

Use Ben Franklin's Distribution Curves for Performance Monitoring and Fast Improvement

Let a Plant Wellness Way EAM System-of-Reliability End Your Business Risks Forever

Abstract

Use Ben Franklin's Distribution Curves for Performance Monitoring and Fast Improvement. Ben Franklin used statistical analysis to change his life. By measuring his 'gaining of Virtue' he quickly became rich and famous. You can change your business performance in the same way. But be cautious – Franklin's method changed his behaviour forever.

Keywords: distribution curve, performance monitoring, key performance indicator (KPI)

What Ben Franklin did to himself to change his life is legendary. He wrote about the method he used in his memoirs. When he was a young man a friend told him how obnoxious he was and that his behaviour would stop him becoming anyone of worth. Ben wanted deeply to make a difference. He saw it as Life's Duty to leave behind a better world and community.

To change his behaviour Franklin took it upon himself to adopt thirteen virtues to live by. The virtues Ben arrived at after extensive reading are listed in Table 1, along with the specific meanings he gave them. He ordered them so the prior ones would reinforce the adoption of the next.

No	Virtue	Definition (Ben called them Precepts)
1	Temperance	Eat not to dullness. Drink not to elevation
2	Silence	Speak not but what may benefit others or yourself. Avoid trifling conversations.
3	Order	Let all things have their place. Let each part of your business have its time.
4	Resolution	Resolve to perform what you ought. Perform without fail what you resolve.
5	Frugality	Make no expense but to do good to others or yourself: i.e. waste nothing.
6	Industry	Lose no time. Be always employed at something useful. Cut off all unnecessary actions.
7	Sincerity	Use no hurtful deceit. Think innocently and justly; and, if you speak, speak accordingly.
8	Justice	Wrong none by doing injustice or omitting the benefits that are your duty.
9	Moderation	Avoid extremes. Forebear resenting injuries so much as you think they deserve.
10	Cleanliness	Tolerate no uncleanness in body, clothes or habitation.
11	Tranquillity	Be not disturbed at Trifles, or at accidents common or unavoidable.
12	Chastity	Rarely use venery but for health or offspring; never to dullness, weakness, or the injury of your own or another's peace or reputation.
13	Humility	Imitate Jesus and Socrates

Table 1 Benjamin Franklin's List of Virtues

When Ben started his self-improvement program he knew what he wanted to achieve but needed a sure way to achieve it. What he did right, and it was most important for his success, was that he set himself a target for each virtue. He not only wished to be better, he defined what 'better'

looked like. He specified what he meant by each virtue. He set the correct performance of each virtue by describing what the ‘right’ performance was. Because the list was so extensive he realised it was impossible to adopt all virtues together. Instead he decided to focus on improving one virtue a week, leaving the others to circumstance. What he did next sealed his fate. Ben created a measuring tool to track himself. He ruled thirteen tables in his private journal, one page for each virtue. Across the top he put the initials of each day and down the side those of each virtue. Table 2 is an example. Unknown to him he had embraced statistical analysis to improve his performance.

Name of the Virtue for the week							
Virtue	S	M	T	W	T	F	S
T							
S							
O							
R							
F							
I							
S							
J							
M							
C							
T							
C							
H							

Table 2 Ben Franklin’s Virtues’ Recording Table

From 8pm to 9pm daily he would undertake the “examination of the day.” Virtue by virtue he marked a black dot for each of the times he had not met its defined target. Each week he turned to the next page of the journal and undertook the gaining of the next virtue; completing a cycle every thirteen weeks. At the end of each week and cycle the number and density of dots in the table reflected his success—no dots meant excellent performance of a virtue and many dots signified a weakness. He continued his self-improvement program for some years, gradually decreasing its use as he saw his desired behaviours become his normal behaviours. Franklin freely admitted he still had faults and never reached the level of control he first envisaged. But it was his “project of arriving at moral perfection” that he credits for the successes he had throughout his long, fruitful life.

Before undertaking the ‘project’ Franklin was not respected nor liked. He was shunned by others because of his repugnant ways. He was not all bad, but he was more abhorrent than he was excellent in character. The distribution curve of the frequency of his behaviours would have plotted towards the abhorrent end of conduct. This can be represented by a distribution plot of observed outcomes—as shown in the upper curve of Figure 1. A distribution curve is a statistical method that graphs how often an outcome happens. A bell curve is also called a normal distribution. Its maximum density of occurrences is around a central mean. Franklin’s early behaviour had a density of events at the unpleasant end of the spectrum. He knew that his virtues were skewed because people told him that he was an unpleasant young man. The lower curves in Figure 1 are the individual virtues Franklin desired to gain skewed to the negative of behaviour.

By choosing to gain the thirteen virtues it is evidence that Franklin believed his outward behaviour was the sum of all virtues acting together. His public behaviour would reflect the man inside, which would be the holistic effect of all the qualities he adopted. Ben hoped that by faithfully mastering good virtues he would forever change his behaviour for the better.

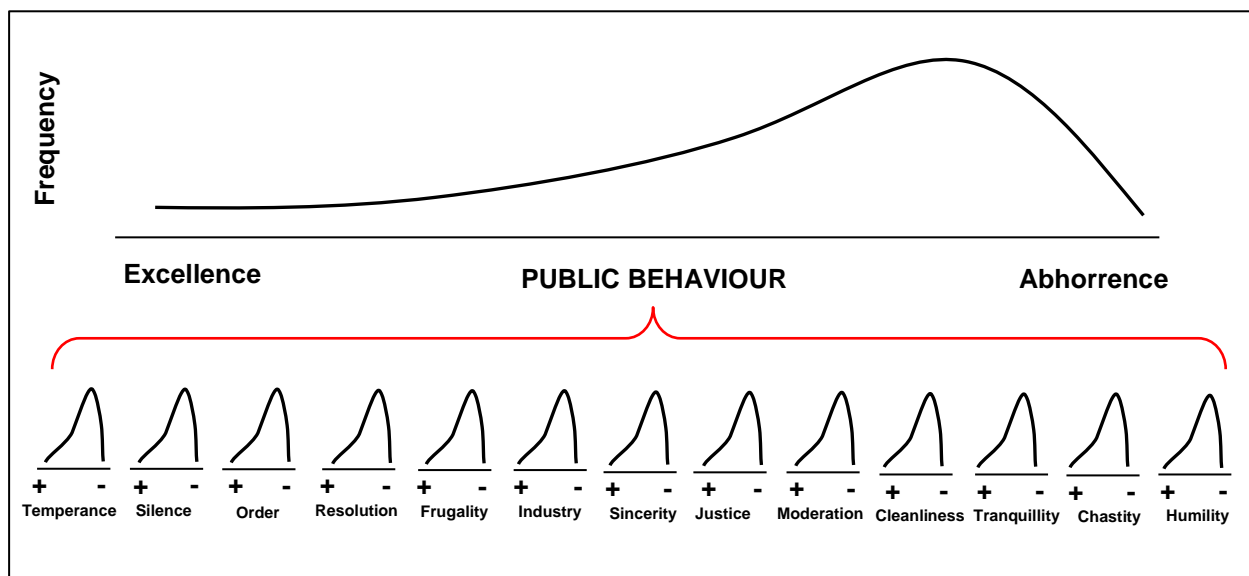


Figure 1 Distribution Curve of Ben Franklin's Original Behaviour

Ben started his 'project' and each day focused on doing the week's precept to the set level of performance. Every night he recalled the day's deeds and measured them on each virtue. At the end of each week and each cycle the number and frequency of black dots made it clear if he was gaining on his goals. The evidence from his data was undeniable. Where the density of dots indicated a problem he looked for ways to address it. When a strategy was not working he innovated a new solution.

Instead of leaving his virtues to chance he worked on controlling them. Eventually Franklin created a new outward behaviour and moved his nature well towards performance excellence (represented by Figure 2). He started a printing business; he wrote and published Poor Richard's Almanac containing insights into human behaviour that are still quoted today; by midlife he was independently wealthy; in his later years he helped to create the United States of America and has been loved by that nation ever since. When he died in 1790 he was highly respected internationally for his political and scientific endeavours. Ben's improvement program was a great success.

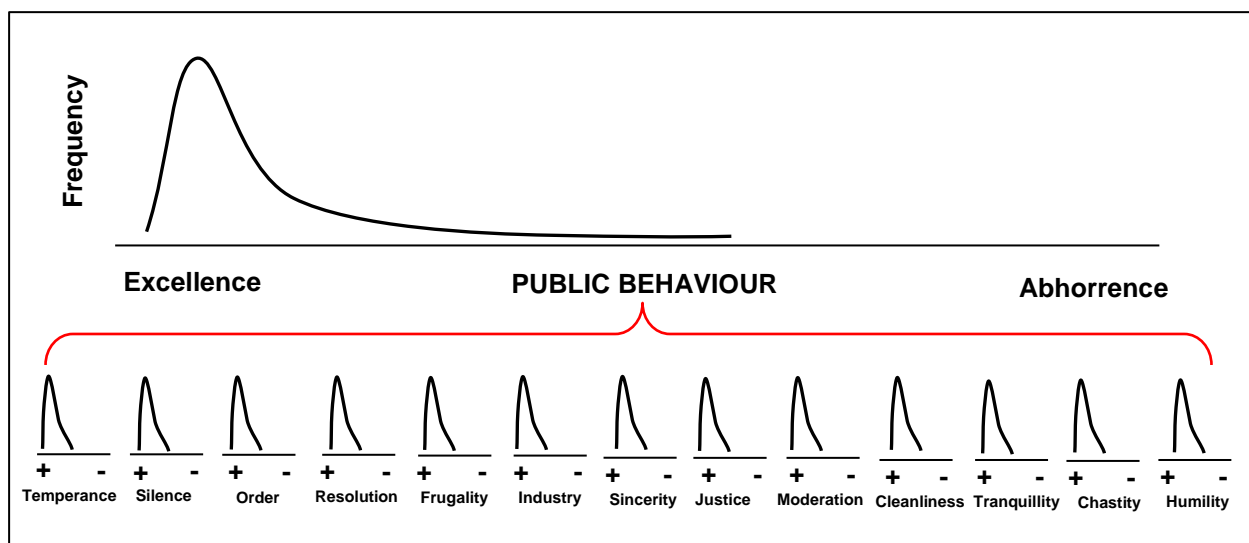


Figure 2 Franklin's Desired Performance Distribution Curve

How the Personal Improvement Project Changed Ben Franklin's Life

Every night Franklin thought about how he could become better at hitting his targeted performance. The nightly 'examination of the day' measured the effectiveness of his efforts to control what he did. Each black dots was evidence of failure. The density of dots warned him if he was falling too far short in gaining a virtue. The concentration of dots was a measure of failure frequency. His memory was excellent and he would have recalled how he had performed with a virtue during previous cycles. Through mental performance modelling of the day's data and memories of past failures he would have 'seen' a virtue's distribution curve in his imagination. When it was ineffectual it force himself to innovate a better solution to use if similar circumstances again arose. Franklin used statistical analysis to direct his efforts— perhaps without knowing it, though he was a bright scientist. Figure 3 shows what Franklin did to his outward behaviours through the statistical analysis of his virtues' distribution curves.

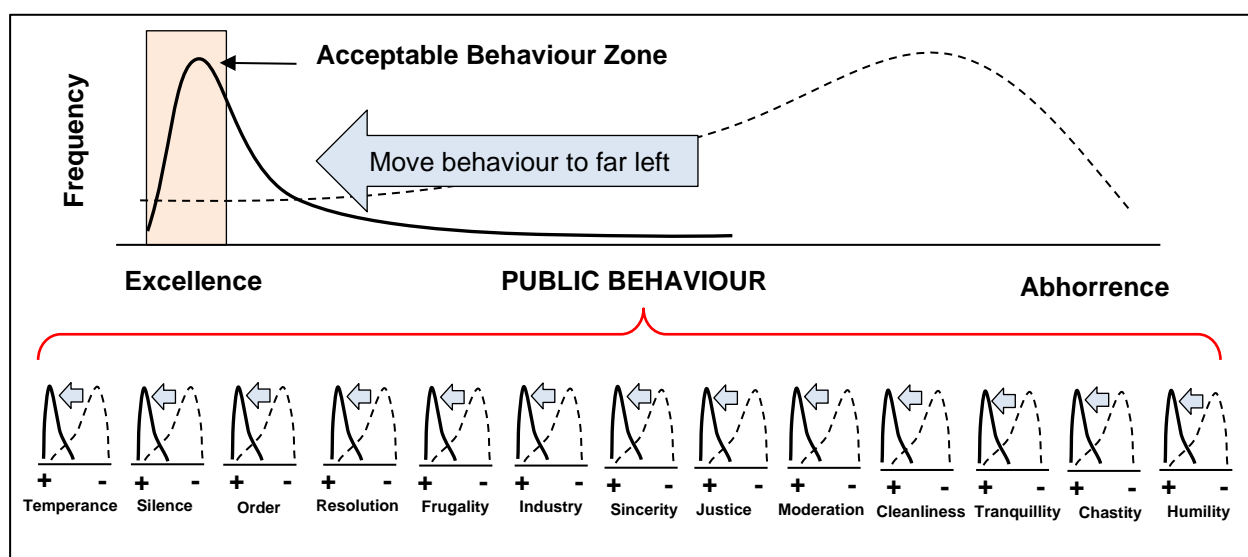


Figure 3 The Effect of Setting Quality Standards for Each Virtue

Ben found a way to control his public performance by controlling the distribution curve of his personal virtues. He altered the frequency of using good virtues together with proactively preventing their opposite. By doing what was virtuous he sculptured new behaviours and a celebrated life. His 'target – measure – correct' project solution let him change the shape of a virtue's curve. From originally reacting to circumstances, his focus on doing what was virtuous let him change his circumstances. Today Franklin's targets would be called quality standards.

Setting a required quality performance target for each virtue and measuring each day how close he was to it let Franklin rapidly refine his strategies and practices. By defining clearly what each virtue looked like, Franklin knew when he did or did not meet a performance standard. He had a clear mental picture of a 'bullseye' for each virtue. Without really understanding the psychology of what he had done, he had invented the means to 'home-in' on the results he wanted. All he had to do was to keep practising until he became an expert at hitting each target.

You can do for your business exactly what Franklin did for his life. (And for his business too!) Today we would measure how many times the right behaviour was done each day instead of how many times it was not done. Our awareness of the best psychological triggers to use are far advanced from Franklin's time. You aim for what you want. You do not try and miss what you do not want. Franklin should have measured when he used the virtues excellently each day and not when he did not use them. The dots in the cells should have represented successes. The more

success dots placed each day, the more strongly developed was the virtue. He would have seen in his mind's eye the distribution curves moving towards excellence and been positively energised to get success sooner.

We have taken Ben Franklin's performance control method further and created the Accuracy Controlled Enterprise 3Ts of quality assurance—Target, Tolerance Test. In Figure 4 you see the same principle used by Franklin to alter his performance distribution. The ACE 3Ts define the allowed performance distribution curve. Once the 'tolerance range' is set it is the minimum required specification. Additionally you establish a bullseye with a more precise 'target range'. The Target is the best result you want. Once you set a target to hit you have directed human psychology and created the human drive to innovate until successful. People will naturally take up the challenge of producing the best result required. Without understanding why or how it happened your people will start giving your world class performance. That was what Benjamin Franklin did for 'the gaining of Virtue'.

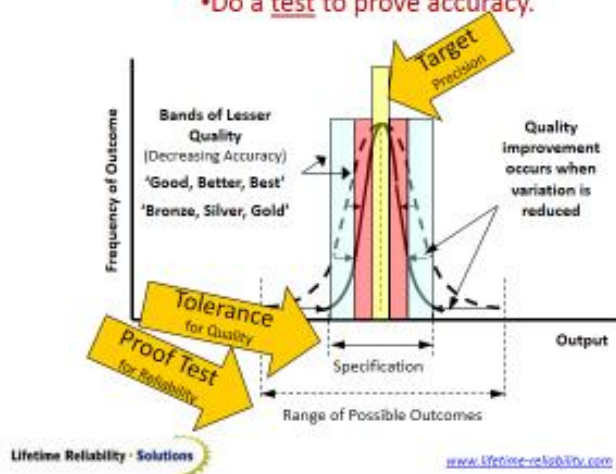
PEW SOLUTION: Develop and Use Reliability Creating ACE 3T Error Proof Procedures

Build ACE 3T Mistake Proofing into SOPs

- Set a target for each task.
- Specify the acceptable tolerance.
- Do a test to prove accuracy.

3Ts of Failure Prevention...

. Target
. Tolerance
. Test



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Figure 4 Controlling Distribution Curves with ACE 3T Target – Tolerance – Test

The very best to you,

Mike Sondalini

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