

12.03 – Model for Product Introduction Across Global Manufacturing Sites

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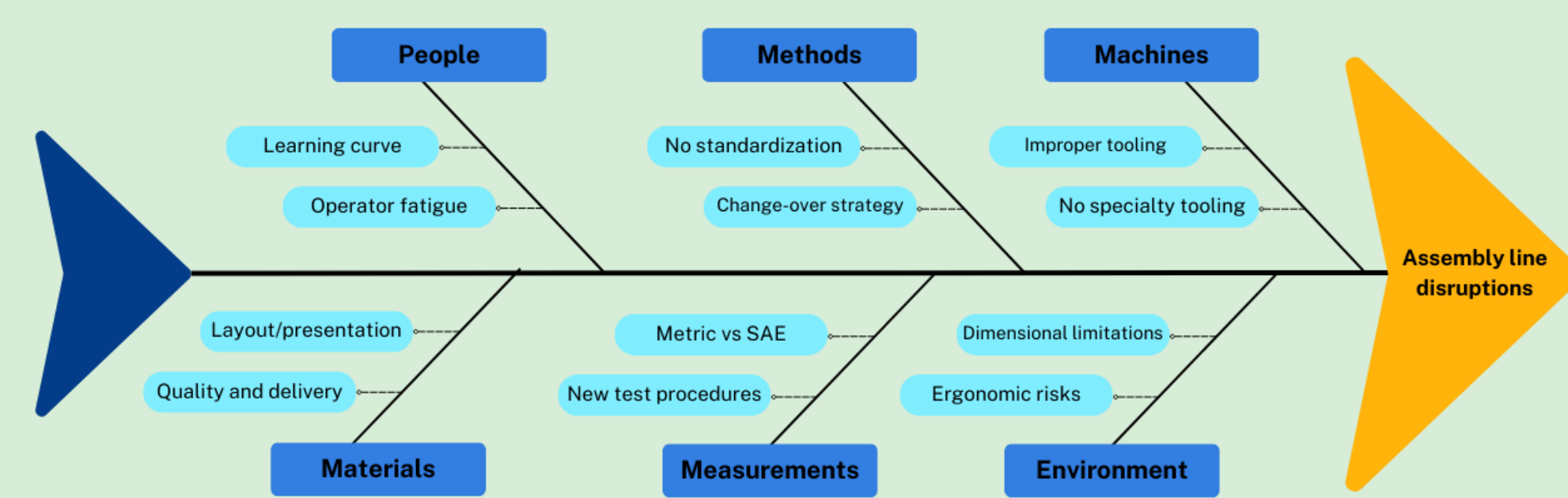
Project Background

- Signify, formerly known as Philips Lighting, is a company that has revolutionized the innovation of the global lighting industry.
- Signify has recently conducted a realignment to their North American manufacturing operations. The restructuring involved a gradual production shift from the company's San Marcos manufacturing operations to its other various global sites within the Americas.

Project Statement

- The team shifted from creating product (family) work instructions to workstation design, specialty tooling, cart usage; and material flow and handling to address productivity loss, quality issues, and worker safety.
- Optimized and standardized workstation designs, carts used, and specialty tooling for high-volume product manufacturing operations.

Project Considerations



RCA diagram anticipating possible operational disruptions when introducing unfamiliar product families to existing facilities and operations.

Objectives

- Have deliverable workstations to be shipped out and built at future sites.
- Send out and deliver labeled specialty tooling and carts, along with their dimensions to be replicated if deemed necessary by the other sites.
- Packaging and labeling instructions
- Pictures and dimensions for specialty tooling/equipment

Problem Solving Methodology

Define:

- Signify San Marcos site closure process; product manufacturing relocation site needs for inherited products.

Measure:

- Current state of assembly process and equipment used at the San Marcos site and other North American sites inheriting non-delisted products.

Analyze:

- What are the most needed and critical deliverables for the operational sites?
- Is current state efficient and/or ergonomic? Does it affect production and/or quality?

Improve:

- Prioritize standardizing production-line items such as workstations, specialty tooling and jigs, and carts. Pack and ship existing workstations, tools, jigs, and carts with item dimensions to allow replication at those sites.

Control:

- All components dimensioned and labeled (materials, subassemblies and purpose/products for use). Maintenance, usage, and upkeep of deliverables standardized for equipment longevity and worker safety.

Planned Site Improvements

- Identified site improvements:**
- Specialty carts for material transportation.
 - Workstations designed to meet operator's anthropometric needs.
 - Utilization of pneumatic lifts for unloading heavy material.
 - Specialty stations designed for quick changeover with minimal disruptions.
 - Tool holders within operator reach.



Digital Assembly Instructions

Over 30 different parts were modeled using Inventor Pro software. Workstation separated into five different modules for ease of assembly. Work instructions, digital BOM, and dimensions are all available through digital interface and mobile application. Workstation life cycle and changes tracked through digital interface.



Human Factors

- Adaptability & Efficiency to ensure all necessary tools and materials are within reach.
- LEAN and ergonomic implementation for assembly process and specialty tooling

Waste Reduction Factors

- Estimated prevented waste: \$94,926.08
- Approximately 511 parts per workstation reused.
- Future equipment and specialty tools can be modeled from created CAD files.

Team Members



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