

Lesson Four: Customer Profitability and the Variation Principle

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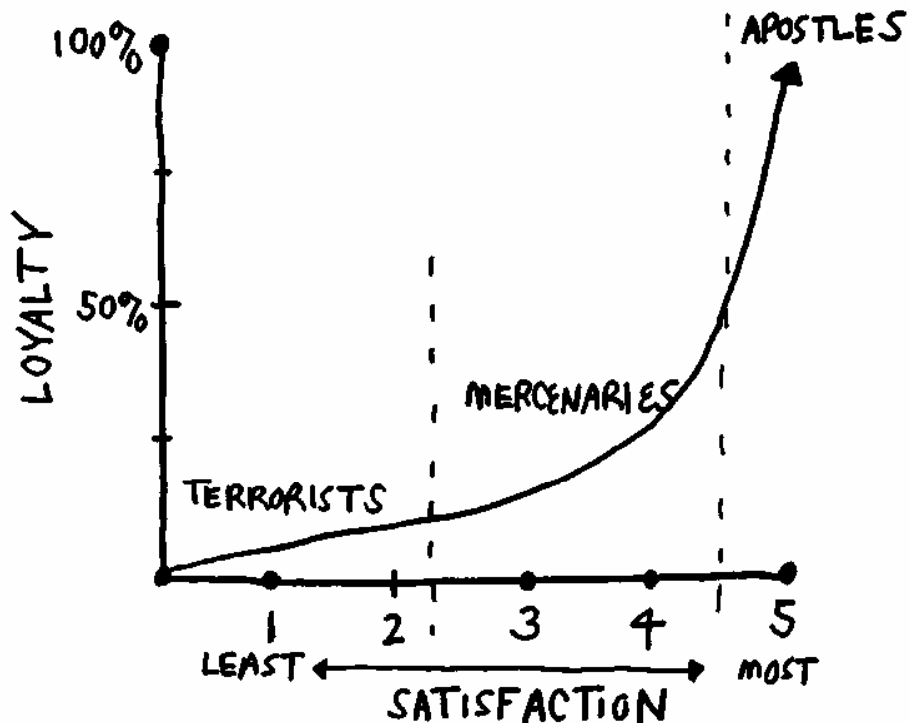
A. Key Learning Points

1. Customer satisfaction can be misleading.
2. You can not and should not satisfy all customers.
3. All customers are not equal.
4. Customer profitability may be more important than customer satisfaction.
5. Unreliable measurement methods are dangerous and expensive.
6. You can not measure accurately without a clear, agreed upon “operational definition” of what you are measuring.
7. Variation happens.
8. Management is responsible for understanding variation in performance.
9. Trends and patterns of performance are more important than individual events.
10. A run chart is a quality tool that illustrates variation and trends in business performance.

B. Real World Examples and Considerations for Practitioners

1. Although a customer may be satisfied with your current products and services, this is no guarantee that the customer will purchase future products and services. Customer retention and loyalty occurs when businesses consistently exceed customer expectations. Delighted customers will not only remain loyal to your business, they will refer new clients. Satisfied customers will always be looking for a different or better deal. When you are merely satisfied, it’s likely your purchase decision may be influenced by price, salesmanship, or convenience. Businesses that merely satisfy customers must continuously resell their products and service. Businesses that consistently delight their customers, in many cases, have sold and will retain their customer for life.

The figure below, based on research initiated by Xerox, illustrates the correlation between customer satisfaction and customer loyalty. The figure shows that customers are mercenaries that will shop for a better or different deal, unless their level of satisfaction with your business exceeds 4 on a 5 point scale (with 5 = Very/Most Satisfied)



2. Satisfying some customers can cost more than it is worth. When you expend too much energy and resources on a small segment of customers who may never be pleased with your business, you are risking the quality of services you are providing your best customers. You also are driving up the cost of business unnecessarily which in turn impacts the price or your goods and services for your loyal customers and the earnings for your shareholders.

Nordstrom is a high-end retail department store. It is famous for extraordinary service and world-class clothing and household goods. Its salesforce are hired, trained, and encouraged to do extraordinary things for Nordstrom's discerning clients. Nordstrom has cultivated a culture that celebrates stories about employees who exceeded its highest expectations for service. This is one of many famous Nordstrom stories:

On a Saturday morning in a newly renovated mall in the Pacific northwest, a customer walked into a Nordstrom store. He was rolling an automobile tire and he clearly was not happy. A Nordstrom employee greeted the "customer" and inquired both about the tire and the source of the customer's dissatisfaction. It turned out, the man had purchased the tire 10 months ago at a Sears Auto Center once located at the mall. He had returned to have the tire repaired under warranty and was angry to discover that Nordstrom had expanded its store by leasing the space that Sears had vacated. The Nordstrom employee ended up accepting the Sears tire as a "returned item" and paid the angry customer the estimated value of the tire. Nordstrom subsequently hung the tire in the employees lounge/break area as a symbol of Nordstrom's exceptional commitment to pleasing customers.

When I first heard this story, I agreed that Nordstrom truly was an extraordinary company with a world class customer focus. Today, I'm more inclined to think that Nordstrom would have been better advised to

refer the customer elsewhere or locate the nearest Sears Auto Center for him. By accepting the tire, the company was adding cost to its operation, distracting its salesforce from servicing its most valuable customer, and empowering a customer who had unreasonable expectations.

Do you have a customer who will never be pleased? I'd recommend you graciously express your regret that your business clearly is consistently unable to meet the customer's needs, and politely suggest other businesses that might provide services better suited to the customer's expectations. We tell our clients that it's far better to "fire" customers who are unappreciative, chronic whiners. They simply are not worth the energy or effort they demand.

3. In our democratic nation we typically are inclined to emphasize equity and fairness. We believe that we should not discriminate among our customers when it comes to service. We also tend to believe in first come, first served.

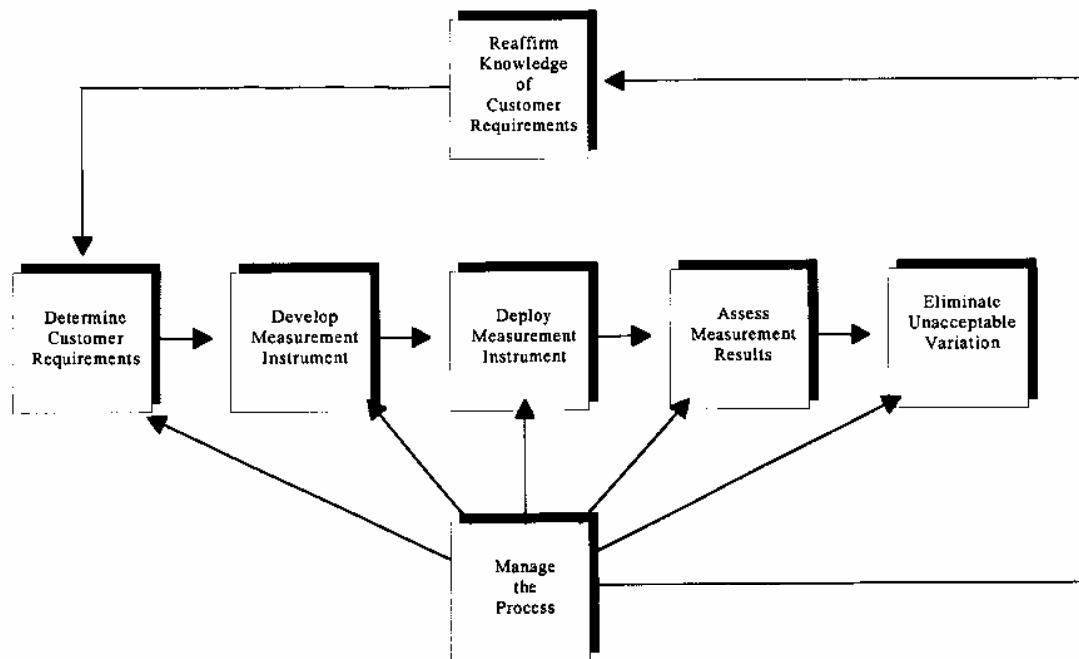
On the other hand, businesses must be able to distinguish their highest volume and most profitable customers from their occasional, low volume customers. It makes little sense to ignore the reality that 20 percent of most business's customers are responsible for 80 percent of its income and earnings.

While maintaining a baseline level of service for all customers, high performing businesses increasingly are catering specifically to their "preferred" customers. Airlines were among the first companies to profit from this approach through their frequent flier programs. Supermarkets now are obviously adopting a similar frequent shopper program. Banks too are distinguishing services and, in some cases, penalizing customers for non-profitable, cost-intensive transactions.

Be forewarned – this approach of distinguishing and customized services especially for selected customers is sometimes controversial with service employees who believe that it is unfair, discriminatory, and – in some cases – unethical. Your low volume, occasional customers, likewise, will complain about lack of preferential treatment. But your high-end customers drive your business and, in most cases, subsidize services for the occasional customers. They deserve special recognition and customized service. They also will pay you for it. For example, a first class airline ticket typically costs 3.5 times as much as a coach ticket.

4. Throughout this course, we are emphasizing the importance of quality measurement as an essential element in any quality improvement initiative. Measurement, however, is only valuable when it is accurate and reliable. Data that is incorrect or manipulated to validate a predetermined bias or decision is costly and potentially dangerous.

The figure below illustrates a quality measurement approach. It is important to assure reliability and accuracy throughout the measurement process.



5. These are some reasons why measurement is unreliable:

- a. People collecting the data do not have an agreed upon a clear, consistent “operational definition” of what they are measuring. For example, when you are buying a piece of new furniture or repainting your automobile, how do you define a “scratch?” Is it a scratch if it is not visible from a distance of 3 feet? Is it a scratch if you can see it when it is magnified using a glass or a lens? Is it a scratch if it occurred in the customer’s home when he was unpacking the box? In this case, it is crucial for the business and customer to agree on an operational definition of a “scratch.” Perhaps we can agree that a scratch is any mark on a new product that varies from the manufacturers specification and is visible without unusual magnification at the time when the product is received by the customer. Another good example of differences in operational definition occurs in supermarkets that have express check-out lanes for customers with 10 or 12 or 15 or fewer “items.” Because we do not have an agreed upon definition of “item”, it is impossible to manage this process consistently.
- b. People collecting the data use different measuring instruments. If the measurement instruments are not calibrated the data will be unreliable. A good example of this is timekeeping – if our watches are not initially set to the same time, our definitions of being “on-time” will differ. Another example of this is subjective grading of student or employee performance. If we have not clearly defined and communicated standards and criteria for performance, it will be difficult to manage consistently and fairly.
- c. The environment has changed or is different. In some instances, altitude, weather, temperature, wind, and humidity will impact performance measurements. This is why some track and field world records are invalidated by pre-agreed upon environmental conditions such as altitude and tail wind. Likewise, volume of customer demand and variation in staffing levels will effect performance. In some businesses it is impossible or unfair to compare productivity or performance of different “shifts” because customer demand and working conditions are quite different on the graveyard shift than they are at midday.

- d. The data is manipulated to validate a predetermined or political decision or position. It's sometimes said that "Figures don't lie; but liars do figure." Sadly, manipulation of statistics, financial accounts, and political information occurs too frequently. While it may have some short term value, its long term impact is most often disappointing at-best.
6. In our increasingly complex and global community, it is important to recognize and accept the fact that variation is a fundamental, necessary, and valuable daily reality. Variation happens and it is impossible and undesirable to deny it. As much as we may prefer and strive for order and conformance, we must increase our tolerance, understanding, and appreciation of diversity and variability.

There are too many diverse individual elements, actions, and variables that contribute to any one event or transaction for us to effectively isolate and control each and every element, There are too many events and transactions in each of our daily lives to effectively isolate and manage each and every event. We can not afford to micro-manage our personal, civic, or professional lives. We need, instead, to better understand and manage patterns and trends that influence and direct longer term results.

One of our first clients had an extraordinary personal commitment to quality and customer satisfaction and a relatively undeveloped understanding of variation. As CEO, he insisted on personally investigating all shipments of goods that exceeded his rather arbitrary standards for timely delivery. At the end of each day, he received a report of all "late" deliveries. He subsequently inquired about the cause of each late shipment. He did not see the variation or trends in performance because he viewed every transaction as an isolated event. On some days, he was spending as much as 3.5 hours conducting these inquiries. He was the a classic, micromanaging quality inspector. And his business was not improving – in fact, it was getting worse.

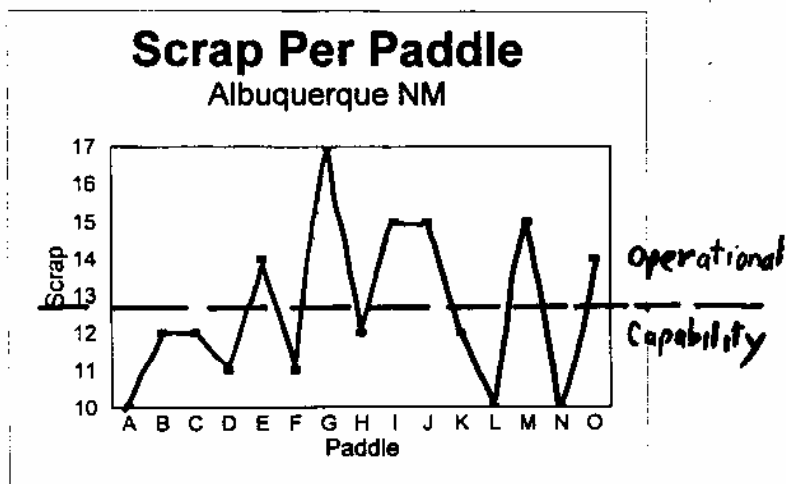
After discussing the costs and the dangers of micro-management (however well-intended) and introducing some basic principles of variation and trend analysis, we began to chart trends in late shipments by type of product and by day of the week. The CEO began to see that late shipments tended to occur most on Wednesdays and with goods purchased from one supplier. He consequently focused his management efforts on strengthening his supplier partnership and on managing weekly demand for Wednesday products. He was no longer micromanaging. He was managing broader patterns of performance variation. And his business improved significantly.

Here's another more personal example: If I am late one day, it is a special or isolated event. If I am late two consecutive days, there may be a pattern emerging here that we should address. If I am late three consecutive days, it's becoming clear we have a systematic issue we need to discuss.

One data point tells us nothing about variation. Two data points tell us little. Three data points begin to tell us more. We need to understand individual events and individual performance in the context of broader patterns and trends.

7. Quality businesses use run charts to illustrate variation and trends in business performance. For example, you will find run charts in the business section of the daily newspaper that show annual, quarterly, and weekly performance of major stock fund indexes. For most investors, the long term patterns and forecasts for financial performance are what matter most. Daily variation in stock prices only become alarming when there is a sustained negative trend over one or more business quarters.

The figure below is a run chart that shows the total scrap or defects per paddle that were produced by students at a recent Red Bead Experiment. Each letter (on the horizontal axis) represents one paddle of beads; the vertical axis shows the number of defective beads (scrap) per paddle. The data tells us that defects vary between 10 and 17 per paddle. Variation appears random – there is no apparent performance trend. The “operational capability” of this process is approximately 12.6 defects per paddle. As a manager, you could look at this data and predict the variability and scrap of future paddles. Any changes that you make to the production process will impact the variation and capability of the process. If the changes that you make are positive, the run chart will show that the process variation and operational capability (average scrap per paddle) have decreased.



The Red Bead Game is explained in greater detail in BA 101, in Chapter 7 of Deming’s *New Economics*, and in Chapter 4 of Walton’s *The Deming Management Method*.

C. Recommended Reading Assignment & Highlights – All selections are from Deming, *The New Economics*

Chapter 4: A System of Profound Knowledge

“The individual, once transformed, will:

Set an example

Be a good listener

Continually teach other people

Help people to pull away from their current practice and beliefs and move into the new philosophy without a feeling of guilt about the past”

“Statistical calculations and predictions based on warped figures may lead to confusion, frustration, and wrong decisions.”

“A system is a network of interdependent components that work together to try to accomplish the aim of the system. A system must have an aim. Without an aim, there is no system.”

“The greater the interdependence between components, the greater will be the need for communication and cooperation between them ... Failure of management to comprehend interdependence between components is in fact the cause of loss from use of M.B.O. (management by objective). The efforts of the various divisions in a company, each given a job, is not additive, Their efforts are interdependent. One division, to achieve its goals, may, left to itself, kill off another division.”

“Thus, each of the 140 players in the Royal Philharmonic Orchestra of London is there to support the other 139 players. An orchestra is judged by listeners, not so much by illustrious players, but by the way they work together. The conductor, as manager, begets cooperation between the players, as a system, every player to support the others.”

“The obligation of any component is to contribute its best to the system, not to maximize its own production, profit, or sales, nor any other competitive measure. Some components may operate at a loss to themselves in order to optimize the whole system, including the components that take the loss.”

“The people that work in any organization know what they are doing, but they will not by themselves learn a better way. Their best efforts and hard work only dig deeper the pit they are working in. Their best efforts do not provide an outside view of the organization ... Again, a system can not understand itself. One may learn a lot about ice, yet know very little about water.

“Management is prediction. The theory of knowledge helps us to understand that management in any form is prediction. The simplest plan – how may I go home tonight – requires prediction that my automobile will start and run, or that the bus will come, or the train.”

“I repeat here Norb Keller’s famous statement made on 8 November 1987 in a meeting at General Motors: ‘If General Motors were to double the pay of everybody commencing the first of December, performance would be exactly what it is now.’”

“No one, child or grown-up, can enjoy learning if he must constantly be concerned about grading and gold stars for his performance. Our educational system would be improved immeasurably by abolishment of grading. No one can enjoy his work if he will be ranked with others.”

“Everyone that I work with could get higher pay in some other company. Why does he stay here? He stays here because he likes it here. He has a chance to use his knowledge for the benefit of the whole system. He takes joy in his work.

D. Additional Resources and Links to Others Sources

Evans, James R. *Statistical Process Control for Quality Improvement: A Training Guide for Learning SPC.* (Prentice Hall, 1991)

Gleick, James *Chaos: Making A New Science* (Penguin, 1988)

Slywotzky, Adrian J. and Morrison, David J. *The Profit Zone: How Strategic Business Design Will Lead You to Tomorrow’s Profits.* (Times Business, 1997)

Stack, Jack *The Great Game of Business.* (Currency Doubleday, 1992)

E. Questions for Reflection and Discussion

1. How can customer dissatisfaction be beneficial to a business? Give an example.
2. What are some factors that contribute to unreliable measurement? Give an example.
3. What are the costs of unreliable measurement? Give an example.
4. Why is it essential for managers to understand variation? Give an example.