Industrial Engineering Receiving Area Direct Labor calculation process implementation using simulation in Flexsim

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Abstract

The need for an efficient and modern company's receiving area has never been more strategic - equipment costs and demand continue to increase every year. The big challenge is to balance the number of workers, receiving capacity, and the number of receiving docks. This work considered measuring and analyzing times and methods, historic data, chrono analysis, current cycle times, and takt time. The main purpose of this paper is to simulate the feasibility of operation of a global technology company that supplies global electronics manufacturing services, located in Sorocaba, São Paulo. It was used the digital twin software FlexSim to simulate the receiving area.

Keywords

Simulation, receiving, chrono analysis, labor, technology, manufacturing, warehouse.

Biography:

Renan Pontes is a process and quality engineering intern at ZF Group, Sorocaba, Brazil. Dealing with APQP, MSA (R&R Gage study), PPAP and all the quality documentation and studies regarding the development of transmission parts for commercial vehicle such as shafts, gears, bevel gears and planetary carries.

Gabriel Cassino is an undergraduate in Industrial Engineering at FACENS University. His areas of interest are logistics, entrepreneurship, operational research, project management and sustainable development.

Samuel Virgens 20 years of experience in materials purchase, production planning and inventory management, experience Kaizen and Six Sigma leadership, negotiation skills with both customers and suppliers, demand management for build to order, configure to order and build to stock environments, in implementation and parameters management at ERP system focused on optimization of inventory, materials planning and purchase.

Talia Pontes currently works with the development of solutions in the startup area of a multinational. She has knowledge in continuous improvement, Agile project management, and is a certified citizen developer.

Rodrigo Luiz Gigante has a master's in Industrial Engineering from the University of São Paulo (2010) and has a B.S. in Applied Mathematics and Scientific Computing from University of São Paulo (2007). He is a professor at FACENS University. His areas of expertise are Operational Research, Discrete Event Simulation, Scheduling, Queue Theory, Production Planning and Control and Logistics.

Henrique Ewbank de M. Vieira is Professor in Industrial Engineering at FACENS University, Brazil. He has a Postdoc in Environmental Sciences from Paulista State University, Sorocaba, Brazil. He earned PhD in Management from Federal University of Rio de Janeiro, Brazil, Graduate Certificates in Logistics & Supply Chain Analysis and in Systems & Supportability Engineering from Stevens Institute of Technology, New Jersey, USA, and B.S. in Industrial Engineering from Estácio de Sá University, Brazil. He has taught courses about operations research, management, and data science for graduate and undergraduate students. His research interests include demand planning, inventory management, supply chain, and multi-criteria decision making.