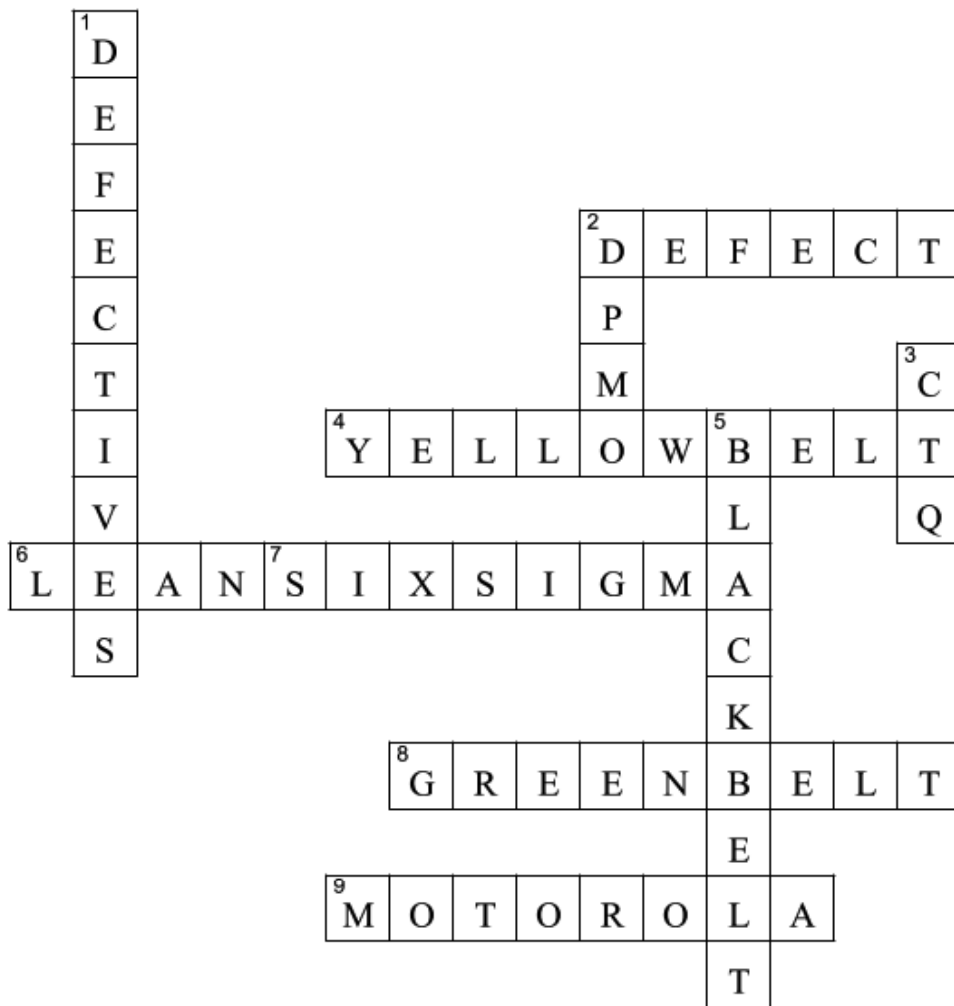


Getting Started with Six Sigma



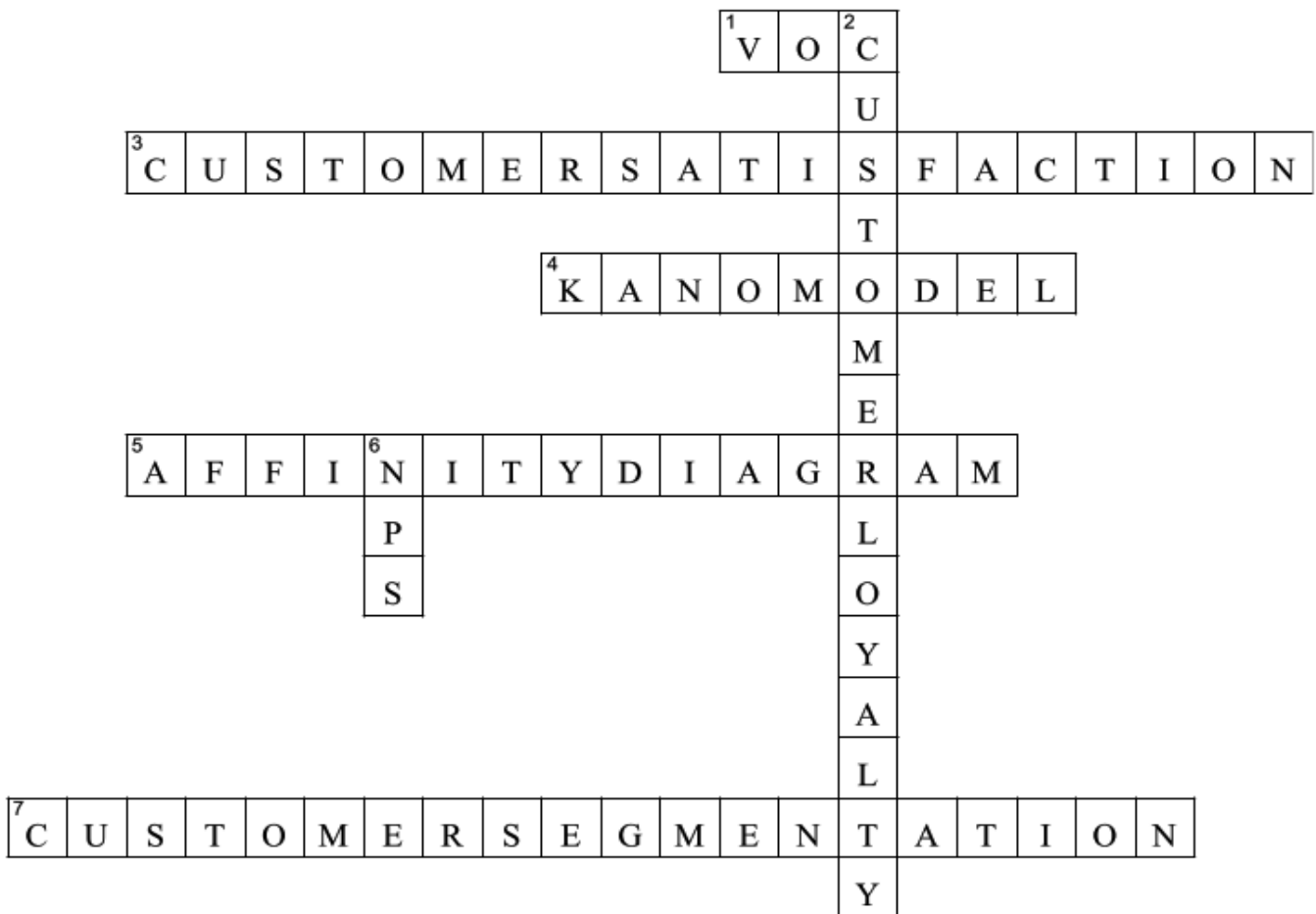
Across:

2. A failure in a component or sub-unit of the entire defective part
4. Person receives training on the basic application of Six Sigma mgmt tools.(2 words)
6. ___ is a continuous improvement methodology.(3 words)
7. ___ means a failure rate of 3.4 parts per million or 99.9997% perfect.(2 words)
8. Role is normally that of a Six Sigma project leader.(2 words)
9. Company that Coined "six sigma"

Down:

1. A failure of entire unit/widget of the product or process, which is undesirable
2. Defects per million opportunities
3. A measurable KPI used for improvement in six sigma projects.(2 words)
5. ___ full-time/part time project leaders who mentors Green Belts and other associates.(2 words)

Listening to Customers



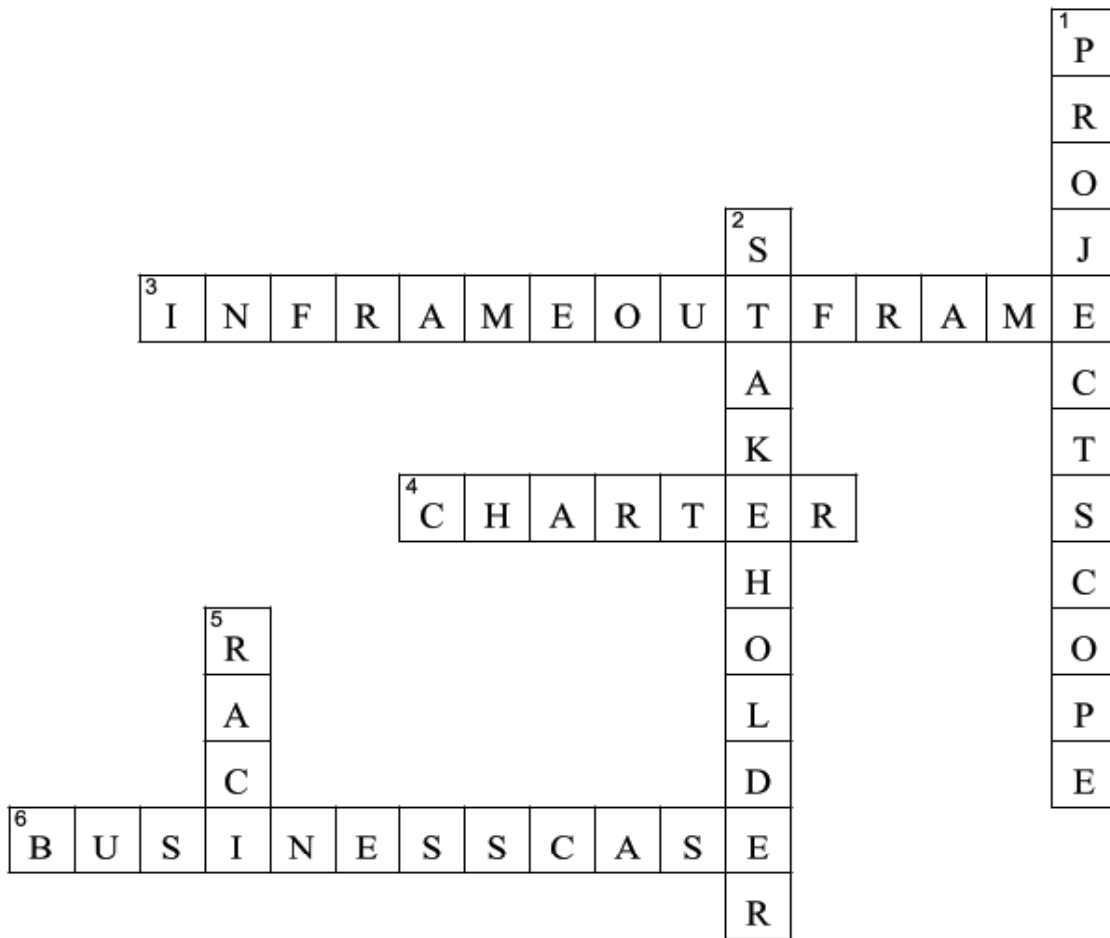
Across:

1. Statement or verbatim of customer.
3. Ability to fulfil customer perceived preference. (2 words)
4. Helps set priorities of product characteristics. (2 words)
5. A business tool used to organize ideas and data. (2 words)
7. Dividing a customer base into groups of individuals such as age, gender, interests and spending habits. (2 words)

Down:

2. NPS survey is a simple way to measure____.(2 words)
6. It measures the willingness of customers to recommend a company's products or services to others.

Define Phase : Completing a Project Charter



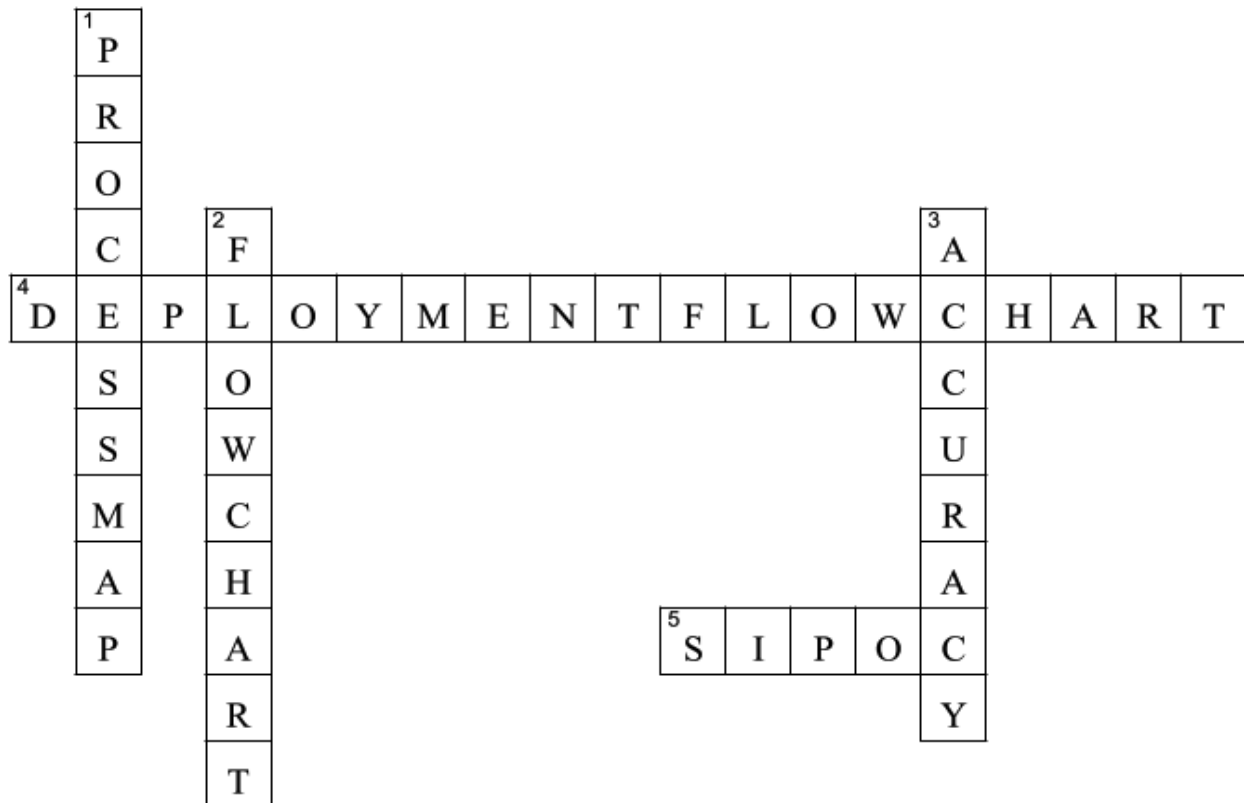
Across:

3. _____ is a tool used in the Define Phase to draw boundaries by engaging the team in terms of scope of process change, timelines, etc. (2 words)
4. A document that explains the six sigma project in clear concise wording without a lot of details.
6. A well articulated description of the underlying need for a Six Sigma project. (2 words)

Down:

1. The boundaries of the project that have to be taken into consideration before deciding the goal for any project. (2 words)
2. a person with an interest or concern in something, especially a business
5. 4 different roles assigned to members of six sigma project team

Define Phase : Process Mapping Tools



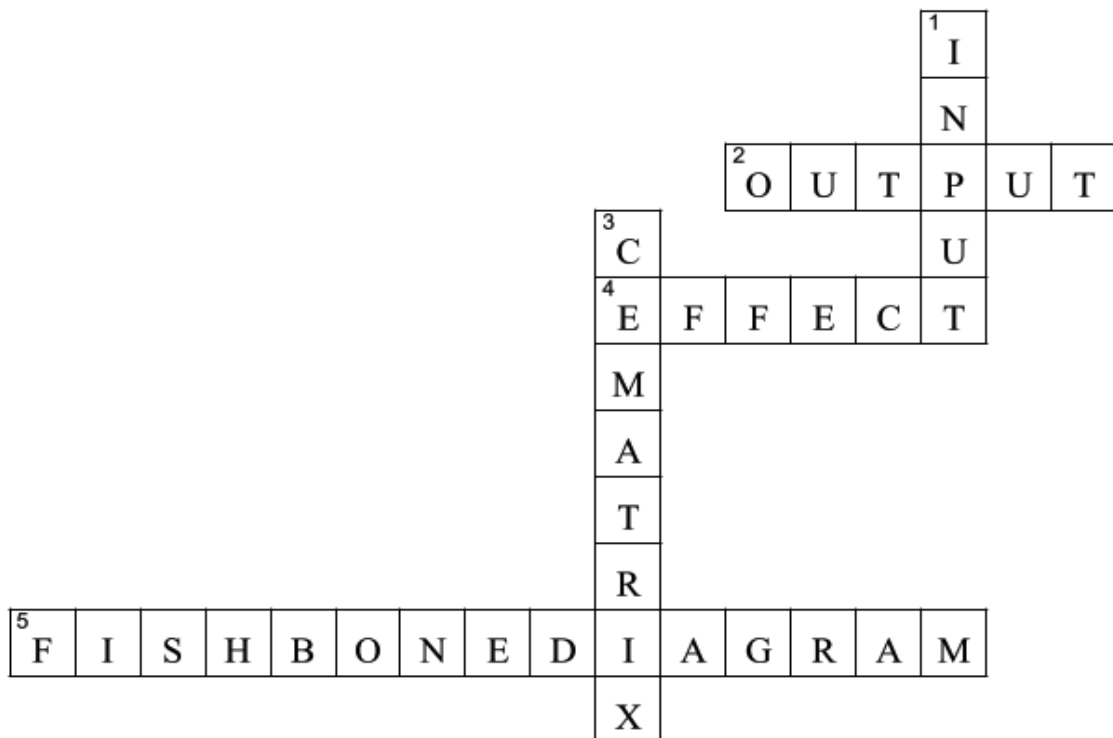
Across:

- 4. ___ also known as cross functional flowchart.(2 words)
- 5. A tool that summarizes the inputs and outputs of one or more business processes in table form.

Down:

- 1. ___ also called workflow diagram, business flow diagram or process flow diagram.(2 words)
- 3. The differences between observed average.
- 2. A graphical representation of a process in a sequential order.

Measure : Cause & Effect Relationships



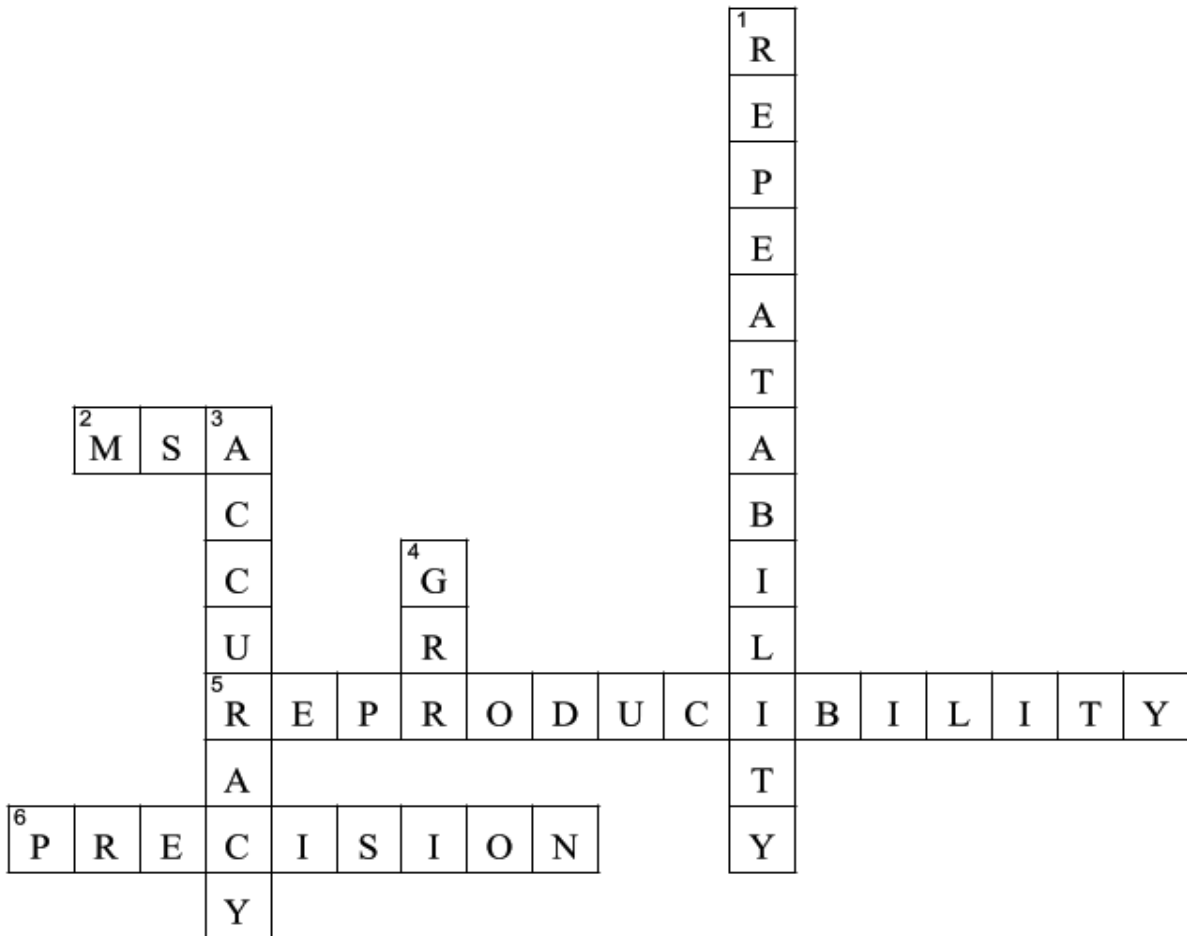
Across:

2. Y in $Y = f(x)$
4. ___ is that which is produced by a cause; the impact a factor (X) has on a response variable (Y).
5. also called a cause and effect diagram or Ishikawa diagram (2 words)

Down:

1. x in $Y = f(x)$
3. It provides a way of mapping out how value is transmitted from the input factors of your system (the Xs) to the process or product outputs (the Ys).(2 words)

Measure Phase : Measurement System Analysis (MSA) or Gage R&R



Across:

- 2. Measurement of System Analysis
- 5. Variation when two or more people measure the same unit with the same gage

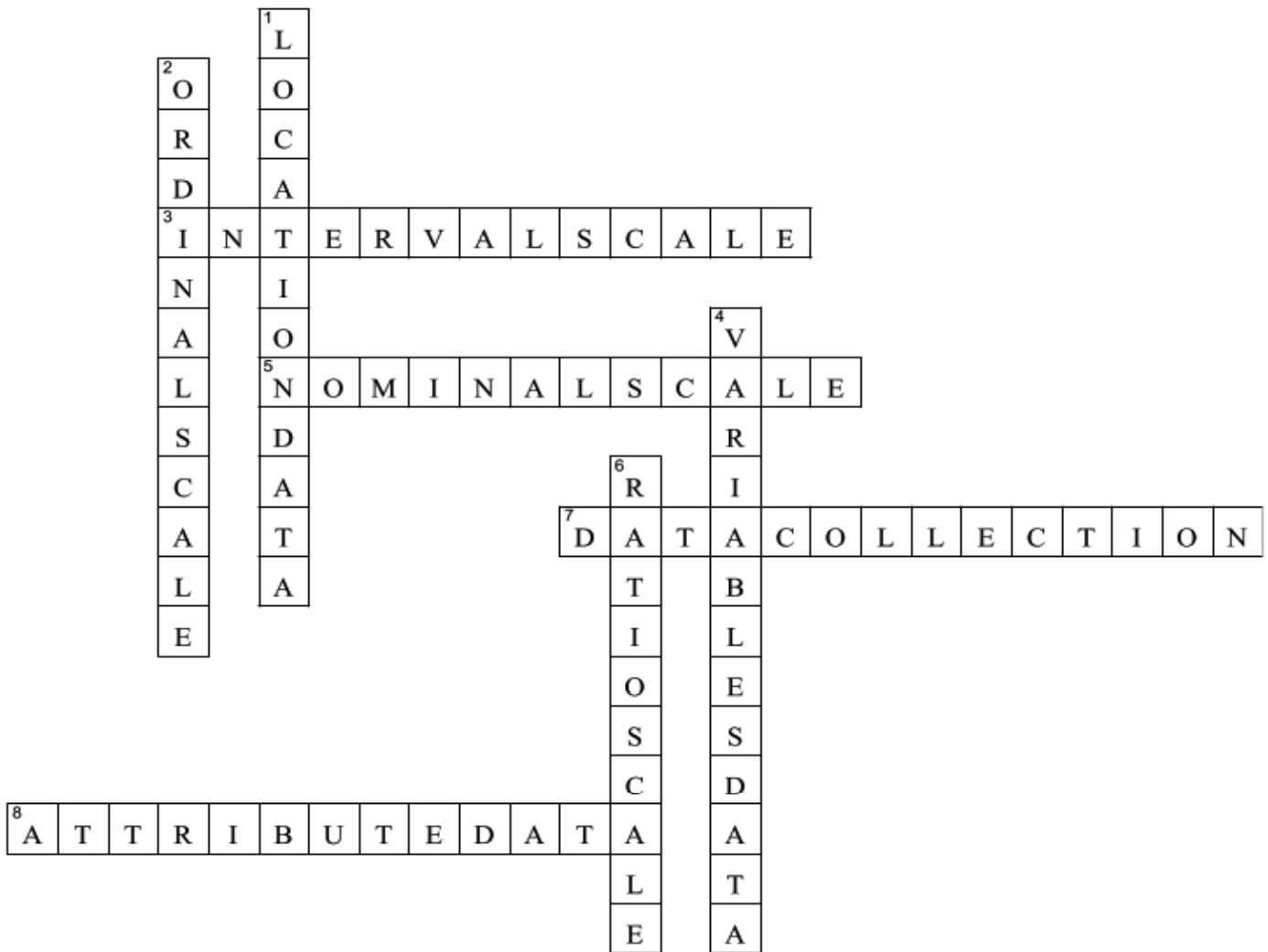
6. ____ refers to how close measurements are to each other.

Down:

- 1. Same person measuring the same part multiple times
- 3. ____ refers to how close a gage's measurements are to the true value.

4. One of the tools in MSA to assess precision errors.

Measure Phase : Data Collection – Planning & Execution



Across:

3. A quantitative measurement scale where the difference between the two variables is meaningful
5. A measurement scale, in which numbers serve as “tags” or “labels” only, to identify or classify an object.

7. The process of gathering quantitative and qualitative information for six sigma project
8. A qualitative data that can be counted for recording and analysis

Down:

1. An information about the geographic positions of devices or structures.
2. A rank order scale in which the numbers are assigned to the objects to determine the relative extent to which certain characteristic is possessed.

4. A data that is acquired through measurements, such as length, time, diameter, strength, weight, temperature, density, thickness, pressure, and height.
6. A type of variable measurement scale which is quantitative in nature.

Measure Phase: Data Sampling

¹	P	O	P	U	L	A	T	I	O	N	²	S	A	M	P	L	I	N	G
											T								
											R								
³	S	Y	S	T	E	M	A	T	I	C	S	A	M	P	L	I	N	G	
												T							
⁴	S	A	M	P	L	I	N	G	B	I	A	S							
													F						
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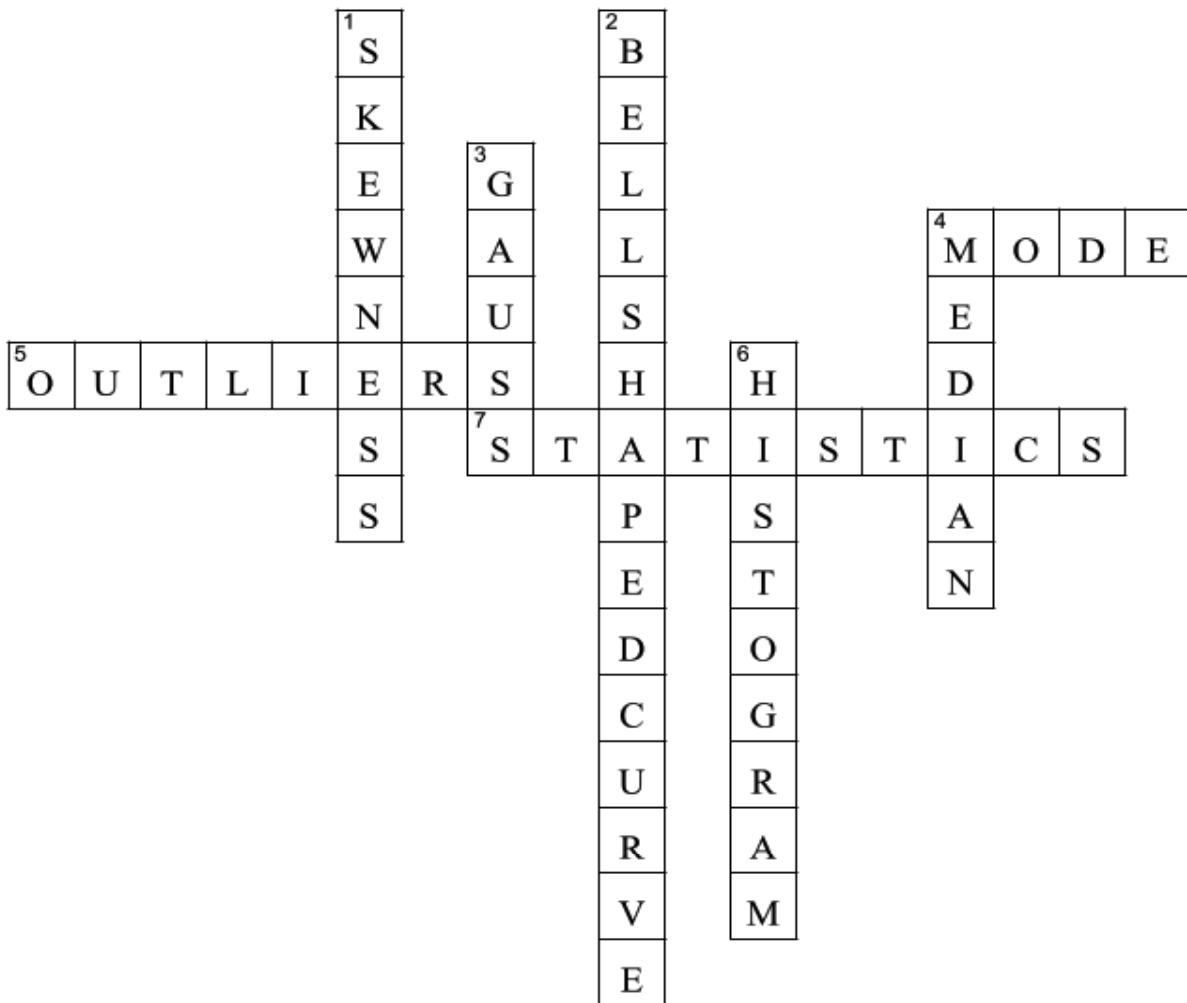
Across:

1. the process of taking a subset of subjects that is representative of the entire population. (2 words)
3. sample members from a larger population are selected according to a random starting point but with a fixed, periodic interval. (2 words)
4. The data you collect may not be accurate or represent the group (2 words)

Down:

2. The researcher divides the population into separate groups, called strata. (2 words)

Measure Phase: Introduction to Business Statistics



Across:

- 4. A Measure of central tendency _____
- 5. An extreme value is considered to be _____

- 7. The study of collecting, organizing, analyzing, and interpreting information.

Down:

- 1. A measure of the asymmetry of the probability distribution of a random variable about its mean
- 2. Normal distribution is also called (3 words)
- 3. Mathematician who developed bell shaped curve

- 4. The middle value in distribution
- 6. it's a Specialized type of Bar Chart that represents data distribution

Measure Phase: Graphical Analysis Methods

¹	B	O	X	P	L	O	T	²	S																
									C																
										³	M	U	L	T	I	V	A	R	I	C	H	A	R	T	
											T														
											T													⁴	
											E													R	
											R													U	
											P													N	
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											O													H	
											T													A	
																								R	
										⁵	S	T	E	M	P	L	O	T							

Across:

1. A graphical rendition of statistical data based on the minimum, first quartile, median, third quartile, and maximum. (2 words)
3. A very useful tool for analyzing all three types of variation. (2 words)

Down:

2. A graph used to analyze the correlation between two variables. (2 words)
4. A line graph of data plotted over time. (2 words)
5. A type of chart that shows how individual values are distributed within a set of data. (2 words)

Measure Phase: Assessing Process Capability

1	P																								
	R																								
2	L	O	N	G	T	E	R	M	C	A	P	A	B	I	L	I	T	Y							
	C																								
	E																								
	S																								
	S																								
	C																								
	A																								
3	P	R	O	C	E	S	S	C	A	P	A	B	I	L	I	T	Y	A	N	A	L	Y	S	I	S
	A																								
	B																								
	I																								
	L																								
	I																								
	T																								
	Y																								

Across:

- 2. The actual Process Capabiltiy of a process over a period of time. (3 words)
- 3. An analysis that helps in establishing the capability of the process to meet customer requirements and specifications. (3 words)

Down:

- 1. Capability of any process. (2 words)

Analyze Phase : Theory of Hypothesis Testing

¹	N	U	L	L	H	Y	²	P	O	T	H	E	S	I	S						
							V														
³	A	L	T	E	R	N	A	T	I	V	E	H	Y	P	O	T	H	E	S	I	S
							L														
							U														⁴
																					R
						⁵	T	E	S	T	S	T	A	T	I	S	T	I	C		
																					A

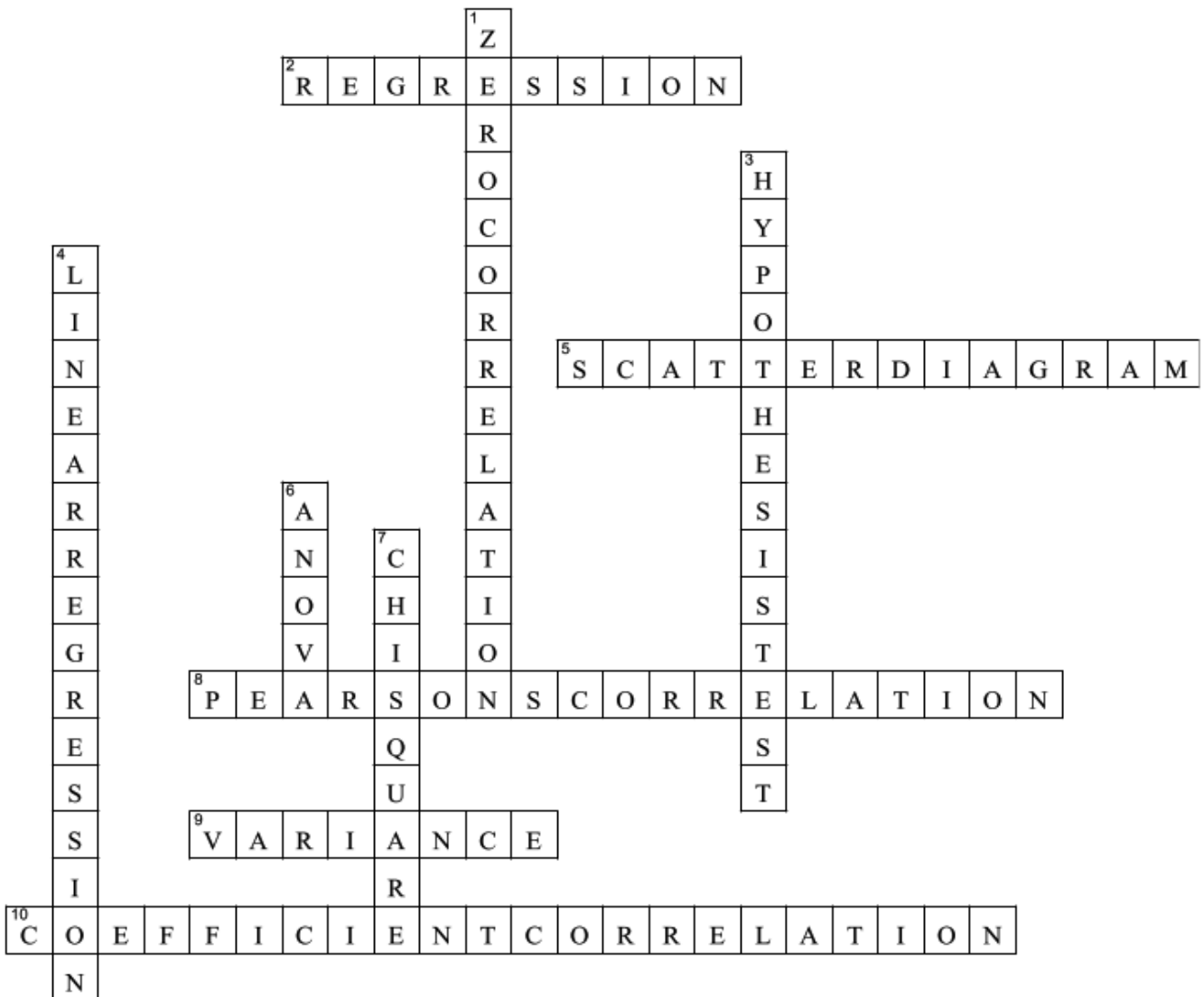
Across:

1. a type of hypothesis used in statistics that proposes that no statistical significance exists in a set of given observations. (2 words)
3. one that states there is a statistically significant relationship between two variables (2 words)

Down:

2. the probability of obtaining the observed results of a test, assuming that the null hypothesis is correct. (2 words)
4. a collective term that describes a wide range of approaches, tools, and techniques used to uncover causes of problems.
5. a random variable that is calculated from sample data and used in a hypothesis test. (2 words)

Analyze Phase: Performing Hypothesis Testing



Across:

2. A technique that investigates and models the relationship between a dependent variable (Y) and independent predictors (Xs). (2 words)
5. The bi-variate relationship of two variables plotted on a graph in the form of dots (2 words)
8. a correlation coefficient commonly used in linear regression. (2 words)
9. a measure of the amount of variation that exists in a process. The variance is equal to the standard deviation squared. (2 words)
10. Coefficient that quantifies the relationship between two variables (2 words)

Down:

1. A change in the value of one variable does not have any effect on the value of the other variable (2 words)
3. Statistical tests used for validation of our assumptions. (2 words)
4. Attempts to model the relationship between two variables by fitting a linear equation to observed data. (2 words)
6. It compares the amount of variation between groups with the amount of variation within groups
7. A test also written as χ^2 test (2 words)

Analyze Phase : Quantification of Opportunity to Improve

¹	C	O	N	T	R	O	L	I	M	²	P	A	C	T	M	A	T	R	I	X
										A										
³	W	I	L	F	R	E	D	O	P	A	R	E	T	O						
											E									
											T									
											O									
											C									
											H									
											A									
											R									
											T									

Across:

1. 2x2 matrix used to selecting causes of high impact and control (3 words)
3. Founder of Pareto chart (An Italian economist) (2 words)

Down:

2. a type of chart used for prioritization (2 words)

Improve Phase: Generating and Screening Solutions

			¹ A	N	A	² L	O	G	Y									
						A												
³ S	C	R	E	E	N	I	N	G	T	E	C	H	N	I	Q	U	E	S
									E									
									R									
									A									
									L									
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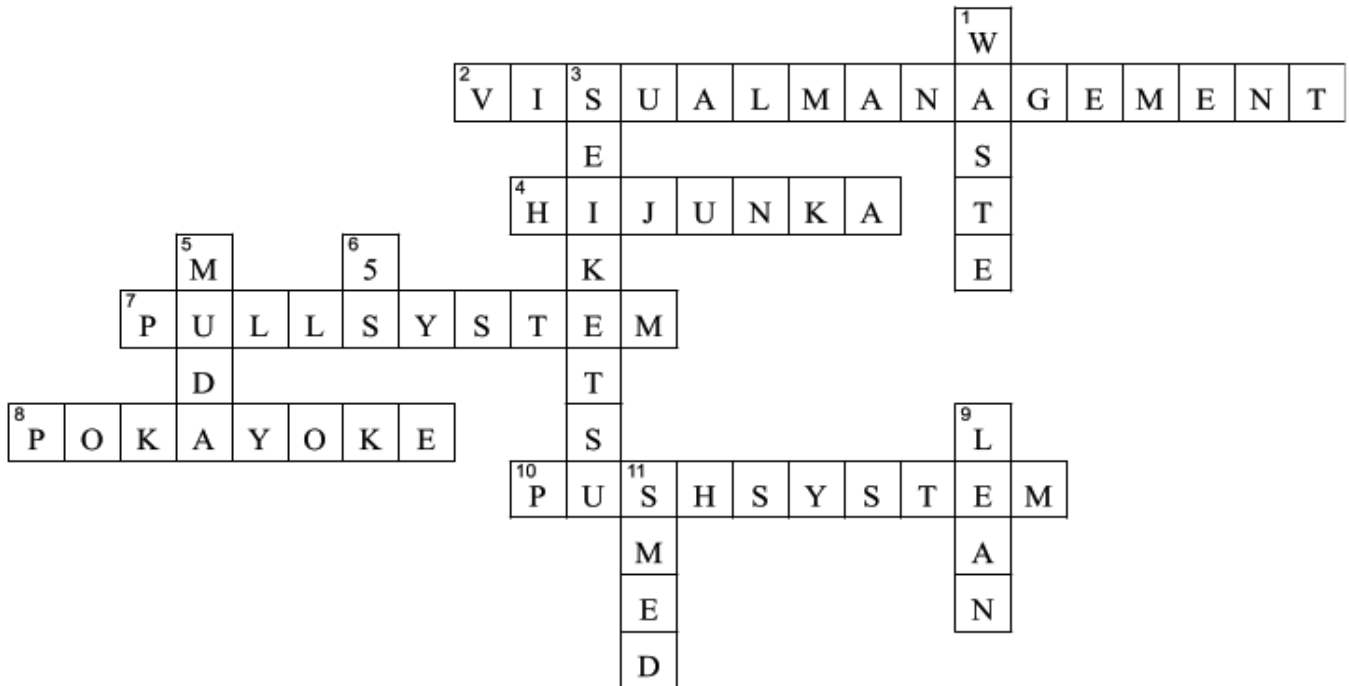
Across:

1. Compares two completely different things and look for similarities between two things or concepts and it only focuses on that angle.
3. Its involve interacting with a product with one or more physical or sensory abilities eliminated or modified. (2 words)

Down:

2. Solving problems through an indirect and creative approach, typically through viewing the problem in a new and unusual light. (2 words)

Improve Phase: Lean Management Systems



Across:

2. A way to visually communicate expectations, performance, standards or warnings in a way that requires little or no prior training to interpret.
4. A Japanese word that means Production leveling/smoothing.
7. A system only deals with what the customer's demands are.

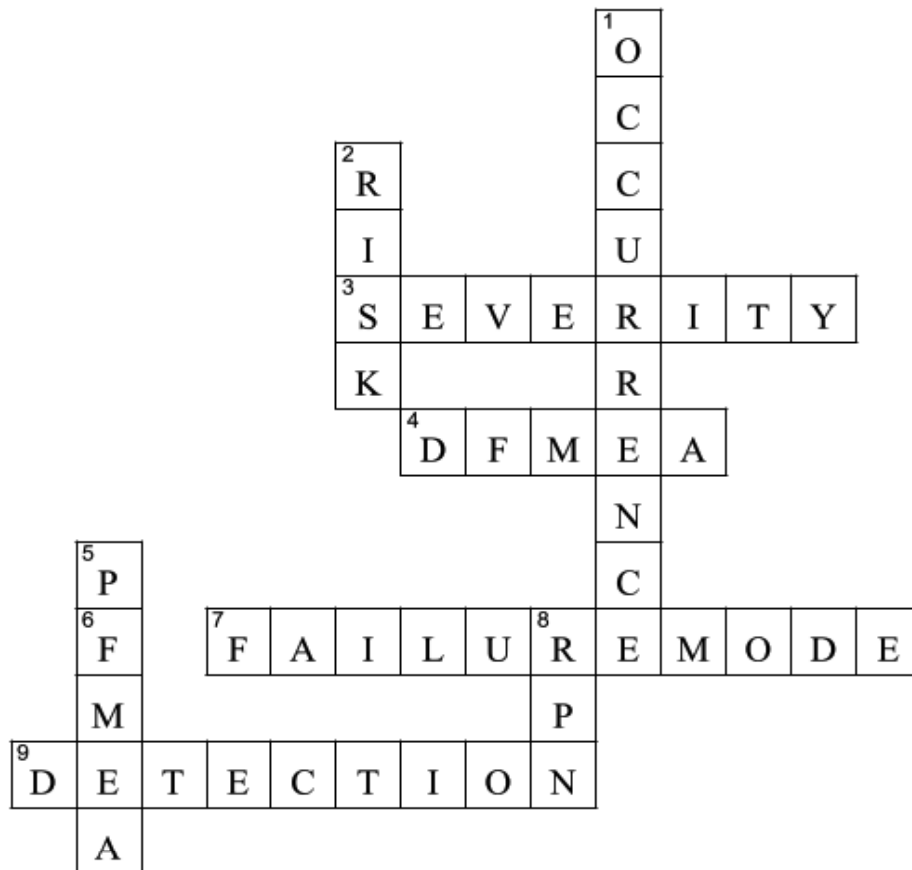
8. A Japanese term that means "mistake-proofing"
10. When manufacturing products, which means that they produce more products than they actually need.

Down:

1. It arises due to various factors such as rework, waiting times, over processing and production, or inventory, etc.,
3. 5S Japanese organization method composed of the terms: seiri, seiton, seiso, ____, and shitsuke
5. A Japanese __ is a term which is used for Waste.

6. A system for organizing spaces so work can be performed efficiently, effectively, and safely.
9. It focuses on analyzing workflow to reduce cycle time and eliminate waste
11. A system for dramatically reducing the time it takes to complete equipment changeovers.

Improve Phase: Failure Mode Effects Analysis (FMEA)



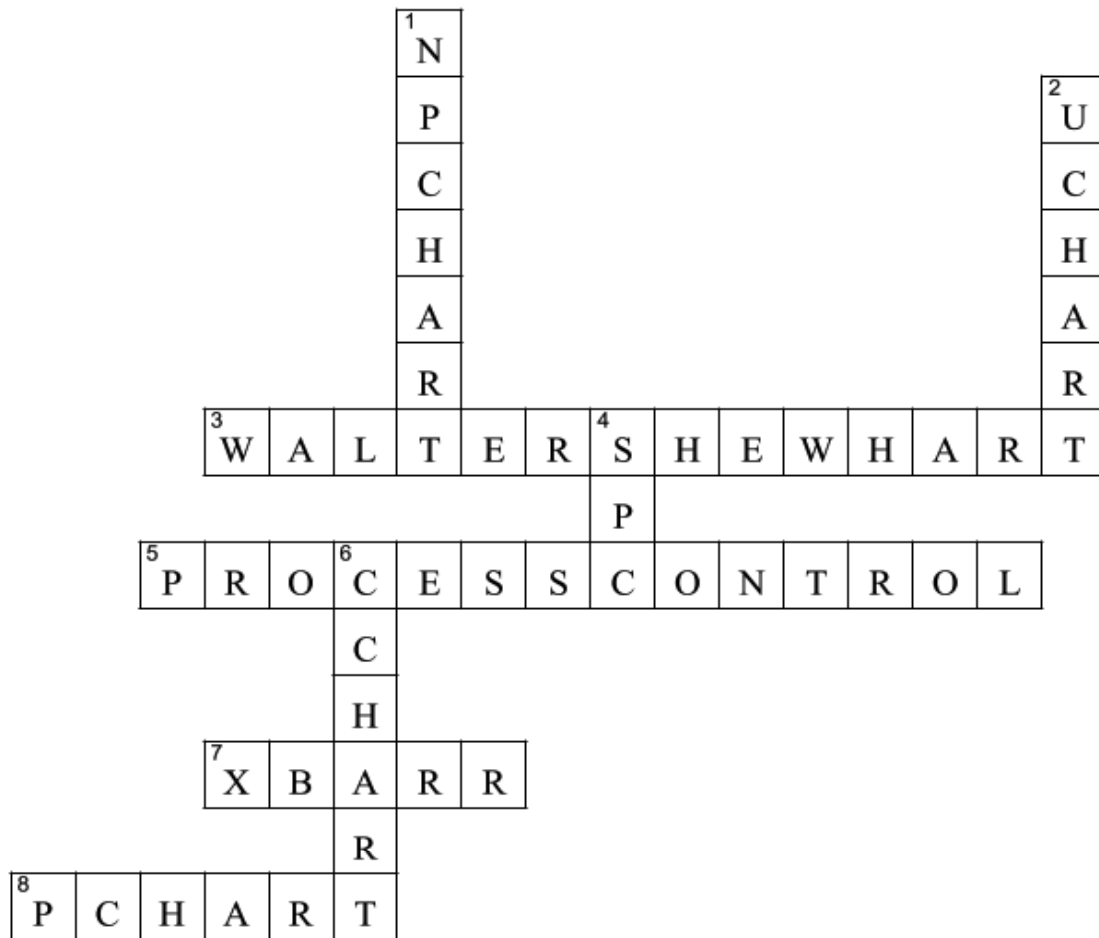
Across:

3. ___ scale is used for measuring the potential effect
4. FMEA used while developing new products/services
7. The mechanism by which failure happens (2 words)
9. ___ Scale is used for measuring the current controls mechanism

Down:

1. ___ scale is used for measuring the potential cause
2. ___ is usually associated with any Action leading to undesirable outcome or loss.
5. Process FMEA
6. A structured approach to discovering potential failures that may exist within the design of a product or process.
8. A composite risk rating given by a team based on the elements of risk

Control Phase: Statistical Process Control



Across:

3. Person who developed Statistical Process Control System (2 words)
5. An engineering mechanism that uses continuous monitoring of an industrial process operational variables (2 words)
7. Chart used for representing continuous data (2 words)
8. Chart used for representing defectives of variable sample size (2 words)

Down:

1. Chart used for representing defectives of constant sample size (2 words)
2. Chart used for representing defects with variable sample size (2 words)
4. Controlling process inputs and outputs based on statistical principles
6. Chart used for representing defects with constant sample size (2 words)