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Facultad de Ingeniería y Arquitectura

Carrera de Ingeniería Industrial

LEAN WAREHOUSE MODEL TO IMPROVE THE LEVEL OF SERVICE IN A DISTRIBUTION CENTER OF A COMMERCIALIZING COMPANY IN THE BEVERAGE INDUSTRY

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Abstract: This research article is developed in one of the warehouses of a commercializing company belonging to the beverage industry, which is the legal basis of every distribution center to execute the contribution developed. It is known that storage is the protagonist within the supply chain with 80% of the business budget; therefore, a set of engineering tools was defined to optimize operations in this area. This improvement arises from implementing the Systematic Layout Planning methodology accompanied by Lean, Kanban, and 5S tools, aiming to optimize the level of service, increase the inventory turnover rate and maximize productivity and storage efficiency. After the simulation in the Arena Simulation software, the investigation results were announced, being favorable in each of the evaluated indicators. The level of service increased from 95% to 98,246%; on the other hand, the order fulfillment efficiency was maximized to 95.73%. Regarding productivity, this improved from 285.9 Boxes / H-H to 329.5 Boxes / H-H, and finally, inventory turnover was optimized, increasing its value by 9%.

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