



SUSTAINABLE DEVELOPMENT GOALS

12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION

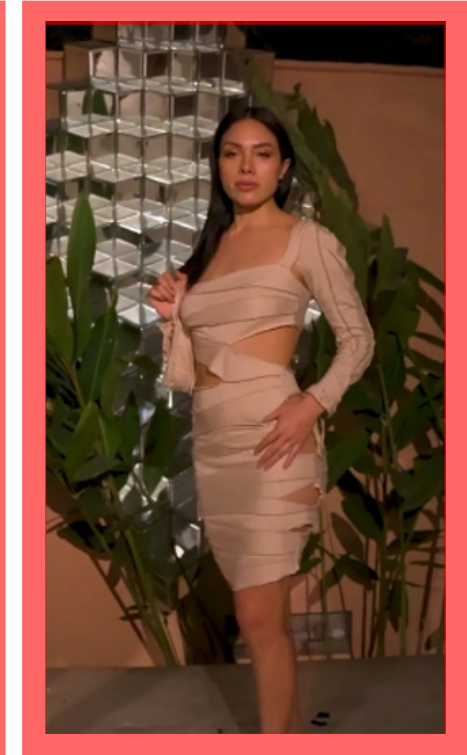
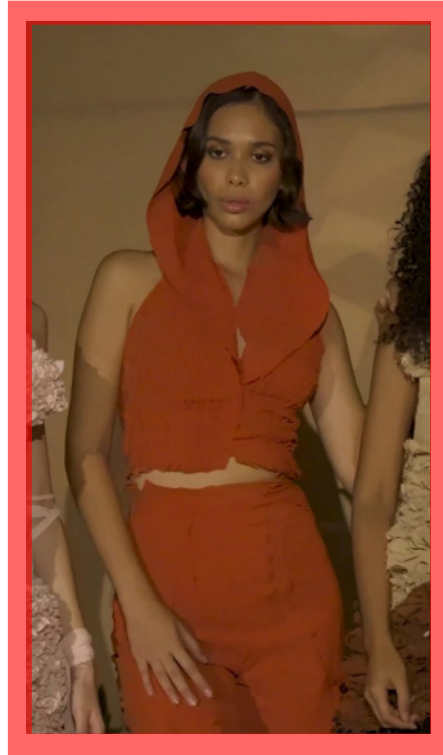


Kuyana Project



The Communication and Interactive Media Program organized the Kuyana Project, an initiative aimed at raising awareness about sustainable and circular fashion to address consumption challenges and minimize its environmental impact.

The event's objective was to promote the adoption of sustainable practices in the textile industry and showcase the circular economy. Additionally, the event supported a non-profit organization and the work of artisan women, who reused fabric scraps to create various garments. The beneficiaries were individuals aged 20 to 33, interested in the circular economy, sustainable fashion, and related topics.



Tourism Week “Inversiones Verdes”



The School of Hospitality and Tourism Management at UPC organized Tourism Week “Inversiones Verdes” (Green Investments) from September 20 to 27, 2023, in a virtual format. Three presentations were held with international experts linked to the tourism, accommodation, and restaurant sectors. These experts presented international cases related to green investments in each sector. Additionally, a discussion panel was held with representatives from the business sector and three discussion panels with representatives from each of the three programs of the school and students from Barcelona’s CETT, Universidad del Valle de México and Universidad ANAHUAC.

The objective of the activity was to encourage students to reflect on green investments in the tourism sector, accommodation businesses, and restaurants. They also had the opportunity to learn about environmental and sustainable best practices in their professional fields by examining successful case studies. Additionally, they analyzed the negative impact resulting from poor practices.



EXPOSITORES

PONENCIA:
Estrategias de **INVERSIONES VERDES** para el desarrollo sostenible en la **IND. HOTELERA**

PONENTE:
Willy Legrand



Profesor de la Universidad Internacional de Ciencias Aplicadas de IU en Alemania con especialización en desarrollo y gestión hotelera sostenible.

EXPOSITORES

PONENCIA:
Estrategias de **INVERSIONES VERDES** para el desarrollo sostenible del Turismo

PONENTE:
Nicolas Derval



CEO de Spirit of Koko Tourism Concept
Consultoría especializada en Turismo Sostenible y la aplicación de la ODS en Turismo

EXPOSITORES

PONENCIA:
Estrategias de **INVERSIONES VERDES** para el desarrollo sostenible en el Sector de Restaurantes

PONENTE:
Sergio Gil



Presidente de la Fundación de Restaurantes Sostenibles



City to Countryside Tourism Development Project Contest - 3rd Edition



The School of Hospitality and Tourism Administration at UPC and StartUPC, in partnership with the Ibero-American Institute of Rural Tourism (IBEROATUR), invited students from Tourism, Hospitality, Gastronomy, or related fields from public and private universities to participate in the 3rd Edition of the City to Countryside Tourism Development Project Contest. This virtual event took place on November 22 and 23.

Selected projects had as their main characteristic to propose new employment and income alternatives to diversify the agricultural and agro-industrial activities of rural inhabitants, demonstrating benefits for both the business owners and the rural agricultural communities through the projects.



The goal of this contest was to foster projects that promote tourism flow to areas with great potential and development, with a special focus on rural tourism, such as agrotourism, wine tourism, gastro-tourism, and other related categories.



Students from the Mining Management Engineering program successfully participated in congresses and workshops



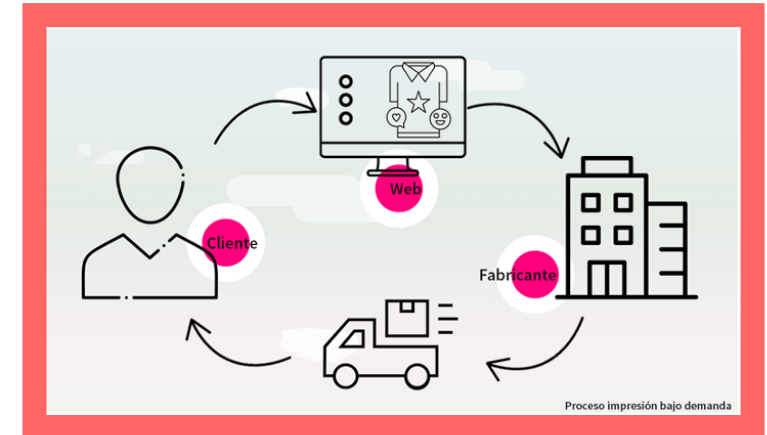
Students from the Mining Management Engineering program took part in the following activities and training workshops during the first semester of 2023-1:

- National Congress of Mining Engineering Students (CONEIMIN).
- Solid Waste Management Mining encounter.
- Solid Waste Management workshop by UPC Amautas Group.
- Training for outstanding students.

All these activities were carried out with the objective of strengthening the beneficiaries' theoretical and practical knowledge in responsible and sustainable mining, updating knowledge on responsible mining projects, strategic management to strengthen skills and knowledge on solid waste management (SWM) in the mining industry.



Print on Demand



The Knowledge Management Directorate of UPC conducted the “Print on Demand” activity, a publishing methodology in which a specific number of copies were produced upon receiving an order. The goal was to consume less paper and use less transportation. The initiative aimed to optimize book print runs by printing only what was actually

demanded. In this way, the unnecessary use of supplies such as paper, ink, etc. was avoided.

Additionally, this initiative allowed the university to optimize economic resources, as storage facilities were not used since only the copies requested by bookstores were printed

at the time they were needed. The books published by UPC Publishing House were uploaded to the the Bibliomanager distributor platform, which was connected with bookstores and printers in Peru and other countries. This initiative was aimed at the general public and the UPC community.



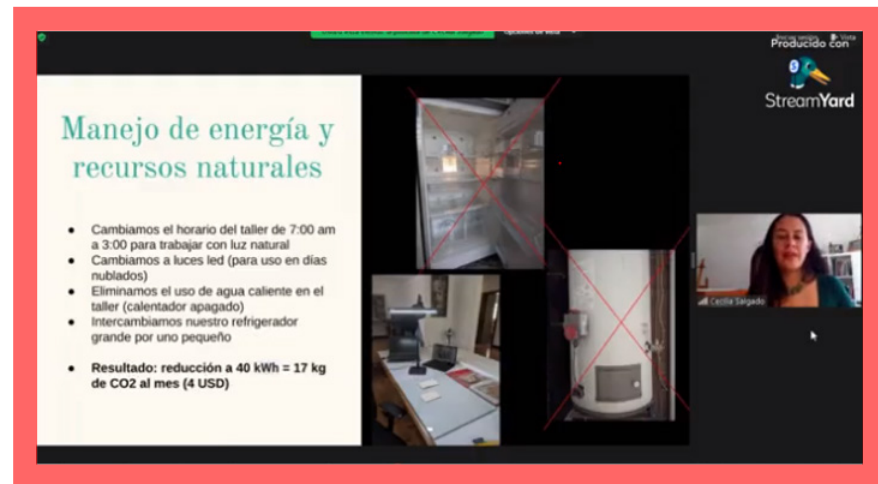
Photography month



In September 2023, the Communication and Photography Program offered a virtual talk to reflect on the impact of photography on climate change and the importance of good practices in the field of conservation. The speaker was Mexican photographer Cecilia Salgado.

The goal was to put basic concepts of the circular economy into practice. Topics included the proper use of water, HR management, and new policies adopted by museums worldwide in response to global warming. A manual on good practices for environmental sustainability in photography was shared.

The activity was directed at external community members and the UPC community. This activity allowed beneficiaries to learn about good photography practices that respect the environment.



Clothing collection and shoe donation



During August and September 2023, the Fashion Design and Management program conducted a clothing collection campaign to donate to the NGO Aprendo Contigo. The clothes were sold to raise funds to provide quality education to students at a school in Andahuaylillas, Cusco. The objective was to raise awareness about the purchase and use of clothing.



Additionally, the program conducted a shoe collection campaign on the Monterrico, San Miguel, and Villa campuses to donate to the NGO Caminando Juntos, aiming to provide footwear to children in need.



Clothing Design Laboratory



In October 2023, the Fashion Design and Management program conducted the Clothing Design Laboratory activity to provide information on the proper use of textile materials, employing zero waste, upcycling, and subtraction techniques. The knowledge of using materials conscientiously with the environment was provided to avoid leaving waste that continues to pollute the environment.



UPC joins Claro's recycling initiative for electronic devices in disuse



The Universidad Peruana de Ciencias Aplicadas (UPC) became the latest strategic partner of Claro's Waste Electrical and Electronic Equipment (WEEE) management program, known as "I Recycle, I am Claro."

Thanks to this partnership, UPC students, professors, and staff have had the opportunity since 2023 to properly dispose of their electronic devices in disuse, such as cell phones, chargers, cables, and laptops.



UPC and Peru without cages: Committed to Sustainability and the Welfare of Laying Hens



The Universidad Peruana de Ciencias Aplicadas (UPC) continues its strong commitment to sustainability and animal welfare by announcing a historic collaboration with the Open Wing Alliance and its representative in Peru, the Association for the Rescue and Welfare of Animals (ARBA). As of September 2023, the School of Hospitality, Tourism, and Gastronomy at UPC became the first educational institution in the country to exclusively use free-range eggs.

This effort is part of UPC's broader commitment to promoting sustainable and ethical practices in its value chain. By opting for free-range eggs, the university demonstrates its determination to be a leader in promoting responsible and environmentally friendly practices.



Transformative learning for a sustainable and healthy future through ecosystem approaches to health: insights from 15 years of co-designed ecohealth teaching and learning experiences



Authors: Webb, J.; Raez-Villanueva, S.; Carrière, P.D.; Beauchamp, A.-A.; Bell, I.; Day, A.; Elton, S.; Feagan, M.; Giacinti, J.; Kabemba Lukusa, J.P.; Kingsbury, C.; Torres-Slimming, P.A.; Bunch, M.; Clow, K.; Gislason, M.K.; Parkes, M.W.; Jane Parmley, E.; Poland, B.; Vaillancourt, C.

Abstract: This paper presents insights from the work of the Canadian Community of Practice in Ecosystem Approaches to Health (CoPEH-Canada) and 15 years (2008–2022) of land-based, transdisciplinary, learner-centred, transformative learning and training. We have oriented our learning approaches to Head, Hands, and Heart, which symbolise cognitive, psychomotor, and affective learning, respectively. Psychomotor and affective learning are necessary to grapple with and enact far-reaching structural changes (eg, decolonisation) needed to rekindle healthier, reciprocal relationships with nature and each other. We acknowledge that these approaches have been long understood by Indigenous colleagues and communities. We have developed a suite of teaching techniques and resources through an iterative and evolving pedagogy based on participatory approaches and operating reciprocal, research-pedagogical cycles; integrated different approaches and ways of knowing into our pedagogy; and built a networked Community of Practice for continued lear-



Transformative learning for a sustainable and healthy future through ecosystem approaches to health: insights from 15 years of co-designed ecohealth teaching and learning experiences



ning. Planetary health has become a dominant framing for health-ecosystem interactions. This Viewpoint underscores the depth of existing scholarship, collaboration, and pedagogical expertise in ecohealth teaching and learning that can inform planetary health education approaches.

Keywords: Land-based learning, Transdisciplinary approach, Learner-centered, Transformative learning, Head, Hands, and Heart learning Cognitive, psychomotor, affective learning, Structural changes, Decolonization, Reciprocal relationships, Indigenous knowledge, Teaching techniques, Participatory approaches, Pedagogy, Community of Practice, Planetary health, Health-ecosystem interactions, Scholarship, Collaboration, Pedagogical expertise, Ecohealth teaching, Planetary health education

The Lancet Planetary Health, Volume 7, Pages e86-e96

[https://doi.org/10.1016/S2542-5196\(22\)00305-9](https://doi.org/10.1016/S2542-5196(22)00305-9)



Quality Assurance Model using Lean Manufacturing and ERC Work Motivation to Reduce the Rate of Defective Production of a Footwear SME



Authors: Cuadros-Lopez, R.; Mercado-Beraun, C.; Quiroz-Flores, J.

Abstract: Footwear imports have been increasing in recent years and have radically affected the profitability of the footwear sector, especially those from China. This situation has particularly affected SMEs in this sector, as they lack sophistication with respect to the quality of their products and the lack of quality assurance strategies. In Peru, SMEs represent a great importance for its economy, since approximately 99.5% of its companies are SMEs. Specifically, SMEs in the footwear sector generate 57,000 direct jobs and contribute 1.2% of the industrial GDP. Therefore, there is a need for research to ensure the quality of the footwear produced by SMEs in order to make them more competitive in the market. This through a model of quality assurance by combining the tools of quality standardization and motivation ERC. This is expected to reduce the rate of defective production of SMEs in the footwear sector in order to increase the sophistication of their products with respect to quality and generate an efficient and sustainable production.

Keywords: Quality Assurance Model, Footwear sector, ERC Work Motivation

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Process innovation and sustainable production: the role of methods engineering in exporting companies



Authors: Pacheco, A.; Vegas-Gallo, E.; Pariona-Luque, R.; Añaños-Bedriñana, M.A.; Marín, W.; Franco-Medina, J.; Pacheco-Pumaleque, L.

Abstract: Nowadays, the implementation of methods engineering is fundamental, as it allows the identification of unnecessary processes and the design of new methods that make better use of resources. Therefore, a method engineering model is proposed to improve the productivity of exporting companies in Cañete. The research is applied, with a quantitative approach and experimental design. A questionnaire addressed to 389 employees was used with regard to the methods engineering variable and the productivity variable. The results show that 44.73% of the employees state that the level of methods engineering is poor, 48.59% state that the level of time engineering is poor and 52.96% state that the level of production is poor. These results reflect that a method engineering model should be proposed to promote process innovation with a sustainable production approach that increases resource efficiency.

Keywords: Methods engineering, productivity, use of resources, study of methods, process innovation, quality

Progress in Industrial Ecology, Volume 16, Pages 46-58

<https://doi.org/10.1504/PIE.2023.132687>



Lean Planning Model to Reduce Returns of Heat-Sensitive Products in A Peruvian Chemical-Pharmaceutical Company



Authors: Machuca-Vasquez, P.; Perea-Oliver, M.; Quiroz-Flores, J.

Abstract: Nowadays, the implementation of methods engineering is fundamental, as it allows the identification of unnecessary processes and the design of new methods that make better use of resources. Therefore, a method engineering model is proposed to improve the productivity of exporting companies in Cañete. The research is applied, with a quantitative approach and experimental design. A questionnaire addressed to 389 employees was used with regard to the methods engineering variable and the productivity variable. The results show that 44.73% of the employees state that the level of methods engineering is poor, 48.59% state that the level of time engineering is poor and 52.96% state that the level of production is poor. These results reflect that a method engineering model should be proposed to promote process innovation with a sustainable production approach that increases resource efficiency.

Keywords: Methods engineering, productivity, use of resources, study of methods, process innovation, quality

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<https://doi.org/10.1063/5.0119314>



Algorithm Based on Deep Learning Techniques for Classification of Solid Waste in Recycling Plants



Authors: Cesar Peña Carrillo; Ciro Rodriguez; Martha Gonzales Loli; Amador Vivar Recarte; Diego Ampuero Aldorarin; Diego Rodriguez Hide

Abstract: The imperatives of environmental sustainability and resource efficiency necessitate advancing recycling technologies, among which solid waste classification is a pivotal process. Traditional manual sorting methods, hindered by inefficiency, cost, and scalability issues, have given way to innovative solutions employing deep learning algorithms and specialized software, promising to revolutionize the solid waste management sector. This manuscript explores the burgeoning domain of algorithm-based classification systems for solid waste, specifically focusing on their application within recycling plants. It comprehensively studies these systems' effectiveness, precision, and environmental impact while examining their implementation's particularities in various contexts, including the Peruvian districts. Comparative analysis of CNN architectures suggests that while ResNet18 was sufficient, Inception-ResNet could yield higher accuracy due to its complexity and depth if computational resources were not a limiting factor.

Keywords: Deep learning, Training, Waste materials, Computational modeling, Software algorithms, Computer architecture, Maintenance engineering

2023 IEEE 15th International Conference on Computational Intelligence and Communication Networks (CICN), Bangkok, Thailand, 2023, pp. 211-217,

[10.1109/CICN59264.2023.10402176](https://doi.org/10.1109/CICN59264.2023.10402176)



Corporate Social Responsibility and Peruvian apparel SME Internationalization



Authors: Martin Fidel Collao Diaz, Juan Carlos Quiroz-Flores, Ahad Ali

Abstract: The general objective was to analyze the relationship between Corporate Social Responsibility, here after CSR, and the Internationalization of SMEs that belong to the clothing sector at the Metropolitan Lima level. To do this, the current context of the SMEs in the clothing sector is described, and the dimensions of corporate social responsibility are explored: social, economic, and environmental; finally, the relationship of these dimensions with the internationalization of the SMEs. The methodology used is mixed since a description and analysis of the confection sector of the SMEs in Metropolitan Lima is carried out, and it is quantitative because the questionnaires corresponding to the study are carried out. The research results provide information so that SMEs can implement corporate social responsibility and subsequently achieve better opportunities with the internationalization process. This article concludes that the dimensions of corporate social responsibility are related to the internationalization process of the SMEs of the clothing sector in Metropolitan Lima.

Keywords: Internationalization, Corporate Social Responsibility (CSR), Micro and small enterprises (SMEs), Textile Sector, Apparel

2023 Congreso Internacional de Innovación y Tendencias en Ingeniería (CONIITI), Bogotá, Colombia, 2023, pp. 1-7,
<https://doi.org/10.1109/CONIITI61170.2023.10324206>



Implementation of Lean Warehousing to reduce food waste of a Distribution Company



Authors: Orosco, Luz; Ramos, Edgar

Abstract: According to recent research, the application of engineering approaches in distributors in the commercial sector needs to be improved. Likewise, there is evidence of a growing need for the analysis of processes in warehouses in order to reduce activities that do not generate value to increase profitability in companies. In the current study, a food distribution company was examined and a distribution system model focused on solving problems in the warehouse due to waste generated in each process was suggested. The main problem was identified as food losses in the storage area and a suitable solution was suggested to address it. For this, cross contamination must be reduced in the storage process and thus reduce the amount of products lost due to contamination of moisture products and reduce products lost due to improper location of products. Likewise, the amount of expired products in the picking process must be reduced. Finally, errors in the packing process must be reduced with standardized packing and stacking methods. Using the Lean Warehousing methodology, an improvement model was presented based on the integration of tools such as Slotting for Warehouse Control, Kanban, FEFO for perishables control, PokaYoke and Standard work for method error control. Currently, the company proposes a 6.65% reduction in losses in warehouse management and 3% is considered a limitation according to the literature.

Keywords: logistics, lean warehousing, warehouse distribution, warehouse waste, lean principles, waste reduction

3 rd LACCEI International Multiconference on Entrepreneurship, Innovation and Regional Development - LEIRD 2023 Virtual Edition, December 4 – 6, 2023

<https://dx.doi.org/10.18687/LEIRD2023.1.1.469>



Governance in Tourism Activity: a Systematic Review



Authors: Elma Valdivia Ramírez; Miguel Armesto Céspedes.

Abstract: Tourism is an income-generating activity that helps rural communities generate income within sustainable parameters, but with the COVID-19 pandemic, the impacts were devastating for the sector and the communities. However, with governance capable of ensuring conditions for interaction among the various actors, the process of restructuring the sector should have better prospects. Therefore, the general objective of this article was to analyze tourism governance experiences, while the specific objectives were to analyze the methodological designs and theoretical premises proposed in the articles. To this end, a qualitative methodology was used, through content analysis, in which, after purifying the databases and using the Prisma methodology, 17 articles were processed. The conclusion reached was that governance is understood as a dynamic process in which various elements interact, with civil society, private initiative and the community as actors, and that the authorities must ensure that this space for interaction is as transparent as possible. © 2023, Ludomedia EN. All rights reserved.

Keywords: Participation, Actors, Norms.

(2023). GOVERNANCE IN TOURISM ACTIVITY: A SYSTEMATIC REVIEW . New Trends in Qualitative Research, 19, e879.

<https://doi.org/10.36367/ntqr.19.2023.e879>



Sustainable development and fair trade. A systematic review of the main research published between 2010-2022



Authors: Martin Leonardo Aranda Cerna, Esperanza de Jesús Castro Cruzado, Daniela Díaz Jiménez, Dusant Q'ente Dongo Herrera, Estefanía Milagros Velarde Vega, Carlos Alberto Azabache Morán, y Julio Ricardo Moscoso Cuaresma.

Abstract: Currently, the impacts caused by sustainable development and fair trade in agriculture are favorable for the growth of production. The objective of this research was to determine the current trends on the commercial, environmental, and economic impact of sustainable development and fair trade in the agricultural sector during the period 2010 - 2022. The systematic review of literature (SRL) was used as a methodology, giving as a result, the choice of 40 sources for the analysis of this research. The results had determined that there is a greater use of the qualitative approach in refereed publications on the field of study. In addition, concluded that the effort of economic, public, private, and socioeconomic actors is required to achieve a synergy to induce a joint transformation of the agricultural sector. Likewise, research trends determine that there is a positive commercial impact of the usage of fair trade and sustainable development in the world that caused a greater commercial growth in the agricultural sector.

Keywords: Fair trade, sustainable development, agricultural sector, trade, and consumers.

21 st LACCEI International Multi-Conference for Engineering, Education, and Technology: “Leadership in Education and Innovation in Engineering in the Framework of Global Transformations: Integration and Alliances for Integral Development”, Hybrid Event, Buenos Aires - ARGENTINA, July 17 - 21, 2023.

<https://dx.doi.org/10.18687/LACCEI2023.11.209>



Exploring the Impact of Fair Trade on the Agricultural Sector of Latin America: A Review of the Scientific Literature



Authors: Judith Cielo Milla Morales; Leslie Torres Veliz; Alvaro Tafur Varas; Noelia Mancilla De La Cruz; Julio Ricardo Moscoso Cuaresma

Abstract: In recent years, the number of agricultural exporting companies that obtain fair trade certification has increased significantly. This is done to achieve responsible business practices, demonstrate transparent and equitable trade with suppliers and customers. However, fair trade has recently been subject to various controversies and questions due to its application in both developed (DCs) and developing countries (LDCs). These include concerns related to improving the quality of life of small farmers, reducing environmental pollution, and the impact on consumer decisionmaking regarding agricultural products. The academy has addressed these issues from different perspectives, approaches, and geographical areas, resulting in different contradictions for the Latin American reality. In this regard, this study analyzes the main fairtrade trends generated through peer-reviewed publications in Latin America during the period 2010-2020. The methodology used was qualitative and bibliographic, with the most recent publications being analyzed through the systematic literature review technique and the use of VOSviewer software. The results determined a positive impact of fair trade on agricultural and social responsibility practices for environmental protection, as well as the modification of ethical patterns in consumer choice and the development of better socioeconomic, labor, and commercial variables for everyone involved in supply chains. This also favors the future generation of equitable wealth in an increasingly globalized world.

Keywords: Fair Trade, Quality of life, Environment, Consumer perception, VOSviewer.

21 st LACCEI International Multi-Conference for Engineering, Education, and Technology: “Leadership in Education and Innovation in Engineering in the Framework of Global Transformations: Integration and Alliances for Integral Development”, Hybrid Event, Buenos Aires - ARGENTINA, July 17 - 21, 2023.

<https://dx.doi.org/10.18687/LACCEI2023.1.1.1124>



Digital Strategies in the Performance of the Global Supply Chain in the Period of 2010-2022



Authors: Judith Cielo Milla Morales, Alvaro Alfonso Tafur Varas, Edwing Mishael Vasquez Holgado, Adriana Guadalupe Tapia Guerra, Fernando Leonardo Reyes Salazar and Julio Ricardo Moscoso Cuaresma.

Abstract: The objective of the paper is to analyze the research trends generated on the digital strategies applied in the performance of the supply chain established at a global level during the period 2010-2022, in addition to reviewing their evolution over time and application of the model's business in various technologies. As a methodology, a bibliographic review (SLR) was used from the literature published in Scopus databases. Through an exhaustive systematization, 41 articles were selected, classifying them by year of publication, type of quartile, number of citations, and according to the Sustainable Development Goals (SDG). In turn, the VOSviewer software was used to determine the concurrence between the variables. The literature findings reveal that the implementation of technological tools in the supply chain has been generated with a lack of government support, a deficit of trained personnel and a strong traditional management of the supply chain, the main challenges being those problems that Companies face to contribute to the adaptation of technologies in the improvement of processes and thus meet the goals set out in the SDGs and the improvement of the competitive advantages of nations.

Keywords: Supply Chain, Industry 4.0, Sustainability, Sustainable Development, Logistics 4.0

21 st LACCEI International Multi-Conference for Engineering, Education, and Technology: “Leadership in Education and Innovation in Engineering in the Framework of Global Transformations: Integration and Alliances for Integral Development”, Hybrid Event, Buenos Aires - ARGENTINA, July 17 - 21, 2023.

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