of information. However, when analyzing the minimum and maximum values of the variables related to current and past surpluses, it is evident that there are observable differences, as the regulatory standard has less total dispersion than the corporate standard.

Finally, when verifying the measures related to the dummy variable of negative net surpluses, it was observed that corporate information shows greater negative variations in net surplus compared to the regulatory standard. Lastly, the measure of conservatism shows observed differences concerning its mean and minimum values between both standards.

4.2. Diagnostic and Validation Tests

The behavior of the research data was analyzed through panel diagnostic tests and regression model validation tests. The panel diagnostic was conducted using the Chow, Breusch-Pagan, and Hausman tests. **Table 3** presents the value of the statistics for the tests:

Table 3. - Panel Diagnostic Tests

Model 1 – Regulatory Standard				
Testes	*H0*	*H1*	*Result*	*Model*
Chow	Pooled	Fixed Effects	p-value = 0.0001	Fixed Effects
Breusch-Pagan	Pooled	Random Effects	p-value = 0.0000	Random Effects
Hausman	Random Effects	Fixed Effects	p-value = 0.0167	Fixed Effects
Model 2 – Corporate Standard				
Chow	Pooled	Fixed Effects	p-value = 0.0037	Fixed Effects
Breusch-Pagan	Pooled	Random Effects	p-value = 0.0000	Random Effects
Hausman	Random Effects	Fixed Effects	p-value = 0.0038	Fixed Effects

Source: Prepared by the authors.

From the results presented in the table above, it is clear that for both regression models, whether for conservatism through regulatory standards or corporate standards, the fixed effects panel is the most suitable. Thus, the fixed effects panel model will be adopted.

Regarding the validation tests of the regression models, three tests were conducted to provide insights into the validity of the data: heteroscedasticity, through the White test; normality; and multicollinearity, through the Variance Inflation Factors (VIF). **Table 4** presents the results of the statistics for these tests:

Table 4. - Panel Diagnostic Tests

Models	*Heteroscedasticity Test*	*Normality Test*	*Multicollinearity Test*
	p-value		*VIF (range)*
Model 1	0.0966	0.0000	2.001 and 2.863
Model 2	0.0000	0.0000	1.871 and 2.251

Note: This table reports the results for the p-values of the tests for heteroscedasticity, normality, and multicollinearity of the residuals of the two panel regression models used in the study. Source: Prepared by the authors.

As observed in the table above, at a significance level of 10%, both models present heteroscedastic residuals, meaning it was necessary to correct the residuals for robust standard errors. Regarding the normality tests, for both models, it was observed that the test statistic was significant, indicating a lack of normality. However, considering the number of observations (N = 360), the assumption of non-normality can be relaxed. Finally, the multicollinearity test resulted in values ranging from 1.871 to 2.863, indicating no evidence of correlation between the independent variables.

4.3. Regression Model Results

The regressions used to identify evidence of conditional conservatism in Brazilian electric cooperatives and whether there are differences between the regulatory and corporate accounting standards are presented below. **Table 5** presents two regression models, which differ only in the base statement for obtaining information.

Table 5. - Panel Data Regressions – Dependent Variable – ΔSLit

Variables	*Model 1 - Regulatory Standard*	*Model 2 - Corporate Standard*
Constant	0.0194	0.0211
Dit-1 (β_1)	(0.0061)***	(0.0064)***
ΔSLit-1 (β_2)	0.0017	−0.0167
Cons. (β_3)	(0.0062)	(0.0078)**
N	−0.4579	−0.3512
R^2	(0.1764)**	(0.1266)***
Panel	0.4987	−0.0837
HAC	(0.0931)*	(0.2401)*
	216	360
	0.16304	0.125684
	Fixed	Fixed
	Yes	Yes

Note: Values outside the parentheses represent coefficients, while numbers inside the parentheses represent standard errors; ***, **, and * represent significance levels of 1%, 5%, and 10%, respectively. Source: Prepared by the authors.

The variable representing the variation in the cooperative's net surplus from year t-2 to t-1 (ΔSL_{it-1}) was negative and significant in both models. This result indicates that there are timely recognitions of gains that may be reversed in subsequent periods.

For a better interpretation regarding the timely recognition of gains or losses, it is necessary to sum the coefficients β_2 and β_3. If the value obtained from the sum is less than zero, it can be inferred that companies are adopting a conditionally conservative stance.

It was observed, from the results reported in **Table 5**, that there are evident differences in the existence of conservatism for electric cooperatives when their information is analyzed from different accounting statements. It was noted that summing the coefficients β_2 and β_3 of the conservatism model under the regulatory perspective resulted in 0.0408, a value above zero, representing an optimistic rather than conservative perspective of this information. This result allows the rejection of H_1.

On the other hand, under the corporate perspective, analyzing the coefficients β_2 and β_3 of the conservatism model resulted in -0.4350, a negative value below zero, indicating that the information disclosed under the corporate standard presents a conservative perspective on the results. This result allows the rejection of H_2.

This finding allows for the inference that within organizations, the same information presents different perspectives depending on the orientation given to the accounting statements. It is evident, thus, that in accordance with the observed accounting standard, the quality of the information provided changes, as in the Brazilian electric sector there are two distinct accounting standards, one for meeting regulatory demands and the other for meeting corporate requirements, the timeliness in recognizing gains or losses is altered according to the required standard.

4.4. Results Discussion

The main results of the research demonstrate that there are differences in conservatism in electric cooperatives between the accounting information under the regulatory and corporate standards. Under the regulatory standard, there is a less conservative perspective, with companies tending to anticipate gains rather than losses. Conversely, under the corporate standard, companies display a more conservative outlook, anticipating losses over gains.

These findings challenge the perspective of previous studies, which reported that regulatory statements provide less relevant information than corporate statements, though in a different informational context. Additionally, the companies analyzed in the previous studies were profit-driven, whereas the companies in the current research are cooperative organizations, where the cooperative member serves as the principal and agent in an agency relationship. Therefore, it is observed that in cooperative companies, due to the lower informational asymmetry between principal and agent, there may be a greater incentive to meet the demands of the regulatory body by placing a stronger emphasis on the informational quality of regulatory statements.Therefore, as pointed out by Ferreira et al. (2021), divergences are observed in accounting oriented by regulatory and corporate standards, which also reflects on the quality of the statements. These findings are in accordance with the study by Morais et al. (2019), who pointed out that the quality of accounting information can be affected by the regulatory environment in which the company operates, in this case, the electric sector.

Additionally, it is notable that the results also converge with the findings of Ribeiro and Silva (2017), who pointed out that regulatory accounting was created to meet the specific needs of the regulator, meaning there is an incentive for information under the regulatory scope to be of higher quality. Ball et al. (2000) pointed out that conservatism can increase the efficiency of contracts by representing a reduction in managerial optimism, which is desirable in organizations. Thus, due to the lesser conservatism observed in regulatory reports, which aligns with greater information neutrality, there arises the possibility of identifying evidence of meeting specific regulatory needs.

Electric cooperatives are responsible for playing an important role in society by providing electricity to more remote areas, which denotes a high capacity to economically develop such regions (Scheffer et al., 2021). Considering the characteristics of a cooperative entity, related to the collectivism of cooperative agents in decision-making, it was expected that reduced informational asymmetry could result in more neutral information in these entities. However, it is notable that even in cooperative entities, there are differences in the quality of accounting information, which corroborates the results of Ferreira et al. (2021) and Souza et al. (2024), who identified differences in the relevance of accounting information in publicly traded Brazilian companies that are energy distributors.

Thus, it is noticeable that there is evidence converging with Stigler's (1971) Economic Regulation Theory, in which smaller interest groups, such as the industry itself, can have their interests met to the detriment of the collective. However, there is a question to be observed in cooperative entities, since the consumer is the cooperative member, which makes it interesting to analyze the distinct perspectives observed in the quality of information provided in regulatory and corporate scopes.

5. Conclusion

The analysis of conditional conservatism in the regulatory and corporate financial statements of Brazilian electric cooperatives reveals a significant duality. This study demonstrated that under the regulatory standard, cooperatives tend to adopt a more optimistic stance, whereas under the corporate standard, they exhibit a more conservative perspective. These differences highlight the significant influence of regulatory and corporate contexts on the quality of accounting information, which can directly impact the perception of conservatism in the results.

The findings of this study corroborate previous discoveries by suggesting that regulatory norms and accounting standards can shape the presentation of financial information, affecting its quality and relevance for investors and regulators. This research broadens the understanding of the quality of accounting information in electric cooperatives by providing valuable insights for regulators, investors, and managers regarding the interpretation of financial statements.

Additionally, by highlighting the divergences between accounting standards and their implications for conditional conservatism, this study contributes to theoretical development in the field of accounting and economic regulation. It also emphasizes the importance of considering these differences in formulating more effective regulatory policies to ensure better consumer protection and greater transparency in the accounting information presented by electric cooperatives.

By understanding how different accounting standards affect conditional conservatism, cooperative managers can make more informed decisions to ensure operational efficiency and compliance with regulatory obligations. This study underscores the continuous need for research and analysis in this field to promote more informed and responsible management in the electric sector.

Despite the significant results obtained in this study, it is important to recognize some limitations that may have impacted the analysis. One limitation is data availability, as the financial statements of electric cooperatives may have gaps or incomplete information. Additionally, the lack of standardization in the financial statements of cooperatives may have resulted in data heterogeneity, complicating direct comparisons between companies. The absence of uniformity in information may have also introduced bias in the analysis, affecting the accuracy of the results.

For future research, it is suggested to investigate ways to overcome these limitations by seeking alternative data sources or developing standardization methods for the financial statements of electric cooperatives. Moreover, expanding the scope of analysis to include a larger number of cooperatives and a longer and more comprehensive period could yield more robust and generalizable results. Another promising area for future research is exploring how differences in accounting standards affect other financial and operational performance metrics of cooperatives, beyond conditional conservatism.

References

Ahmed, A. S., Neel, M., & Wang, D. (2013). Does mandatory adoption of IFRS improve accounting quality? Preliminary evidence. Contemporary Accounting Research, 30(4), 1344-1372. https://doi.org/10.1111/j.1911-3846.2012.01193.x

Andrade, M. E. M. C., & Martins, E. (2017). Desafios na política pública de mensuração dos ativos para a formação das tarifas no setor elétrico: alguém deve ser beneficiado e alguém deve ser sacrificado?. Revista Contabilidade & Finanças, 28, 344-360. https://doi.org/10.1590/1808-057x201703160

Antonelli, R. A., Portulhak, H., Scherer, L. M., & Clemente, A. (2018). Impacto da adesão aos níveis diferenciados de governança corporativa da BM&FBovespa no risco de companhias reguladas. Revista de Contabilidade do Mestrado em Ciências Contábeis da UERJ, 23(2), 92-109.

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. Journal of Accounting and Economics, 39(1), 83-128. https://doi.org/10.1016/j.jacceco.2004.04.001

Ball, R., Kothari, S. P., & Robin, A. (2000). The effect of international institutional factors on properties of accounting earnings. Journal of Accounting and Economics, 29(1), 1-51. https://doi.org/10.1016/S0165-4101(00)00012-4

Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. Journal of Accounting and Economics, 24(1), 3-37. https://doi.org/10.1016/S0165-4101(97)00014-1

Brugni, T. V., Rodrigues, A., Cruz, C., & Szuster, N. (2012). IFRIC 12, ICPC 01 e contabilidade regulatória: influências na formação de tarifas do setor de energia elétrica. Sociedade, Contabilidade e Gestão, 7(2), 104-119. https://ssrn.com/abstract=2572009

Campos, F. L. S., do Lago Ramos, F., & Azevedo, B. M. (2016). Análise de viabilidade econômica regulatória à criação de cooperativa de consumo de energia elétrica–o caso do setor elétrico brasileiro na segunda década do século XXI. Revista Produção Online, 16(3), 966-987. https://doi.org/10.14488/1676-1901.v16i3.2305

Daryaei, A. A., Fattahi, Y., Askarany, D., Askary, S., & Mollazamani, M. (2022). Accounting Comparability, Conservatism, Executive Compensation-Performance, and Information Quality. Journal of Risk and Financial Management, 15(11), 489. https://doi.org/10.3390/jrfm15110489

Ferreira, M. P., Ribeiro, A. M., Milhomem, J. F. C., & do Carmo, C. H. S. (2021). IFRS x Regulatory GAAP: Value Relevance of Brazilian Electric Utilities' Accounting Information. Contabilidade Vista & Revista, 32(2), 205-229. https://doi.org/10.22561/cvr.v32i2.6297

Flores, E., & Lopes, A. B. (2020). Decrease in the Value Relevance of Accounting Information in Electric Distributors after the Brazilian IFRS adoption. Revista Brasileira de Gestão de Negócios, 21, 928-952. https://doi.org/10.7819/rbgn.v21i5.4023

González, A. B. P., Viglio, J. E., Macia, Y. M., & da Costa Ferreira, L. (2023). Redistributing power? Comparing the electrical system experiences in Chile and Brazil from a historical institutional perspective. Energy Research & Social Science, 101, 103129. https://doi.org/10.1016/j.erss.2023.103129

Hinterleitner, M., Knill, C., & Steinebach, Y. (2024). The growth of policies, rules, and regulations: A review of the literature and research agenda. Regulation & Governance, 18(2), 637-654. https://doi.org/10.1111/rego.12511

Holanda, A. P., & Coelho, A. C. D. (2020). Regulação econômica e decisão de investimento: evidências no Brasil. REUNIR Revista de Administração Contabilidade e Sustentabilidade, 10(3), 27-36. https://www.reunir.revistas.ufcg.edu.br/index.php/uacc/article/view/786

Kowalski, F. D., Fernandes, F. C., & de Faria, A. C. (2010). Análise dos controles internos relacionados às atividades ambientais das cooperativas catarinenses de energia elétrica por meio da matriz de importância-desempenho de Slack. Contabilidade Vista & Revista, 21(2), 153-177. https://revistas.face.ufmg.br/index.php/contabilidadevistaerevista/article/view/886

Li, Z., Niu, S., Vega, S. M. H., Wang, J., Wang, D., & Yang, X. (2024). Electrification and residential well-being in China. Energy, 294, 130685. https://doi.org/10.1016/j.energy.2024.130685

Morais, C. R. F., Amorim, K. V. N. M., Junior, D. B. C. V., Domingos, S. R. M., & Ponte, V. M. R. (2019). Accounting information quality of Latin American Firms: The Influence of the Regulatory Environment. Revista Evidenciação Contábil & Finanças, 7(2), 41-60. https://doi.org/10.22478/ufpb.2318-1001.2019v7n2.41086

Munaretto, L. F., & Corrêa, H. L. (2016). Indicadores de desempenho organizacional: uso e finalidades nas cooperativas de eletrificação do Brasil. Contabilidade Vista & Revista, 27(1), 25-41. https://revistas.face.ufmg.br/index.php/contabilidadevistaerevista/article/view/2834

Parker, D. (2002). Economic Regulation: a review of issues. Annals of Public and Cooperative Economics, 73(4), 493–519. https://doi.org/10.1111/1467-8292.00202

Ribeiro, R. D., & Silva, A. H. C. (2017). O que pensam os reguladores sobre as diferenças da contabilidade societária e regulatória no setor elétrico no Brasil após a emissão da OCPC 08. Revista Brasileira de Contabilidade, (224), 46-61. http://rbc.cfc.org.br/index.php/rbc/article/view/1537

Scheffer, M. M., Monteiro, J. J., Cardoso, J. V. M., & de Oliveira Ritta, C. (2021). Análise envoltória de dados para avaliação da eficiência financeira das cooperativas de eletrificação do sul do Brasil. Revista Ambiente Contábil, 13(1), 1-20. https://doi.org/10.21680/2176-9036.2021v13n1ID19358

Silva, F. A. C., da Costa, V. B. F., dos Santos, I. F. S., & Bonatto, B. D. (2024). Electric sector modernization in Brazil: Milestones, challenges, and prospects. Utilities Policy, 90, 101793. https://doi.org/10.1016/j.jup.2024.101793

Siotis, G., Ornaghi, C., & Castanheira, M. (2023). Evolving market boundaries and competition policy enforcement in the pharmaceutical industry. European Journal of Law and Economics, 55(2), 313-348. https://doi.org/10.1007/s10657-022-09760-7

Souza, P. V. S., Ribeiro, J. P. M., & Paulo, E. (2024). Organizational complexity and value relevance under the regulatory and financial standards of Brazilian electric power companies. Energy Policy, 186, 114000. https://doi.org/10.1016/j.enpol.2024.114000

Souza, P. V. S., & Morais, H. C. B. (2024). Agency costs and conditional conservatism of public companies in the Brazilian electric industry. Suma de Negocios, 15(32), 17-28. https://doi.org/10.14349/sumneg/2024.V15.N32.A3

Stigler, G. J. (1971). The theory of economic regulation. In The Political Economy (pp. 67-81). Routledge.

Vale, J. P. S. D., & Nakao, S. H. (2017). Unconditional conservatism in Brazilian public companies and tax neutrality. Revista Contabilidade & Finanças, 28, 197-212. https://doi.org/10.1590/1808-057x201702450

Wang, J. L. (2013). Accounting conservatism and information asymmetry: Evidence from Taiwan. International Business Research, 6(7), 32. https://doi.org/976473db46299f7b1b54a90a855f3f144db093af

Yadoo, A., & Cruickshank, H. (2010). The value of cooperatives in rural electrification. Energy Policy. 38(6), 2941-2947. https://doi.org/10.1016/j.enpol.2010.01.031

R E V I S T A | J O U R N A L | R E V I S T A
Globalización, Competitividad y Gobernabilidad | Globalization, Competitiveness & Governability | Globalização, Competitividade e Governabilidade

GCG
The Journal *of* Globalization, Competitiveness, and Governability

Determinants of Financial Performance in Portuguese Banks: An Intellectual Capital Perspective[1]

AREA: 2
TYPE: Application

Determinantes do desempenho financeiro dos bancos portugueses: uma perspetiva do capital intelectual
Determinantes del desempeño financiero de los bancos portugueses: una perspectiva de capital intelectual

AUTHOR

Marco Amaral[2]
Management School, Polytechnic Institute of Cávado and Ave, Portugal
mamaral@ipca.pt

2. Contact author: Management Department, Management School – Polytechnic Institute of Cávado and Ave, IPCA Campus 4750-810 Barcelos, Portugal

The aim of this study is to empirically analyse the effect of intangible resources, that is, the efficiency of intellectual capital (IC) on the financial performance of the seven largest banking groups operating in Portugal, for the period from 2012 to 2023. The aim is to assess whether factors such as the Value Added Intellectual Coefficient (VAIC™), measured by the efficiency of human capital, structural capital and capital employed, influence bank performance, as measured by return on equity (RoE). To this end, econometric models of strongly balanced panel data were used, using four multiple linear regression models to estimate the results. The results show a significant positive relationship between the value-added intellectual coefficient (VAIC™) and financial performance, as measured by RoE. The results also show a significant positive association between performance and the variables human capital efficiency and capital employed efficiency, suggesting that RoE captures the value-added intellectual coefficient of both human and capital employed. Finally, structural capital shows a negative and insignificant relationship.

O objetivo deste estudo é analisar empiricamente o efeito dos recursos intangíveis, ou seja, a eficiência do capital intelectual (CI) no desempenho financeiro dos sete maiores grupos bancários a operar em Portugal, para o período de 2012 a 2023. O objetivo é avaliar se fatores como o Coeficiente de Valor Acrescentado Intelectual (VAIC™), medido pela eficiência do capital humano, do capital estrutural e do capital empregue, influenciam o desempenho dos bancos, medido pela rendibilidade dos capitais próprios (RoE). Para o efeito, foram utilizados modelos econométricos de dados em painel fortemente balanceados, recorrendo a quatro modelos de regressão linear múltipla para estimar os resultados. Os resultados evidenciam uma relação positiva significativa entre o coeficiente de valor acrescentado intelectual (VAIC™) e o desempenho financeiro, medido pelo RoE. Os resultados também mostram uma associação positiva significativa entre o desempenho e as variáveis eficiência do capital humano e eficiência do capital empregue, sugerindo que o RoE capta o coeficiente de valor acrescentado intelectual tanto do capital humano como do capital empregue. Por fim, o capital estrutural apresenta uma relação negativa e insignificante.

El objetivo de este estudio es analizar empíricamente el efecto de los recursos intangibles, es decir, la eficiencia del capital intelectual (CI), en el rendimiento financiero de los siete mayores grupos bancarios que operan en Portugal, para el período 2012 a 2023. El objetivo es evaluar si factores como el Coeficiente de Valor Añadido Intelectual (VAIC™), medido por la eficiencia del capital humano, el capital estructural y el capital empleado, influyen en el rendimiento bancario, medido por la rentabilidad sobre recursos propios (RoE). Para ello, se utilizaron modelos econométricos de datos de panel fuertemente equilibrados, utilizando cuatro modelos de regresión lineal múltiple para estimar los resultados. Los resultados muestran una relación positiva significativa entre el coeficiente de valor añadido intelectual (VAIC™) y el rendimiento financiero, medido por el RoE. Los resultados también muestran una asociación positiva significativa entre el rendimiento y las variables de eficiencia del capital humano y eficiencia del capital empleado, lo que sugiere que RoE captura el coeficiente de valor añadido intelectual tanto del capital humano como del capital empleado. Por último, el capital estructural muestra una relación negativa e insignificante.

DOI
10.58416/GCG.2025.V19.N2.06

Received
06.07.2024

Accepted
21.09.2024

GCG
The Journal *of* Globalization, Competitiveness, and Governability

1. Introduction

Since the 1990s, developments on the identification and measurement of intellectual capital (IC) have allowed the emergence of relevant models that have made significant contributions to this issue (Silva et al., 2014). Among others, two major contributions to this issue can be highlighted, namely the models such as the Balanced Scorecard® (Kaplan and Norton, 1992) and the models based on the Value Added Intellectual Coefficient (VAIC™) of (Pulic, 1998; 2000). The intellectual capital efficiency measure presented in this study is based on author Pulic (2000) proposal, named VAIC™ and which according to author Marzo (2022) is entirely consistent with the knowledge based economy and a more objective alternative to traditional measures such as EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization. According to author Tan et al. (2007), the selection of the VAIC™ model to measure the efficiency of intellectual capital, allows for greater ease of calculation since it can be extracted from publicly available financial statements. Furthermore, they may be even more reliable sources when financial statements are audited (Young et al., 2009), a situation that occurs in the present study, when the sample considered in the work carried out is based on banking sector entities. Also according to the authors Silva et al, 2021, intellectual capital is a critical element of value creation in organizational performance, contributing sustainably to greater financial profitability. Recently, studies have shown an increased interest in the services sector and particularly in banking organizations (Mollah and Rouf, 2021; Thaha and Sulaiman, 2022; Majumder et al., 2023; Lim et al., 2024 and Sayed and Nefzi 2024) in understanding the impact of intellectual capital on bank performance, measured by RoE and its relationship with intellectual capital efficiency factors. Thus, studies carried out in the banking sector have presented mixed and sometimes ambiguous results on the relationship between bank performance and intellectual capital. This study therefore seeks to contribute to the literature in this area by empirically testing the impact of intellectual capital on the performance of banks operating in Portugal, since there is a lack of research into Portuguese banking institutions. The aim of this study is to analyse the determinants of the financial performance of Portuguese banks, from an intellectual capital perspective, for the period from 2012 to 2023 (12 years). In order to realize this objective, the aim is to understand a set of ambiguities that make it possible to validate the level of financial performance of Portuguese banking entities and to identify the existing associations between performance and intellectual capital efficiency, such as: intellectual capital efficiency (VAIC™), human capital, structural capital, applied capital, size banks, number of branches, leverage and listed banks. The final document is structured as follows: in addition to the first introductory section, a second section on the literature review is presented, detailing the literature review, highlighting the evidence of similar studies and the hypotheses to be tested, as well as the concepts of the VAIC™ model. The third section on the sample and methodology describes the methodology adopted in this study, first presenting the sample and the study variables, then moving on to the specification of the econometric model adopted and finalizing with an analysis of the statistical data and the results obtained. Finally, the fourth point, the conclusion of the study, is presented, reflecting on the main conclusions of this research and the main limitations of the study.

Keywords
Performance, banks, intellectual capital, VAIC, panel data.

Palavras-Chave
Desempenho, bancos, capital intelectual, VAIC, dados em painel.

Palabras Clave
Rendimiento, bancos, capital intelectual, VAIC, datos de panel.

JEL Code
M40, M41, G21

2. Literature Review

2.1. Empirical Studies

In a pioneering study, Pulic (2001) analyses the value creation efficiency of 20 banks in the Croatian economy from 1996 to 2000. To this end, the author uses the value-added intellectual coefficient (VAIC™) as a tool for measuring the efficiency of intellectual capital performance, separated into three components (efficiency of applied capital, efficiency of human capital and efficiency of structural capital). In this way, the efficiency of each Croatian bank is measured and then compared with the average performance of all banks. The results obtained in the study indicate that the intellectual potential in the human capital efficiency component is of crucial importance for the sustainable performance of the banking business.

In the same vein, Gigante (2013) and Mention and Bontis (2013) investigated the effects of intellectual capital and its components (human, structural, applied and relational capital) on business performance in banking institutions, measured by the profitability indicators RoE and RoA - Return on Assets, among others. The results obtained were consistent in both studies and led to the conclusion that human capital has a positive and statistically significant association with business performance in the banking sector.

Focusing on a national sample, the study by Silva et al. (2014) analyses the impact of bank-specific factors on the different components of intellectual capital: human capital, structural capital and relational capital in 2010 and 2011, with a sample of 32 banks operating in Portugal. The study concluded that there is a positive relationship between the size of banks and the composition of the Board of Directors, which have an impact on intellectual capital.

Nawaz (2017), in a study of 64 Islamic financial institutions operating in eighteen different countries, adopted the RoA indicator as a measure of bank financial performance. The study was carried out for the period 2007 to 2011 and the development of the work aimed to empirically examine the effect of the three components of the intellectual value added coefficient (VAIC™) on bank performance. The results show a significant positive relationship between VAIC™ and the financial performance of Islamic banks, as measured by RoA. In turn, the results also indicate a significant positive relationship between financial performance and the efficiency of applied capital and human capital, but not a significant negative relationship with the efficiency of structural capital.

Arslan and Kizil (2019) studied the correlation between a set of financial indicators and bank performance, measured using the VAIC™ model and the market-to-book value of 13 banks in Turkey in 2017. The authors concluded that indicators such as RoA and RoE show a strong positive correlation with intellectual capital performance.

Table 1 below summarizes other studies by authors who have looked at the subject in the 21st century:

Table 1. - Summary of the studies

Authors (Year)	*Period (Sample)*	*Model Specification*	*Performance Metric*	*Factors*	*Signal Obtained*
Mollah and Rouf (2021)	2014-2018 (Banglades, 28 listed banks)	Panel Data and Multiple Linear Regression	RoA RoE Revenue Growth Rate	- VAIC™ - Capital Employed Efficiency - Human Capital Efficiency - Structural Capital Efficiency	+ +/- +/- +/-
Thaha and Sulaiman (2022)	2018-2021 (Indonesia, 29 listed banks)	Simple Linear Regression	RoA	- VAIC™ - Capital Employed Efficiency - Human Capital Efficiency - Structural Capital Efficiency	+ + + +
Majumder et al. (2023)	2010-2019 (Banglades, 32 banks)	Dynamic Panel and Multiple Linear Regression	RoA	- Solvency - Size - Leverage - Gross Domestic Product - VAIC™ - Capital Employed Efficiency - Human Capital Efficiency - Structural Capital Efficiency	+ +/- +/- + + + + +
Lim et al. (2024)	2011-2022 (Cambodia, 23 banks)	Panel Data and Multiple Linear Regression	RoA	- Size - VAIC™ - Capital Employed Efficiency - Human Capital Efficiency - Structural Capital Efficiency	+/- + + + +
Sayed and Nefzi (2024)	2012-2022 (Saudi Arabia, 10 banks)	Panel Data and Multiple Linear Regression	RoE Net Profit Margin	- Size - Leverage - Inflation Rate - Pandemic Crisis - VAIC™ - Capital Employed Efficiency - Human Capital Efficiency - Structural Capital Efficiency	- + - - + + + +/-

Source: Author's own elaboration.

The empirical studies analyzed relate the measurement of bank performance based on intellectual capital. Therefore, this study aims to launch a new perspective, investigating the effect of intellectual capital on the profitability of Portuguese banks, measured by RoE, using the VAIC™ technique developed by Pulic (2000). For the author, the main argument to justify the relationship between intellectual capital and performance stems from the knowledge of human resources that create economic value for the company. Therefore, the author considers spending on staff as an investment in intellectual capital and as such a return is expected. In this sense, it can be concluded that intellectual capital makes it possible to generate value for companies' businesses. The authors Nawaz (2017), Arslan and Kizil (2019), Mollah and Rouf (2021), Thaha and Sulaiman (2022), Majumder et al. (2023), Lim et al. (2024) and Sayed and Netzi (2024) found a positive and significant relationship between intellectual capital and bank profitability. The following hypothesis is therefore formulated based on this justification:

H1: Intellectual capital has a significant positive impact on the profitability of the largest banks in Portugal

In addition, the resource-based theory implies that a company's success depends to a large extent on intangible resources (Majumder et al. 2023). Thus, among the different components of intellectual capital in the VAIC™ model, it is necessary to evaluate the level of human capital efficiency (HCE), structural capital efficiency (SCE) and capital employed efficiency (CEE). In the literature, it is widely considered that human capital is of vital importance to the economic performance of the business (Pulic, 2001; Gigante, 2013; Mention and Bontis, 2013 and Nawaz 2017). In turn, this argument is supported by more recent studies by the authors Mollah and Rouf (2021), Thaha and Sulaiman (2022), Majumder et al. (2023), Lim et al. (2024) and Sayed and Nefzi (2024), who analyzed the influence of the value-added intellectual coefficient (VAIC™) on bank profitability, measured by indicators such as RoA and RoE, for various financial markets and for a time horizon between 4 and 12 years. From the results obtained, they concluded that the human capital and applied capital components have a significant positive influence on banks' financial performance. In contrast, the structural capital component sometimes shows a mixed and statistically insignificant relationship with bank profitability. Therefore, in line with the various authors, this study formulates the following hypothesis:

> *H2: The different components of intellectual capital have a significant positive impact on the profitability of the largest banks in Portugal*

2.2. Definition of the VAIC™ Model

The intellectual value added coefficient is an instrument for measuring the efficiency of intellectual capital performance. Developed in the initial studies by Pulic (1998) and in later studies by Pulic (2000; 2001; 2004a; b; 2005 and 2008), it is relatively easy to determine. Mathematically, VAIC™ can be calculated as the sum of its three components, or alternatively, by the sum of two components:

VAIC™ = HCE + SCE + CEE	=	Human Capital Efficiency (HCE) + Structural Capital Efficiency (SCE) + Capital Employed Efficiency (CEE)
VAIC™ = ICE + CEE	=	Intellectual Capital Efficiency (ICE) (HCE + SCE) + Capital Employed Efficiency (CEE)

The relationship between the three components can be developed from the value added of companies, which basically consists of the capacity of a company to create economic value. Thus, Value Added (VA) can be determined by the difference between total income (OUT) and total expenditure (IN):

VA	=	Income (OUT) - Expenses (IN)
VA = OUT – IN	=	Results + Personnel Costs + Depreciation + Amortization

The added value obtained from a company generates the capacity of resources to create value, therefore, it becomes relevant to assess the result of the efficient management of these resources.

As shown in the calculation of value added (VA), personnel costs are not an integral part of expenditure, but are nevertheless a basic element in the creation of value. The coefficient that translates the degree of success with which human capital creates economic value is the Human Capital Efficiency (HCE):

$$HCE = \frac{\text{Value Added (VA)}}{\text{Personnel Costs (HC)}}$$

Thus, HCE makes it possible to measure the relationship between VA and HC, materializing how much value added was created by a monetary unit spent on the company's employees. Another relationship dependent on value added and in opposite proportion to personnel costs is determined by the Structural Capital Efficiency (SCE):

$$SCE = \frac{\text{Value Added (VA) - Human Capital (HC)}}{\text{Value Added (VA - Value Added)}}$$

Thus, SCE means that the higher the percentage of HC in VA, the lower the proportion of structural capital. In other words, it means that the higher the staff costs, the less the company will spend on its operating structure (operational processes, technologies, etc.). The sum of the human capital efficiency (HCE) and structural capital efficiency (SCE) components is called Intellectual Capital Efficiency (ICE):

$$ICE = \text{Structural Capital Efficiency (SCE)} + \text{Employed Capital Efficiency (ECE)}$$

The last relationship dependent on value added is called the Capital Employed Efficiency (CEE):

$$CEE = \frac{\text{Value Added (VA - Value Added)}}{\text{Total Net Assets - Intangible Assets}}$$

The CEE translates the added value generated by a unit of capital used in the companies' assets, except for intangible assets because they are not considered physical capital.

Finally, by aggregating the coefficients of human capital, structural capital and employed capital, or alternatively the coefficients of intellectual capital and applied capital, one can obtain an instrument to measure the efficiency of intellectual capital performance, the so-called VAIC™ model. Therefore, in conclusion, if the aggregate value of the coefficients is greater than 1, then the company was efficient in creating economic value taking into account its intellectual capital.

3. Sample and Methodology

3.1. Data Analysis and Description

To collect the data in this study, we used content analysis of the publications of the reports and accounts of the banks in the sample, as well as the financial elements provided by the database of statistical publications of the Portuguese Banking Association, for the period from 2012 to 2023 (twelve years), totaling 84 observations. The sample considered is composed of the 7 largest banks in terms of volume of net assets (year 2023) operating in the Portuguese banking system, which represent 80.7% (373.7 billion euros) of all aggregate net assets in the Portuguese banking system (463.0 billion euros), as shown in **table 2**:

Table 2. - Portuguese banking system - sample
values in million euros, except when expressly indicated

Banking Groups	Total Assets	
	Value	%
CGD - Caixa Geral de Depósitos	99 294	21,4
MBCP - Millennium BCP	94 380	20,4
BST - Banco Santander Totta	54 587	11,8
NB - Novo Banco	43 501	9,4
BPI - Banco Português de Investimento	38 628	8,3
CA - Crédito Agrícola	25 302	5,5
MG - Montepio Geral	17 989	3,9
TOTAL	**373 681**	
Portuguese Banking System	**463 011**	
%	**80,7**	

Source: Author's own elaboration.

3.2. Study Variables

In order to determine the performance of the banks in the sample, a set of variables was defined based on the literature review for this study, such as:

- For the dependent variable of bank profitability, the performance measure of return on equity, measured by the RoE indicator, was adopted in this study, following studies by the authors (Gigante, 2013; Mention and Bontis, 2013, Mollah and Rouf, 2021 and Sayed and Nefzi, 2024). Taking into account the previous literature in this study, it was decided to use the RoE indicator as it is one of the most widely used by authors on this subject;

- The independent variables used in this study are indicators related to the efficiency of intellectual capital, separated into four categories (value added intellectual coefficient - VAIC™, human capital, structural capital and applied capital). In addition, following recent studies by Nawaz, 2017, Arslan

and Kizil 2019, Lim et al. 2023, Majumder et al. 2023 and Sayed and Nefzi, 2024, control variables such as size, risk level, number of branches and listed banks were included. The variables included in the model, as well as their means of determination and the expected signs for the regression coefficients of the explanatory variables, are as follows (**table 3**).

Table 3. - Variables of the study included in the model

Variables	*Notation*	*Form of Determination*	*Expected Sign*
Dependent: Return on Equity	RoE	Net Profit / Equity Capital	
Independent: Efficiency of the CI VAIC™ Coefficient	VAIC	Human Capital + Structural Capital + Capital Employed	(+)
Human Capital	HCE	Value Added / Personnel Costs	(+)
Structural Capital	SCE	(Value Added – Personnel Costs) / Value Added	(+)
Employed Capital	CEE	Value Added / (Net Assets – Intangible Assets)	(+)
Control Variables: Dimension	LOGATIV	Logarithm (natural) of Net Asset Value	(+)
Level of Risk	RISC	Leverage = Liabilities / Assets	(+)
Listed on the Stock Exchange	CBV	Dummy Variable (binary) where: 0 – If the bank is not listed; 1 - If the bank is listed	(+)
Agencies	AGEN	Number of branches	(+)

Source: Author's own elaboration.

3.3. Econometric Model

The studies by authors who assess the factors that determine bank performance, such as Gigante (2013), Nawaz (2017), Arslan and Kizil (2019), Mollah and Rouf, (2021), Lim et al. (2023), Sayed and Nefzi (2024) and others, essentially apply linear regression models using the panel data technique, which make it possible to develop and measure which independent variables have explanatory power over the dependent variable. Therefore, in order to fulfil the purpose of this study, the following four multiple linear regression models were developed (**table 4**).

Table 4. - Multiple linear regression model

$RoEit = \beta 0 + \beta 1VAICit + \beta 2LOGATIVit + \beta 3RISCit + \beta 4DUMCBVit + \beta 5AGENit + \varepsilon it$ – Model 1
$RoEit = \beta 0 + \beta 1HCEit + \beta 2LOGATIVit + \beta 3RISCit + \beta 4DUMCBVit + \beta 5AGENit + \varepsilon it$ – Model 2
$RoEit = \beta 0 + \beta 1SCEit + \beta 2LOGATIVit + \beta 3RISCit + \beta 4DUMCBVit + \beta 5AGENit + \varepsilon it$ – Model 3
$RoEit = \beta 0 + \beta 1CEEit + \beta 2LOGATIVit + \beta 3RISCit + \beta 4DUMCBVit + \beta 5AGENit + \varepsilon it$ – Model 4

Source: Author's own elaboration.

Where,

- *RoEit* represents the return on equity ratio of bank i in period t;
- *VAICit* represents the intellectual capital efficiency of bank i in period t;
- *HCEit* represents the coefficient of the human capital efficiency of bank i in period t;
- *SCEit* represents the coefficient of the structural capital efficiency of bank i in period t;
- *CEEit* represents the coefficient of the efficiency of capital employed of bank i in period t;
- *LOGATIVit* represents the (natural) logarithm of bank i net assets in period t;
- *RISCit* represents the leverage indicator of bank i in period t;
- *DUMCBVit* represents the dummy of listed entities of bank i in period t;
- *AGENit* represents the number of branches of bank i in period t;
- *β0* is the constant term;
- *εit* is the statistical error term of bank i in period t.
-

3.4. Analysis and Results

3.4.1. Descriptive statistical data

The descriptive statistics of the study variables were as follows (**table 5**):

Table 5. - Descriptive Statistics
Values in percentage, except when expressly indicated

Variables	*N.º Obs.*	*Mean*	*Standard Deviation*	*Min.*	*Max.*
Return on Equity (RoE)	84	.658233	13.5239	-47.890	22.6285
VAIC™ Coefficient	84	1.82278	2.59217	-6.9419	16.9833
Human Capital (HCE)	84	1.27912	1.61797	-4.3188	4.46726
Structural Capital (SCE)	84	.533514	2.21183	-7.0670	17.0463
Capital Employed (CEE)	84	.010145	.010403	-.02578	.024655
Dimension	84	17.5921	.616100	16.4974	18.5765
Level of Risk	84	.922960	.016785	.891985	.968509
Agencies	84	546.417	167.476	232	914
Listed on the Stock Exchange	Dummy variable (between 0 e 1)				

Source: Author's own elaboration.

From the data observed in **table 5**, it can be seen that bank profitability, measured by RoE, for the period between 2012 and 2023, had a positive mean (0.66%), with a minimum value of -47.9% and a maximum value of 22.6%. Regarding the variable of the VAIC™ coefficient, it can be seen that Portuguese banks show on average a positive intellectual capital efficiency index of 1.82, with minimum values of -6.94 and maximum values of 16.98. Thus, Portuguese banks were generally efficient in creating value from their intellectual capital.

3.4.2. Correlation matrix data

Next, the correlation matrix of the independent variables and control variables applied in the econometric model of the study is presented in **table 6**.

Table 6. - Correlation matrix

	vaic	*hce*	*sce*	*cee*	*logativ*	*risc*	*agen*	*Cbv*
vaic	1	-	-	-	-	-	-	
hce	0.5306	1	-	-	-	-	-	
sce	0.7815	-0.1141	1	-	-	-	-	
cee	0.4772	0.9452	-0.1369	1	-	-	-	
logativ	-0.1068	-0.0120	-0.1156	-0.1898	1	-	-	
risc	-0.1123	-0.1061	-0.0532	-0.1764	0.0675	1	-	
agen	-0.1567	-0.0548	-0.1437	0.0259	0.2596	0.4092	1	
cbv	0.0871	0.3192	-0.1325	0.2366	0.3363	0.2323	0.1565	1

Source: Author's own elaboration.

Table 6 analyses the relationships between the study variables and, as expected, the correlation matrix shows that there is a strong positive correlation between value-added intellectual capital (VAIC) and structural capital efficiency (SCE) with a value of 78.2%. In turn, the human capital efficiency variable (HCE) has a strong positive correlation with the applied capital efficiency variable (CEE) with a value of 94.5%.

3.4.3. Results – model estimation

The model was estimated using the statistical data analysis tool (STATA), using the panel data technique that combines cross data (banks) with time series (years), thus obtaining a balanced panel data. For that purpose, it was necessary to take into consideration the data treatments used in order to highlight a longitudinal panel, composed of a set of banks (N=7 banks) and over several time periods (T=12 years), thus corresponding to 84 observations.

In order to model the functional relationship between the variables, four multivariate linear regression models were adopted and the generalized least squares random effects model was used (**table 7**).

Table 7. - Model estimation results – regressions

Variables	*Expected Sign*	*Return on Equity (RoE)*							
		(random effects)							
		Model 1		*Model 2*		*Model 3*		*Model 4*	
VAIC	+	2.0919	***						
HCE	+			7.4879	***				
SCE	+					-0.6751			
CEE	+							1284.4075	***

LOGATIV	+	-4.1260	*	-1.4558		-5.3847	**	4.6324	**
RISC	-	-230.0062	***	-163.2152	***	, -259.5701	***	-83.8865	**
AGEN	+	0.0094		0.0102	*	0.0048		0.0020	
CBV	+	10.1938	***	-0.9105		11.7365	***	-4.0095	
_CONS		271.9520		162.1918		327.4019		-15.7459	
N.º Observations:		84		84		84		84	
N.º Banks:		7		7		7		7	
R-sq:	Within	0.2844		0.8643		0.2429		0.8983	
	Between	0.5824		0.8584		0.2685		0.6571	
	Overall	0.3718		0.8624		0.2319		0.8171	
	Rho	0.0000		0.4075		0.0000		0.5986	

Note: (*) (**) (***) Statistically significant results for a significance level of 0.10, 0.05 and 0.01 respectively.
Source: Author's own elaboration.

Table 7 shows the results obtained in the estimation of the regression model based on the financial performance of Portuguese banks, measured by the RoE.

Thus, the regression model was run four times and referred to in **table 7** as models 1, 2, 3 and 4, with model 1 being considered the main model and the remaining three models as a development of the main model. Thus, the results obtained make it possible to validate the formulation of hypothesis 1 and 2 for model 1, 2 and 4. However, model 3 is not sufficient to validate hypothesis 2, as explained below:

- *Model 1* is the main regression model, which analyses the relationship between bank profitability and RoE. In this context, the coefficient of value-added intellectual capital shows a positive relationship with RoE, confirming the expected sign and being considered statistically significant ($p<0.01$). These results show that Portuguese banks are efficient at creating value through their intellectual capital, that is, an increase in the intellectual capital coefficient positively influences bank profitability. In turn, the control variables related to banks (LOGATIV, RISC and CBV) are statistically significant ($p<0.1$ and $p<0.01$) and confirm the expected signs, except for the variable (LOGATIV). This variable shows a negative relationship, suggesting that larger banks have lower financial performance. However, this result is in line with the negative correlation shown in the correlation test (**table 6**). The quality of fit of model 1 in explaining the variables in this study is considered acceptable, with an adjusted R^2 of 37.18%;

- *Model 2* follows the development of model 1, however, the measure composed of VAIC is replaced by the variable of human capital efficiency (HCE), making it possible to measure the relationship between performance (RoE) and the variable (HCE). Also as expected, the results obtained indicate a significant positive relationship for a level of statistical significance ($p<0.01$). It can therefore be concluded that human capital makes a positive contribution to financial performance in the banking sector. As in model 1, the variable (RISC) also shows a negative and statistically significant relationship ($p<0.01$). Finally, the variable (AGEN) shows a significant positive influence on RoE ($p<0.05$). Model 2 shows an excellent quality of fit in explaining the set of variables, with an adjusted R^2 of 86.24%;

- *In model 3*, although all the control variables (LOGATIV, RISC and CBV) are statistically significant at significance levels of ($p<0.01$) and ($p<0.05$), they are not sufficient to demonstrate a significant

relationship between structural capital efficiency (SCE) and bank profitability (RoE). Furthermore, the relationship between the variables does not confirm the expected sign, showing an insignificant negative relationship. Thus, the results obtained suggest that greater care should be taken in managing structural intellectual capital in order to achieve the desired level of performance. In other words, the efforts made in recent times by banks to invest in strengthening and improving operational and legal procedures, along with innovative digital transformation processes (technologies), are not yet boosting organizations' value creation activities. The quality of fit of model 3 shows an adjusted R^2 of 23.19%;

- *Model 4* examines the association between performance (RoE) and capital efficiency (CEE). The results confirm the expected sign, being similar to models 1 and 2 but with a significantly higher coefficient magnitude. Thus, the results suggest a significant positive relationship at the 1% level between RoE and CEE. With regard to the bank-specific control variables, the variables (LOGATIV and RISC) confirm the expected signs and are statistically significant ($p<0.05$). Finally, the quality of fit of model 4 is excellent, with an adjusted R^2 of 81.71%.

The general results are in line with the studies of the authors referenced in the literature review of this paper, with Gigante (2013), Mollah and Rouf (2021), Thaha and Sulaiman (2022), Majumder et al. (2023), Lim et al. (2024) and Sayed and Nefzi (2024) which show a significant positive association between the variables of human capital efficiency (HCE), capital employed efficiency (CEE) and value-added intellectual capital (VAIC) and bank profitability as measured by RoE. The results are also consistent with those of Gigante (2013), Mollah and Rouf (2021) and Sayed and Nefzi (2024) regarding the negative relationship between bank performance and structural capital efficiency (SCE), but they disagree with those of Mention and Bontis (2013), Thaha and Sulaiman (2022), Majumder et al. (2023) and Lim et al. (2024), who observed a positive relationship between the variables.

4. Conclusion

This work aims to analyze the impact of the intellectual capital of banks operating in Portugal, in the financial performance for the period from 2012 to 2023. To this end, an econometric model was used through four linear regression equations, in which it is explained, and can be adopted to predict, the explanatory factors of banks' profitability, taking into account their intellectual capital.

Thus, several conclusions emerge from this study. Thus, when analysing the banks in the sample, it can be seen that the VAIC explanatory variable explains the companies' profitability index, measured by RoE, at a statistical significance level of 10%, with a positive relationship between the variables. Thus, it can be inferred that an improvement in the efficiency of the VAIC positively influences the financial performance of the banks, validating hypothesis 1 of this study.

The same occurs when we examine the efficiency of human capital (HCE) and applied capital (CEE) separately, with both showing a significance level of 1% and therefore partially validating hypothesis 2 of the study. On the other hand, the efficiency of structural capital (SCE) shows a negative and insignificant

associated relationship, thus not allowing hypothesis 2 to be partially validated.
The study confirms that the results of the risk level control variable (RISC) show a negative and statistically significant relationship in all four models. It can therefore be inferred that an increase in the risk level of banking organizations negatively influences financial performance.

The results show that the control dummy variable for listed banks (CBV) is statistically significant for a level of 1% for the banks in the sample and only for the VAIC and structural capital efficiency (SCE) models. Thus, bank performance presents a positive relationship with the RoE variable, inducing that bank performance is influenced by the fact that the banking entity is listed on the stock exchange.

In turn, the control variable of the number of bank branches (AGEN) shows a positive and statistically significant relationship at a 5% significance level for the human capital efficiency (HCE) model, materializing that the number of branches has a positive impact on banks' financial performance. These results suggest that human resources continue to value branch space for better business profitability.

Finally, the size variable (LOGATIV) shows a negative relationship and is statistically significant for models 1 and 3, while it is insignificant for model 2. As for model 4, with regard to the capital employed efficiency component (CEE), the relationship is positive and statistically significant. It can therefore be concluded that for models 1, 2 and 3, if the size of the bank increases, financial performance decreases. In contrast, for model 4, if the size of the bank decreases, financial performance increases.

The results of the research analysis provide economic agents in the banking sector with some empirical evidence that can contribute to a better assessment of improving the efficiency of intellectual capital and the profitability of banks.

For the purposes of this study, a limited number of banks were analysed and therefore not all the banks operating in the Portuguese banking system were considered. It is therefore suggested that the study be extended to a more representative base of banks. In addition, the VAIC™ model is limited to three components and with similar weights, so it is also suggested that the model applied in the study could be extended, taking into account the efficiency of relational capital (customer relations, supplier list, consumers, image and reputation), a factor that is understood to be of vital importance for a sector that has been viewed with some suspicion, as well as using different weights for the coefficients of each capital component, taking into account the history of various studies carried out in this area.

Las funciones de impulso respuesta para variables como la exportación agrícola total, el tipo de cambio y la inflación acumulada, muestran efectos tanto positivos como negativos sobre el PIB agrícola en diferentes períodos posteriores a los choques. Si bien los intervalos de confianza del 95% evidencian variabilidad en estas relaciones a lo largo del tiempo, el estudio proporciona una visión dinámica valiosa sobre los canales de transmisión de factores macroeconómicos clave como las exportaciones, el tipo de cambio y la inflación, en el desempeño y crecimiento de la economía agrícola peruana.

References

Arslan, M. L.; Kizil, C. (2019). Measuring Intellectual Capital of Turkish banks listed on borsa Istanbul banking index (BIST XBANK) with the market value / book value method and value added intellectual coefficient (VAIC) model. Emerging Markets Journal, vol., 9, n.º 1, p. 100-116. https://doi.org/10.5195/emaj.2019.180

Gigante, G. (2013). Intellectual capital and bank performance in Europe. Accounting and Finance Research, vol. 2, n.º 4, p. 120-129. https://doi.org/10.5430/afr.v2n4p120

Kaplan, R. S.; Norton, D. P. (1992). The Balanced Scorecard measures that drive performance. Harvard Business Review, 70(1), p. 71-79.

Lim, S.; Ky, S.; Flores E. (2024). The effect of value added intellectual coefficient on commercial banks financial performance in Cambodia. Kurdish Studies, 12(1), p. 4319-4329. https://doi.org/10.58262/ks.v12i1.309

Majumder, T. H.; Ruma, I. J.; Akter, A. (2023). Does intellectual capital affect bank performance? Evidence from Bangladesh. LBS Journal of Management & Research, 2(2), p. 171-185. https://doi.org/10.1108/LBSJMR-05-2022-0016

Marzo, G. (2022). A theoretical analysis of the value added intellectual coefficient (VAIC). Journal of Management and Governance, 26, p. 551-577. https://doi.org/10.1007/s10997-021-09565-x

Mention, A. L.; Bontis, N. (2013). Intellectual capital and performance within the banking sector of Luxembourg and Belgium, Journal of Intellectual Capital, vol. 14, n.º 2, p. 286-309.https://doi.org/10.1108/14691931311323896

Mollah, A. S.; Rouf, A. (2021). The impact of intellectual capital on commercial banks performance: evidence from Bangladesh, Journal of Money and Business, e-ISSN: 2634-260X. https://doi.org/10.1108/JMB-07-2021-0024

Nawaz, T. (2017). Determinants of financial performance of Islamic banks: An intellectual capital perspective. Journal of Islamic Accounting and Business Research, University of Plymouth, p. 1-24. http://dx.doi.org/10.1108/JIABR-06-2016-0071

Pulic, A. (1998). Measuring the performance of intellectual potential in the knowledge economy. International Paper presented at the 2nd McMaster World Congress on Measuring and Managing Intellectual Capital, Austrian Team for Intellectual Potential, p. 1-20.

Pulic, A. (2000). VAIC™ – an accounting tool for IC management. International Journal of Technology Management, n.º 20(5-8), p. 702-714. https://doi.org/10.1504/ijtm.2000.002891

Pulic, A. (2001). Value creation efficiency analysis of Croatian Banks, 1996-2000. Austrian Intellectual Capital Research Center, Graz-London. Consulta disponível na internet em www.vaic-on.net.

Pulic, A. (2004a). Do we know if we create or destroy value? International Journal of Entrepreneurship and Innovation Management, n.º 4(4), p. 349-359. https://doi.org/10.1504/ijeim.2004.005479

Pulic, A. (2004b). Intellectual capital – does it create or destroy value? Measuring Business Excellence, n.º 8(1), p. 62-68. https://doi.org/10.1108/13683040410524757

Pulic, A. (2005). Value creation efficiency at national and regional levels: case study – Croatia and the European Union. In A. Bounfour, & L. Edvinsson (Eds.), Intellectual capital for communities. Oxford: Elsevier.

Pulic, A. (2008). The principles of intellectual capital efficiency – A brief description. Croatian Intellectual Capital Center, Zagreb, 76.

Sayed, O. A.; Nefzi, A. (2024). The impact of intellectual capital on sustainable performance: banking sector in Saudi Arabia. Sustainability, n.º 16, 4528, p. 1-26. https://doi.org/10.3390/su16114528

Silva, L.; Rodrigues, A. M.; Muñoz, M. P. (2014). Os determinantes da divulgação de informação sobre o capital intelectual: estudo da banca em Portugal. Revista de Contabilidade e Organizações, n.º 20, p. 32-49. https://doi.org/10.11606/rco.v8i20.55444

Silva, L.; Costa, V.; Loureiro, P. (2021). Intellectual capital and financial performance of Portuguese tourism sector. Journal of Tourism & Development, n.º 36(1), p. 81-91. https://doi.org/10.34624/rtd.v1i36.9101

Tan, H. P.; Plowman, D., Hancock, P. (2007). Intellectual capital and financial returns of companies, Journal of Intellectual Capital, 8(1), p. 76-95. https://doi.org/10.1108/14691930710715079

Thaha, S.; Sulaiman, S. (2022). Value added intellectual coefficient on banks performance in Indonesia. Quantitative Economics and Management Studies, 3(1), p. 58-64. https://doi.org/10.35877/454RI.qems854

Young, C. S.; Su, H. Y., Fang, S. C., Fang S. R. (2009). Cross-country comparison of intellectual capital performance of commercial banks in Asian economics, The Services Industries Journal, 29(11), p. 1565-1579. https://doi.org/10.1080/02642060902793284

Notes

1. Acknowledgements: The author is grateful to the anonymous referees of the journal for their extremely useful suggestions to improve the quality of the article.