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HOW FINANCE CAN DESTROY COMPANY VALUE

The best advice for any organization is to validate that key performance metrics include more operational than financial metrics and that these metrics reflect customer satisfaction, responsiveness, productivity, safety, and financial performance organizational sectors.

GARY KAPANOWSKI

In his 1989 hit "Runnin' Down a Dream," Tom Petty sang: "Yeah runnin' down a dream; that never would come to me; workin' on a mystery, goin' wherever it leads; runnin' down a dream."[1]

According to William Levinson, there is a divergence in corporate strategy from an operating and financial reporting point of view, which leads to misallocation of the resources utilized to produce decision-making information.[2] When an organization is focused primarily on finance-based metrics, like bank covenants, compliance with IRS or SEC regulations, and other guidance for exporting goods or services outside the country, suboptimal performance is a guaranteed result. This article will address why this occurs and how we can prevent this from happening in our organizations. In keeping with our Tom Petty theme, organizations need to lead with focused goals and metrics that direct employees toward optimal performance. Optimal performance can be achieved by using lean manufacturing and just-in-time strategies. Reviewing the history of these strategies can provide insight on optimal performance, which can trace their roots to the early stages of the Industrial Revolution and Ford Motor Company.

Why do corporate strategic performance indicators include financial metrics?

In the early days of the Industrial Revolution, most performance metrics were nonfinancial. The premise was that tracking the operations or work that added value to the product or service would determine whether the company would become profitable or not profitable. Tracking financial measures can distort the value added to the customer and provide inaccurate information for decision-making. One noteworthy quote from Henry Ford's autobiography is: "Finance is given a place ahead of work and therefore tends to kill the work and destroy the fundamentals of service."[3] To avoid placing too much emphasis on financial metrics, we must ask the following questions of any corporate measurement strategy: How many and what percentage of the

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top key performance indicators are financial? Are any operational metrics used as a leading strategic indicator, such as on-time delivery, performance to takt time, or inventory days on hand? Are scrap, rework, and customer returns part of the top strategic metrics? Misallocation of performance focus can drive dysfunctional operational behavior, producing suboptimal performance.

The true cost of inventory. If the organization produces more inventory than it can sell within one year, there are unintended risks, such as selling for less than cost, not selling inventory at all, and idle cash. This idle cash is what early lean manufacturers, like Henry Ford, understood as the carrying cost of inventory: high inventories, longer cycle times, and interest to borrow the cost of inventory. An example noted by Henry Ford was how extended cycle times produced longer lead times, which tied up cash with the inventory for longer than necessary. This also disconnected the organization from the customer due to less responsiveness to customer needs as a result of the increased time duration. These industrialists identified the competing goals of finance and operation. As an example, finance tries to lower cost by lowering purchasing costs, while operation tries to produce the customer order as fast as possible. In Henry Ford's autobiography, he described the birth of just-in-time production: "The only way to keep out of trouble is to buy what one needs—no more and no less. That course removes one hazard from business."[4] This emphasizes the importance of reducing inventory and variation in the production process, key components of lean manufacturing.

MISALLOCATION OF PERFORMANCE FOCUS CAN DRIVE DYSFUNCTIONAL OPERATIONAL BEHAVIOR, PRODUCING SUBOPTIMAL PERFORMANCE.

The true cost of labor and overhead. Various examples are used to indicate the marginal cost factor of accepting new work for an organization. The main issue is the treatment of nonmaterial costs. The organization must pay for the material costs of the new customer order, but are labor and overhead also included? If labor is idle, marginal cost analysis will indicate that labor cost is already going to be paid regardless of whether the new order is accepted; thus, it is considered a sunk cost (i.e., not included in the calculation of accepting the customer order). This same approach is used for overhead unless costs associated with the customer order can be attributable to the new order, such as additional electricity. Henry Ford considered this the "loss of idleness," or what we consider today as opportunity cost.

Finance metrics are meaningless to operation. Depreciation, return on investments, and return on assets are financial metrics that are meaningless to operation. In production, cycle time is a key performance indicator that verifies how efficient and effective organizations are producing product with their resources (i.e., people and machines). Ford also suggests using replacement value rather than book value for building and equipment.[5] If the asset is being used, it has value to the organization and is not "free of cost" as the finance calculation would suggest for a fully depreciated asset. Such assets can produce poor business decisions since the asset's cost or value to the organization is not really its book value but rather what it would cost to replace it. This view incorporates new equipment opportunities for the organization for true comparison with competitors and best-in-class operational performance metrics indicating where the organization stands compared to various baselines in the industry.

Offshoring is expensive. The desire for cost reduction results in offshoring due to its lower per-hour cost. This doesn't consider the cost of the extended supply chain (i.e., the increase in defect, lead time, inventory, and risk for production disruption). Reviewing the total supply chain allows understanding of the total cost of the product. This can be calculated by the cost accounting and risk management areas of the organization. Ford also addresses the nonquantifiable aspect of the offshoring decision. His analysis places the responsibility of suboptimal performance on management. Using labor as a lever for directional

EXHIBIT 1 Eight Wastes: The Real-life Obstacles Preventing an Organization from Profitability

1.	Transportation	Unnecessary movement of material or product
2.	Inventory	Material or product that is used to cover for inefficiencies
3.	Motion	Unnecessary movement of people; multiple handoffs
4.	Waiting	Elapsed time between processes when no work is being performed
5.	Overproduction	Producing more than customer requirements, service not needed
6.	Overprocessing	Adding unnecessary steps to a process; redundancies between process
7.	Defect	Anything that does not meet the accepted customer requirements
8.	Resources	Demotivating the workforce by not asking for input or recognizing success

adjustment during a depression is the easy way out for management and an "inhuman way" for course adjustment.[6] Thus, management must share the blame.

Preventing suboptimal performance metrics from controlling corporate strategy

With the development of the Ford Rouge plant in Detroit and production of the Model T vehicle in 1908, the 20th design over a five-year period established production metrics.[7] These metrics were also adopted by both Taiichi Ohno and Eiji Toyoda, founders of lean manufacturing. With this understanding, the real metrics for all organizations are not the typical financial metrics but metrics based on time, energy, and material. This is best described by Ford: "Time, energy, and material are worth more than money, because they cannot be purchased by money. Not one hour of yesterday, nor one hour of today can be bought back. Not one ounce of energy can be bought back. Material wasted, is wasted beyond recovery. These things are in the front ranks of values. They are the precious elements out of which all wealth is made."[8]

Waste of time. Time wastage refers to the overall waste by management improperly utilizing the resources of the organization. This includes both people and equipment. Performance metrics that measure waste of time include wasted motion, waiting for parts or equipment (resulting in idle time), and excess inventory produced.

Waste of energy. Waste of energy refers to the waste of performance on products not required by the customer, such as the inclusion of unnecessary process steps.

Waste of material. Waste of material refers to the waste of scrap, material reworked, and overprocessing of material not required by the customer.

Examples of optimal operational key performance indicators

There are many operational metrics to assist organizations with optimal performance. The eight wastes (Exhibit 1) provide a sound starting point for implementing appropriate operational metrics for any organization; specific examples are provided in the following sections for each of the eight wastes, and will provide direction for any management team in implementing foundational performance indicators without financial interference. Overall, there is no standard industry ratio of financial to operational metrics that is required for optimal organization performance. The best advice for any organization is to validate that your key performance metrics include more operational than financial metrics and that the metrics used reflect customer satisfaction, responsiveness, productivity, safety, and financial performance organizational sectors.[9]

The eight wastes

Transportation. The transportation of material across the supply chain outside

of the production value-added location extends the cycle time of production to create waste. Comparing the cycle time for the item produced to standard cycle time without transportation will indicate any unnecessary cost or the cost of poor quality (COPQ) (i.e., the amount the customer is unwilling to pay).

Inventory. High levels of inventory indicate the production of more product than the customer requires. Total inventory days on hand will confirm how much inventory is in the organization and the carrying cost of that inventory. Another metric is inventory turns compared to industry best in class, which indicates excessive carrying cost and total production level of excess inventory. Since quality deteriorates over time, tracking inventory write-offs yearly will also indicate the COPQ of excessive inventory.

Motion. Motion not directly related to adding value is unproductive. One example of motion waste is an employee walking unnecessarily to obtain tools or information from a co-worker. To track this cost, management can ask employees to track this time as non–value added activities and charge the time to a specific indirect overhead charge account to monitor and control motion waste as a trend indicator.

Waiting. Waiting is the most prolific area for waste in any organization. This includes waiting for information or parts to be processed by an employee. One example metric that reflects waiting is overhead charge time compared to a budget cost or standard percentage figure. Another great metric is performance to takt or task time. This reflects the overall manufacturing process, including the total demand of the customer and the available time of the employees and/or equipment. The basic question is whether the production process can meet the production takt or task time. If this does not occur, the issue of wait time is the first to consider. Using the systematic problem-solving process known as the 5 Whys, employees can identify the root cause for each error and assist with developing a solution so that the error will never occur again.[10] This can be quantified as the number of errors and dollar amount investigated, number of errors and dollar amount solved, and number of errors and dollar amount corrected. Adopting these metrics will indicate the continuous improvement activity and maturity level of the organization's lean transformation.

Overproduction. Overproduction reflects operation getting ahead of the production schedule and the task time of the process. This is the most crucial metric of all lean operations since this produces inventory waste. This issue also reflects poor yield of product from the process. Metrics such as first-time yield and throughput yield of the process are utilized to validate that the process is operating properly. Another metric is the percentage of time that each manufacturing cell meets takt or task time, which identifies the area that is overproducing the inventory and hurting flow.

Overprocessing. Overprocessing identifies the steps added unnecessarily to complete the process, which may be due to inadequate technology, design, or unsynchronized processes. This is reflected in the metrics for overuse of tooling. Another example metric is the cycle time for production compared to the standard production time as a percentage of standard time. Ideally, an organization is producing at the standard and with low variance, indicating low waste levels.

Defect. Defect is scrap, rework, and administration of nonconforming parts. This includes the actual scrap part, the process of reworking the part to an acceptable level approved by the customer, and the compliance administration of the part. This can be reflected as a percentage of total parts or as a level per some quantity of parts (e.g., defect per million parts). Another metric is to identify all the costs associated with defect and rework to understand the true nature of the hidden cost, sometimes referred to as the "hidden plant" (e.g., labor, material, equipment, facility space, and administration time). This cost can be listed as a percentage of sales to obtain the scale of the cost that is hurting profitability. As stated previously, the first-

WAITING IS THE MOST PROLIFIC AREA FOR WASTE IN ANY ORGANIZATION.

UPON REFLECTION ON HENRY FORD'S COMMENTS ON BUSINESS OPERATION, IT BECOMES CLEAR THAT THE FORD MOTOR COMPANY REPRESENTS THE BIRTHPLACE OF MODERN-DAY LEAN MANUFACTURING.

time yield and throughput yield are great tools for measuring this area. Management highly values defect metrics, as they relate to customer information, because they help evaluate customer satisfaction. Implementing customer satisfaction index, customer return percentage, and delivery performance without error measurements will indicate whether the process is working properly and defect reduction is occurring.

Resources. It is management's responsibility to ensure their employees are performing optimally by matching employees' skills and tasks. This is reflected as a percentage of employee work hours utilized properly. Another aspect of this is safety, which can be reflected by the number of injuries per employee, lost time due to accidents, and number of consecutive days without an injury.

Hidden cost of unfocused goals

Switching metrics during the year can create unintended costs to the organization.[11] This adjustment taxes the organization psychologically as the employees invest little effort when they believe the change will cause them to do more work. The time involved to change goal direction results in added cost to the organization due to updating corporate information, which may include reworking many months of data. The change also creates delayed results and may affect the overall quality of the data. The constant goal-switching may force the employees to rush, take shortcuts, or otherwise value speed over quality. This "switch-tasking" causes employees to take 25 to 50 percent longer to complete tasks than if they performed the tasks sequentially and focused on one at a time.[12] When switch-tasking occurred in daily routines, this resulted in an added 20 minutes of process time.[13] This is evidence of the costs of unfocused and changing goals.

Conclusion

Reviewing the history of the Industrial Revolution highlights many components of optimal business performance. As the key performance indicators switch from operational to financial, the dream of

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optimal corporate performance is lost, leading to a random path toward suboptimal performance. Upon reflection on Henry Ford's comments on business operation, it becomes clear that the Ford Motor Company represents the birthplace of modern-day lean manufacturing. By examining post–Industrial Revolution manufacturing practices, we also see the gradual divergence of the ideals and original direction of capitalism. Considering the benefits of a lean manufacturing process, a return to some aspects of early manufacturing processes would be prudent in the modern context. ■

NOTES

[1] Lynne, J., Campbell, M., and Petty, T., "Runnin' down a dream," *Full Moon Fever*. Recorded by Tom Petty and the Heartbreakers, (Los Angeles: MCA Records, 1989).

[2] Levinson, W., "When finance runs the factory," IndustryWeek (Oct 24, 2014). Available at: http://www.industryweek.com/leadership/when-finance-runs-factory.

[3] Ford, H. and Crowther, S., *My Life and Work*. 1st ed. (New York: Garden City Publishing, 1922).

[4] *Ibid*.

[5] Ford, H. and Crowther, S., *Moving Forward*. 1st ed. (Garden City, N.Y.: Doubleday, Doran & Company, 1930).

[6] Ford, H., *Ford Ideals: Being a Selection from "Mr. Ford's Page."* (Dearborn, M.I.: The Dearborn Publishing Company, 1922): 17.

[7] Womack, J.P., Jones, D.T., and Roos, D., *The Machine That Changed The World*. (New York: Simon & Schuster, 1990): 24, 47.

[8] *Op. cit*. note 6, p. 429.

[9] Cunningham, J.E. and Fiume, O., *Real Numbers: Management Accounting in a Lean Organization*. Adams, E. (Ed.), (Durham, N.C.: Managing Times Press, 2003): 51–58.

[10] *Op. cit*. note 7, p. 56.

[11] Martin, K., *The Outstanding Organization*. (New York: McGraw-Hill Education, 2012): 69–73.

[12] *Ibid*.

[13] *Op. cit*. note 11.