

PathStone Group



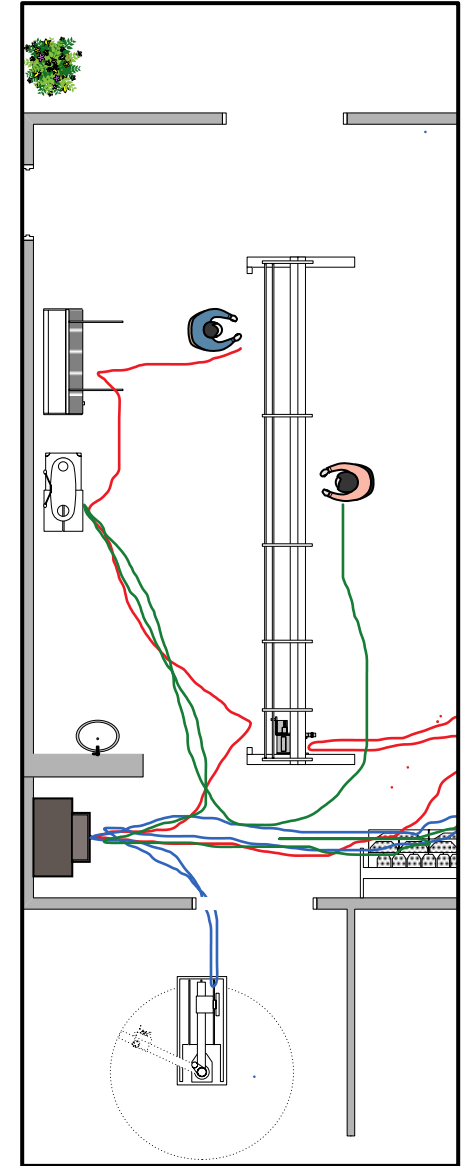
PathStoneGroup.com



Spaghetti Diagram

Agenda

1. Spaghetti Diagram: What is it ?
2. Spaghetti Diagram purpose and benefits ?
3. Construction
4. Takeaways

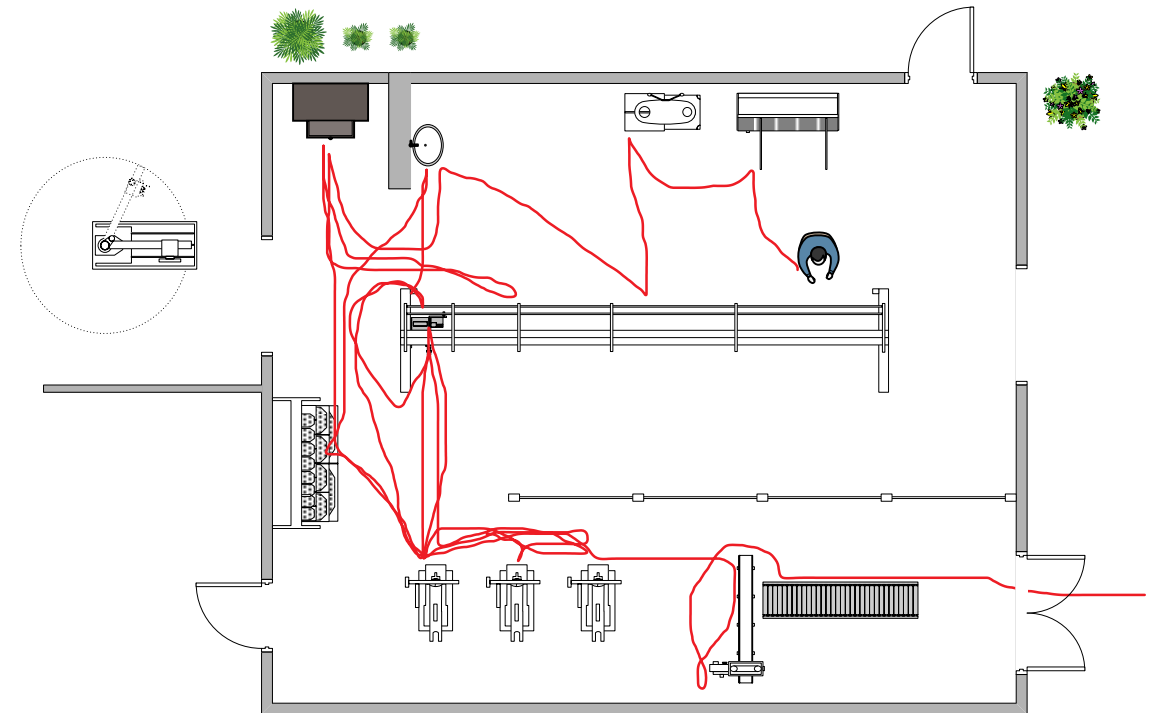


Introduction

What is it ?

A spaghetti diagram is a quick and easy way to **track distances of parts and people** on the shop floor.

The name comes from the result of looking like a plate of spaghetti.



Spaghetti Diagram

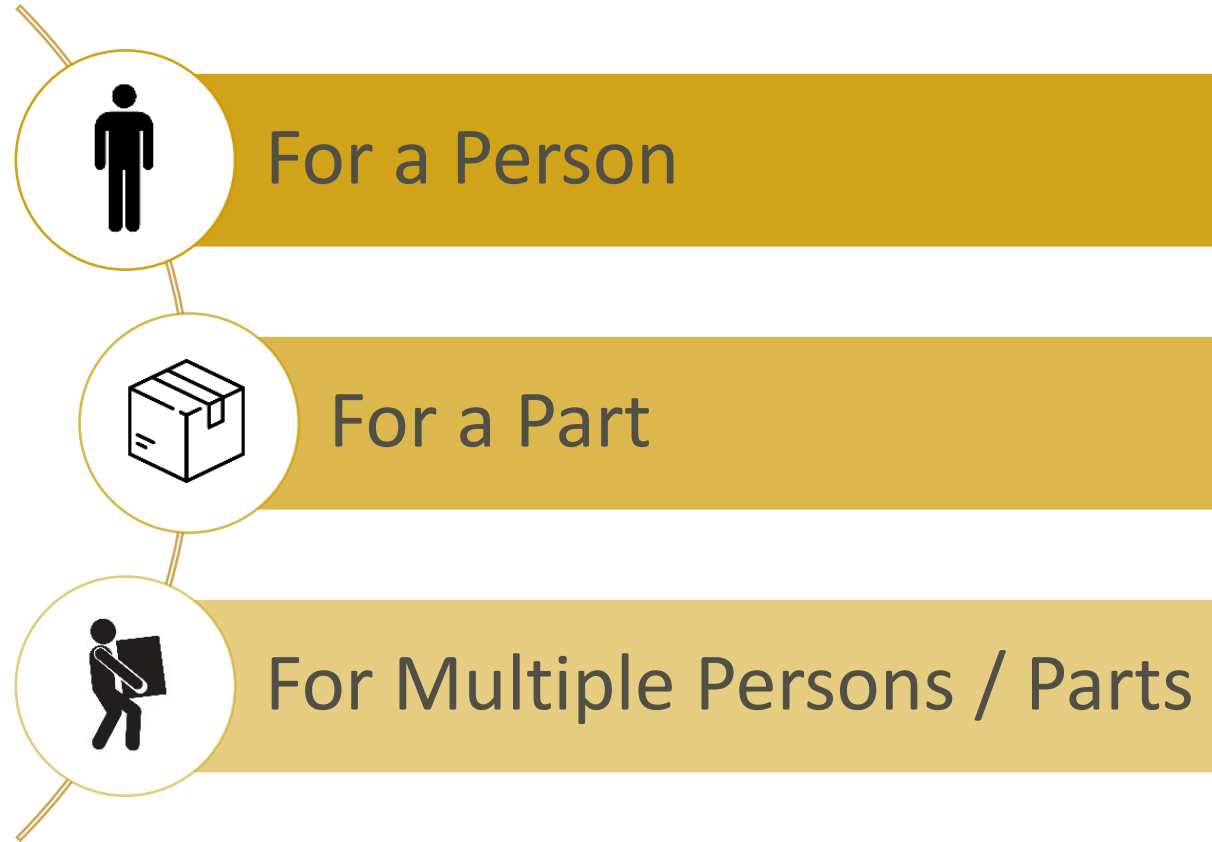
Purpose and Benefits:

- Is a particular tool for determining the distance usually traveled by man or sometimes material.
- Helps to reduce the distance traveled by either parts or people.
- Works best for a repetitive environment where the work repeats in the same or similar style multiple times.
- Allows us to analyze and optimize the distances. The benefit can be faster delivery or the same delivery with less effort.



Spaghetti Diagram

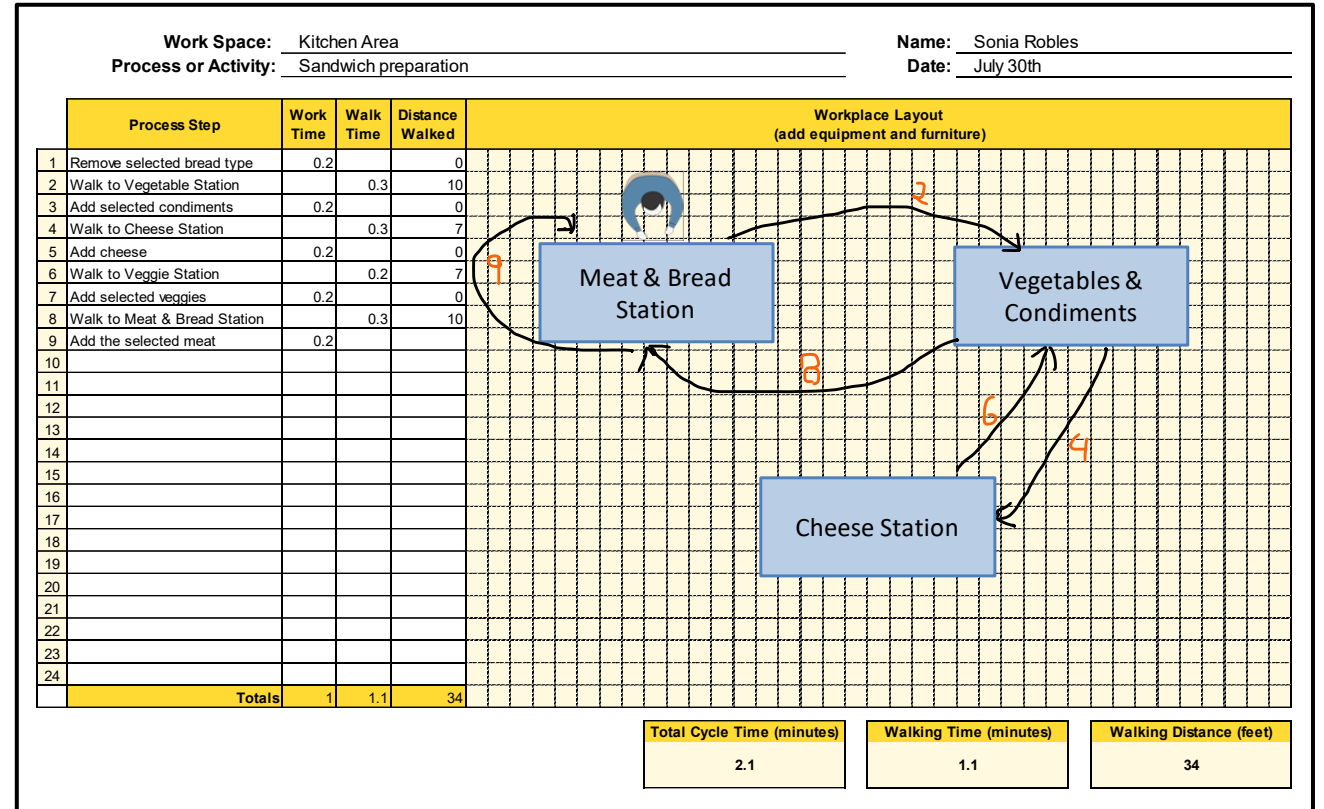
Construction:



Spaghetti Diagram

Construction:

1. Observe the person with a layout of the room and pen/pencil.
2. Mark the route of travel
3. Develop the process steps



Spaghetti Diagram

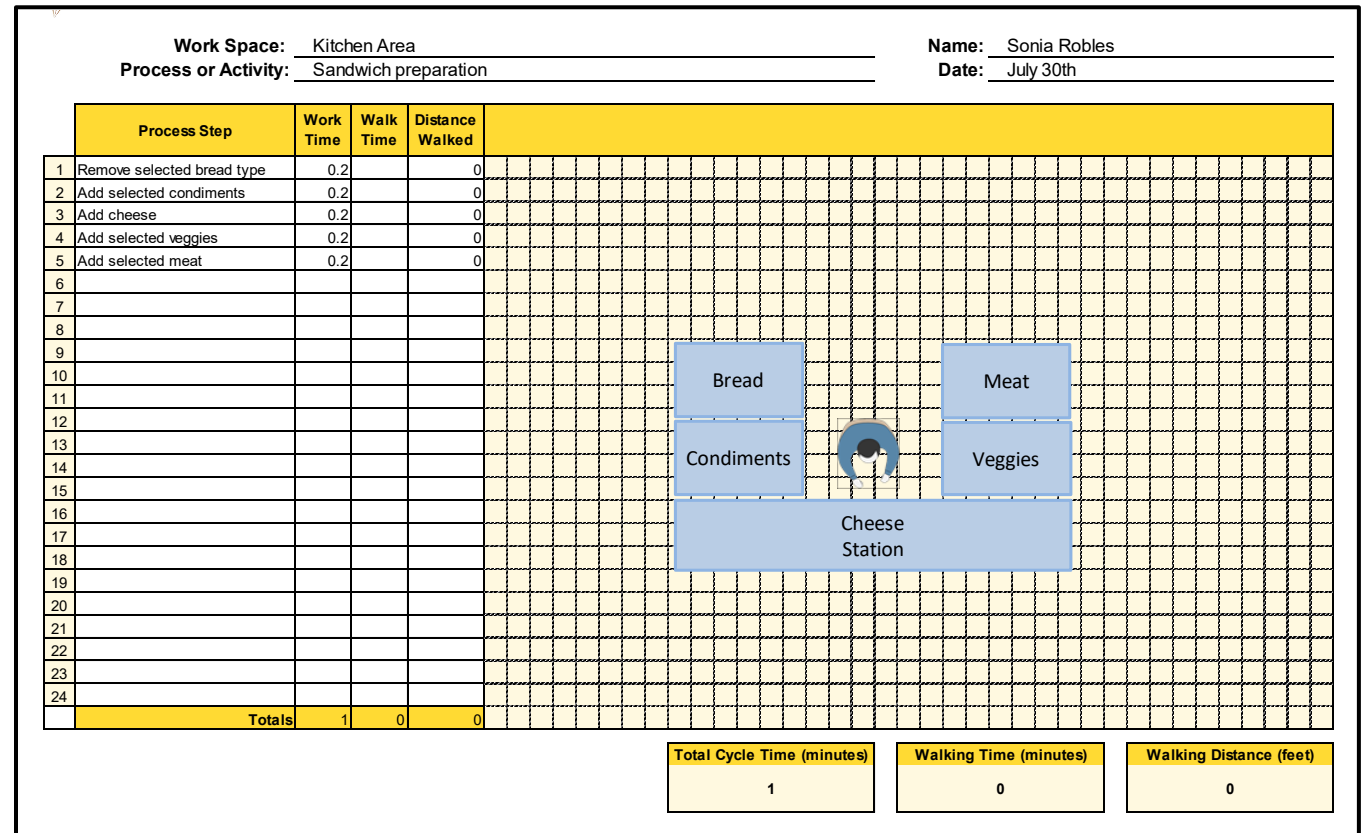
Construction:

4. Optimize the layout

- Move stations around
- Move materials closer to the operator
- Consolidate processes
- Simplify the processes

5. Mark the route of travel (5S)

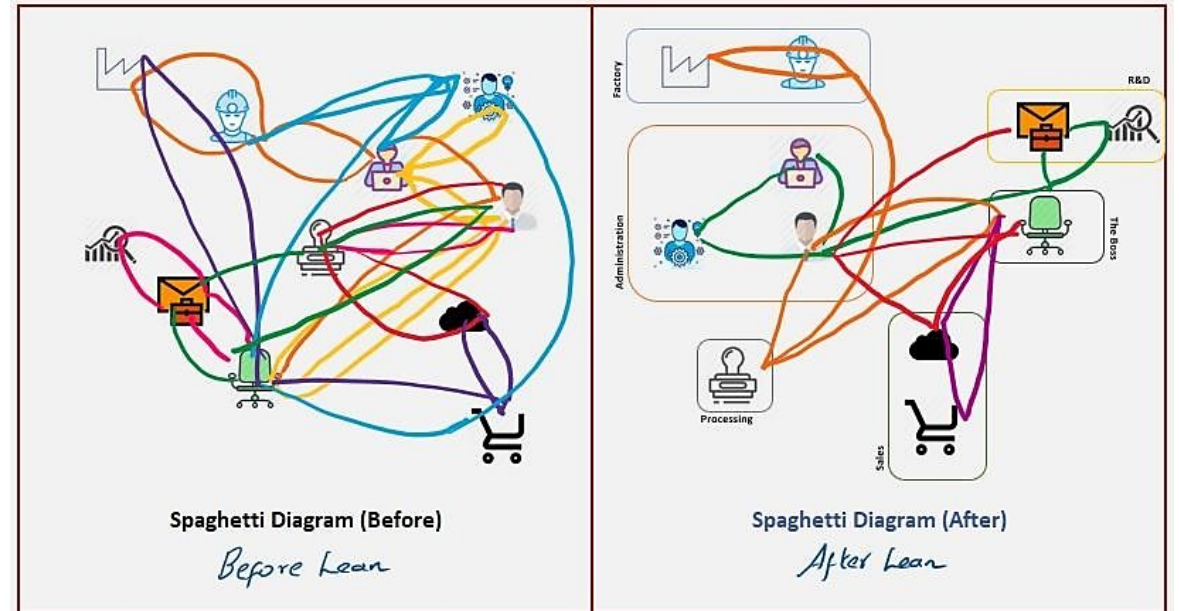
6. Develop the process steps (SWI)



Spaghetti Diagram

Construction:

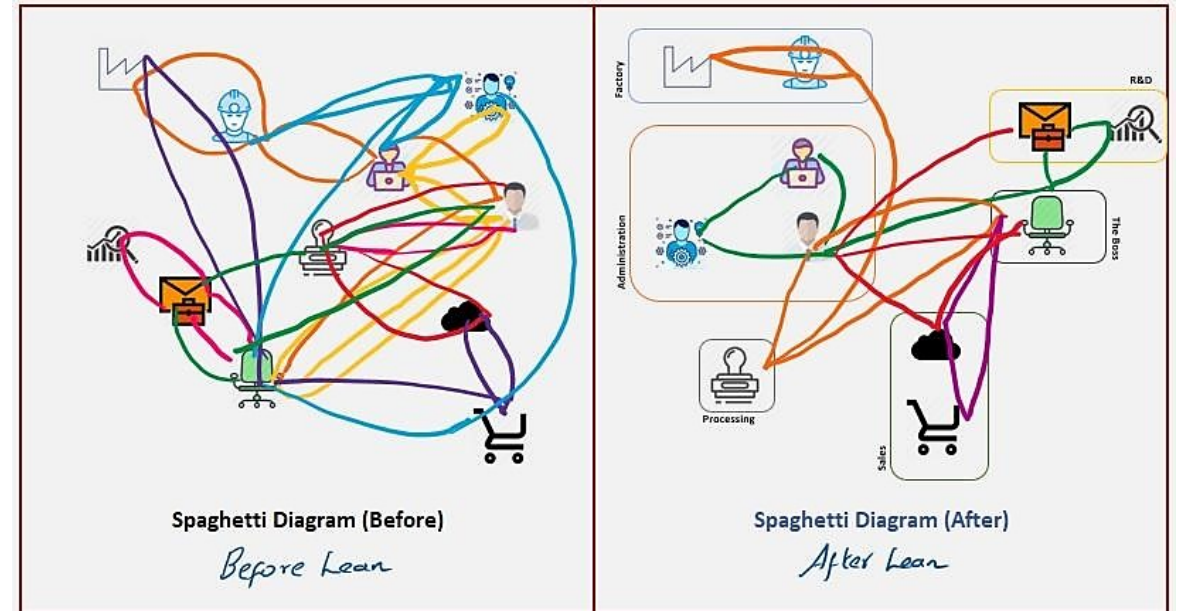
- **Move parts** closer to where they are needed.
- **Arrange machines** and processes to be more in sequence or at least closer to each other.
- **Simplify processes.** For example, rather than searching for a part on a shelf, have the part location printed on the request paper.
- Determine if something can be **done electronically.** Walking across the plant just to look something up is a waste of time.



Spaghetti Diagram

Construction:

- Determine if something can be arranged in a **better sequence**.
- Determine if the step has to be done at all. Can it be **automated**? Can it be **eliminated**?
- **Distribute the workload** differently to reduce walking times.
- **Reduce errors, searches, waiting, and other interruptions** of the normal workflow.
- Determine if the use of any type of **visual management** can make the process faster or more reliable.



LEARNING HUB



Spaghetti Diagram

Example: Cutting Motion Time for Cleaning

Who: Greenbroz Operator

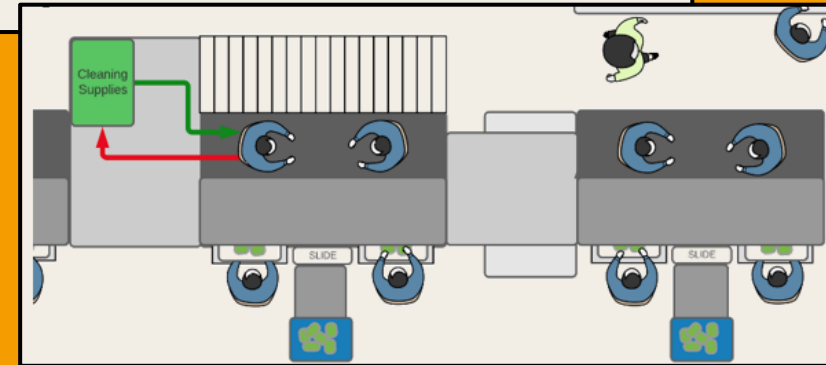
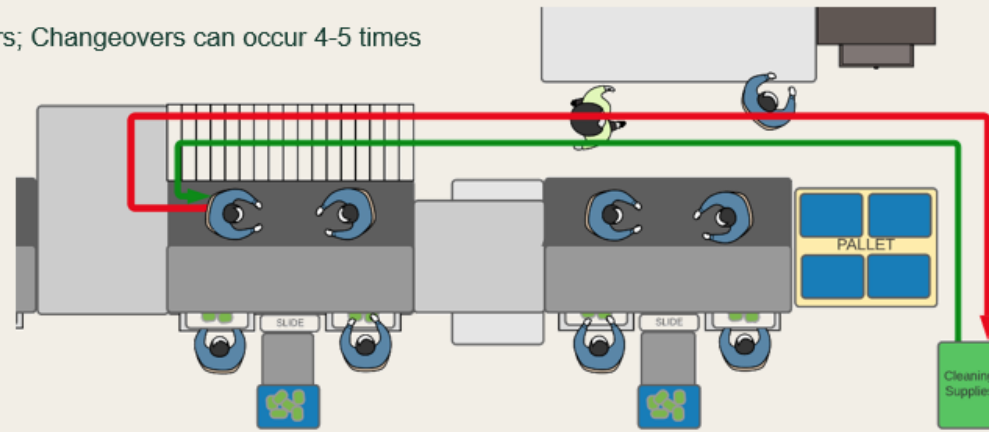
What: Grabbing cleaning supplies

How: Go downstairs and grab wipes and also spray from the cleaning cabinet

When: During changeovers; Changeovers can occur 4-5 times a shift

Time: 60s (there and back)
of Occurrences / Day: 6

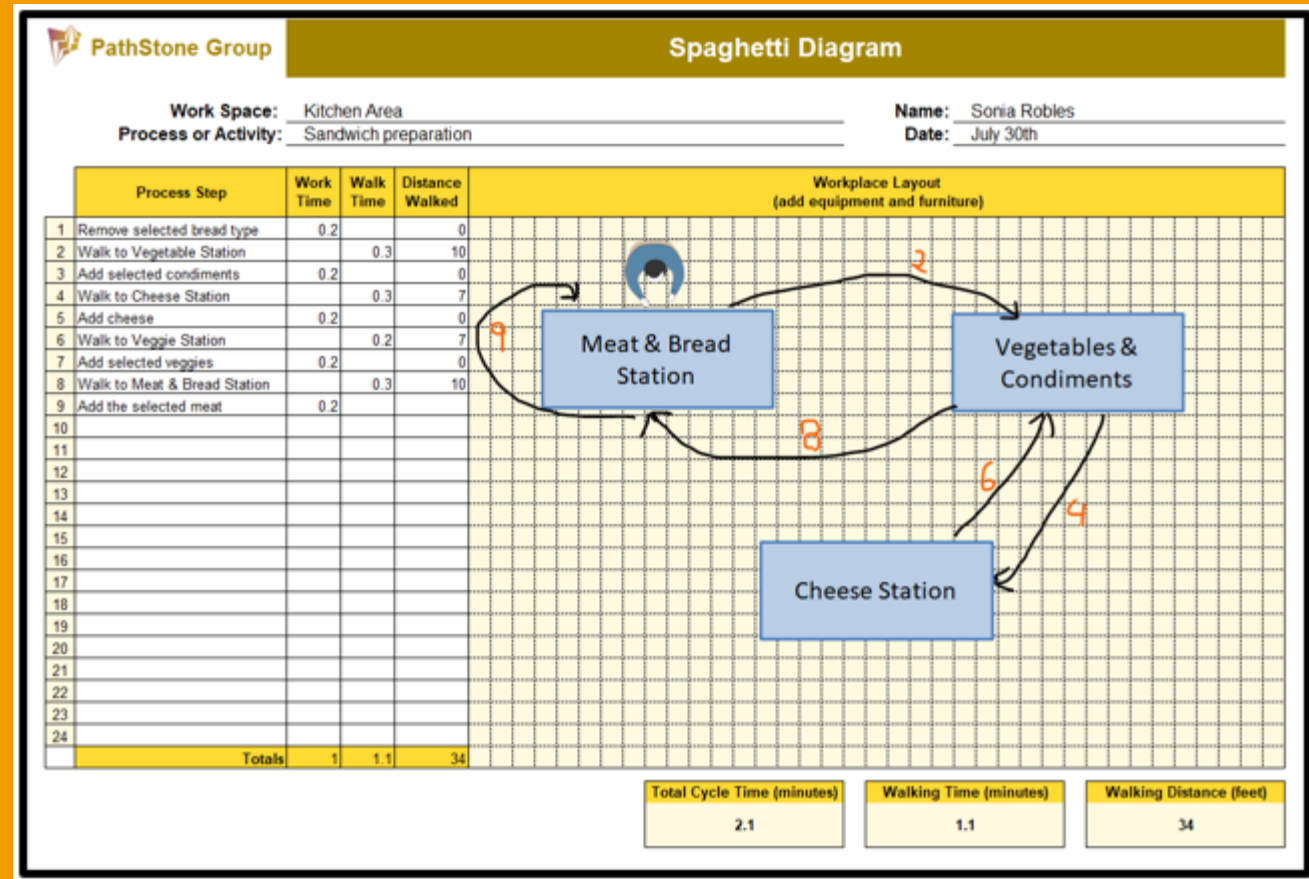
Total Time / Day: 6 minutes
Total Time / Week: 30 minutes
Total Time / Month: 120 minutes
Total Time / Year: 1440 minutes (24 hours)



TOOLBOX



Spaghetti diagram
Template



Takeaways

- The spaghetti diagram is, by itself, **not an optimization method**.
- The distance is one thing, but with this observation we also have the possibility of **reducing waiting times** and **working times**, which will also benefit the operations.
- The method should be combined with **Line Balancing** and **Value-Added analysis**.



Thank You



PathStone Group



PathStoneGroup.com

Copyright notice -

This content is copyright of © PathStone Group 2022. All rights reserved.

Any redistribution or reproduction of part or all of the contents in any form is prohibited other than the following:

- you may print or download to a local hard disk extracts for your personal and non-commercial use only
- you may copy the content to individual third parties for their personal use, but only if you acknowledge the PathStone Group website as the source of the material

You may not, except with our express written permission, distribute or commercially exploit the content. Nor may you transmit it or store it in any other website or other form of electronic retrieval system.

Spaghetti Diagram

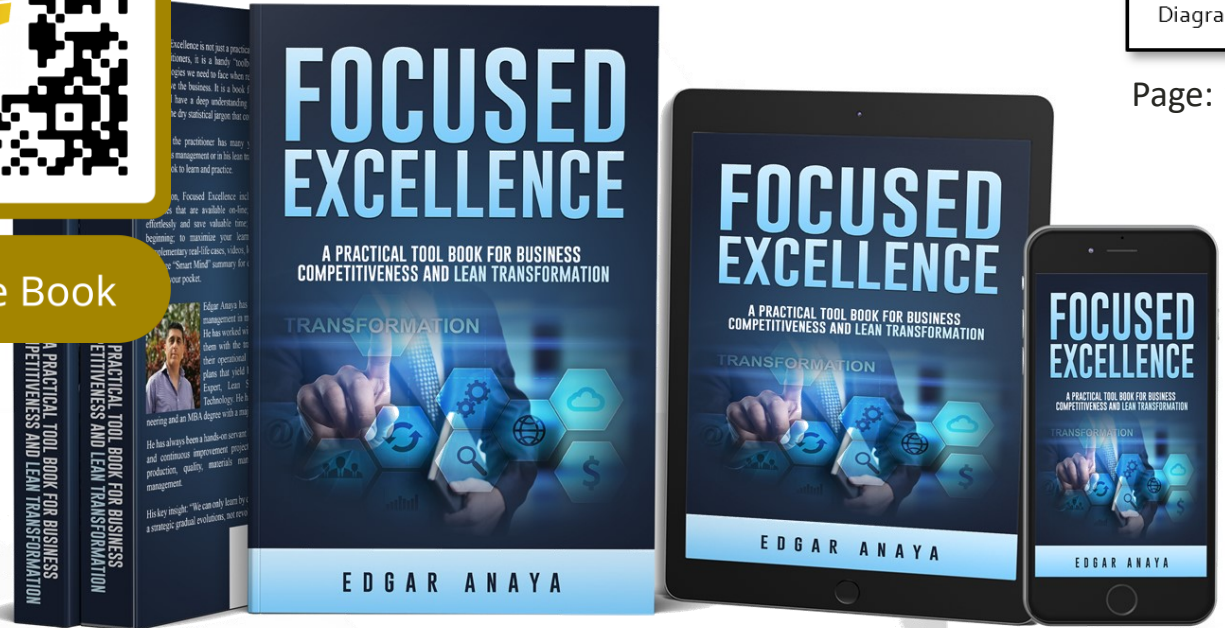
PathStone Group



PathStoneGroup.com



Get the Book



edgar@pathstonegroup.com

TOPIC



Spaghetti Diagram

Page: 112

Reference: Focused Excellence
by Edgar Anaya
© 2022

A Practical Tool Book for
**Business Competitiveness and
Lean Transformation**